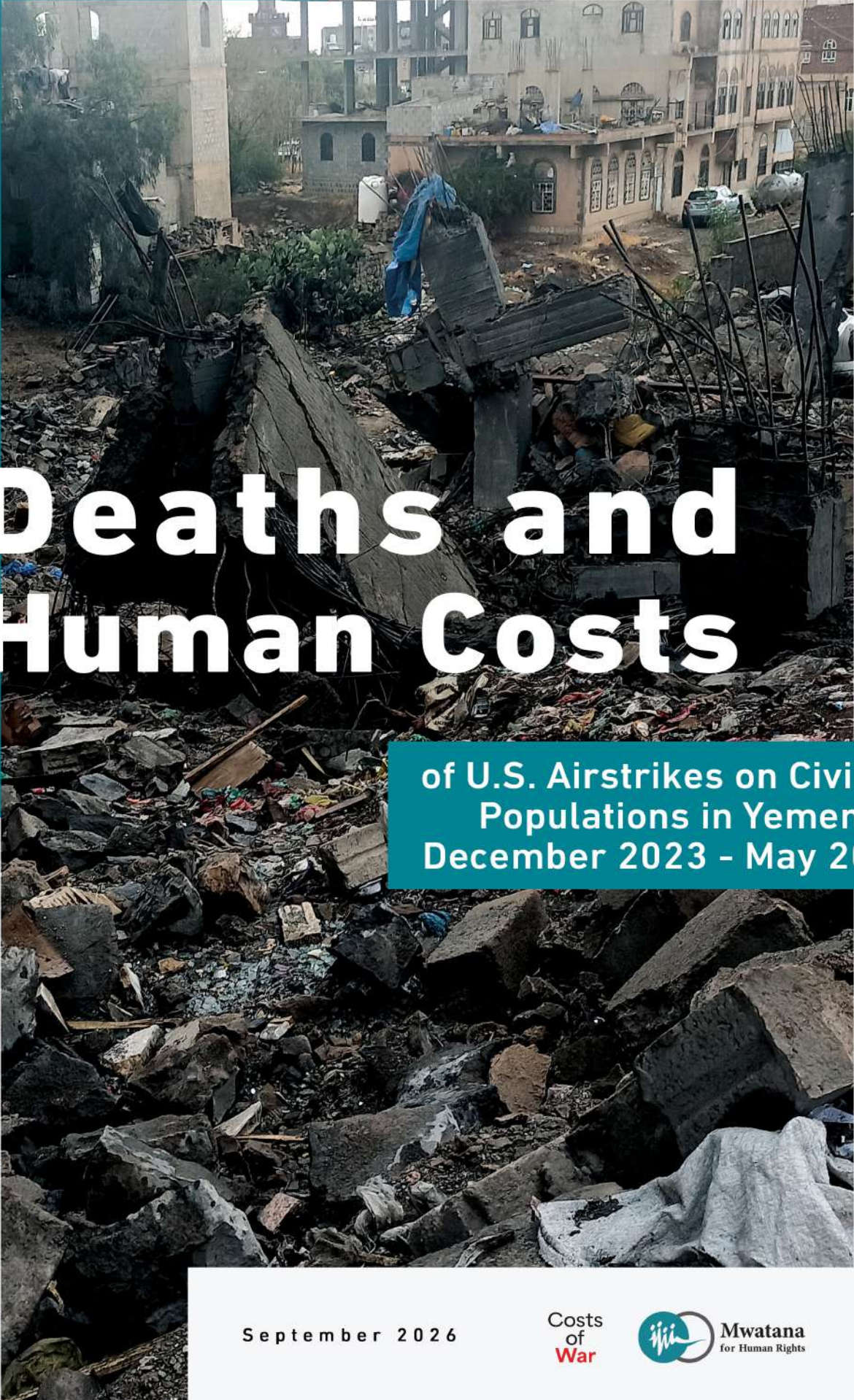




Deaths and Human Costs

of U.S. Airstrikes on Civilian
Populations in Yemen
December 2023 - May 2025

September 2026

Costs
of
War



Mwatana
for Human Rights

**Deaths and Human Costs of U.S.
Airstrikes on Civilian Populations in Yemen
(December 2023 – May 2025)**

Mwatana for Human Rights

PUBLICATION DATE : September 10, 2026

The Costs of War project publishes research on the human, economic, political, and environmental costs of U.S. military operations and spending to raise awareness, foster public debate, and lay the foundation for better informed U.S. policies. The project is housed at The Watson School of International and Public Affairs at Brown University.

The Watson School of International and Public Affairs, Brown University
111 Thayer Street, Providence, RI 02912-1970

Email: costsofwar@brown.edu / Web: <https://costsofwar.watson.brown.edu/>

Statements and views expressed in this report are solely those of the author(s) and do not imply endorsement by Brown University or The Watson School of International and Public Affairs.

Authors: Mwatana for Human Rights

About the Authors: Mwatana for Human Rights is an independent Yemeni organization dedicated to the defense and protection of human rights in Yemen through rigorous and objective field investigations and research into human rights violations. Mwatana also provides legal support to victims and works to advance accountability and redress, in addition to engaging in advocacy, awareness-raising, and capacity-building on human rights within Yemen and beyond. For more information about Mwatana and its work, please visit:

<https://www.mwatana.org/about>.

Editor(s): Costs of War team

Cover photo: An image of the incident site (a basement) in Sana'a City following U.S. airstrikes under "Operation Rough Rider" on March 23, 2025. Taken by a Mwatana Researcher in Sana'a City Governorate, Yemen.

TABLE OF CONTENTS

Summary	01
Introduction	05
Historical Context of U.S. Interventions in Yemen	08
Overview of U.S. Operations Prosperity Guardian and Rough Rider (2023-2025)	15
Overall Impact of U.S. Airstrikes	20
A Further Note on Methods	21
The Human Toll	22
Economic Damage and Damage to Civilian Infrastructure	24
Long-Term Effects of U.S. Attacks on Civilians	29
Economic Impacts on Families and Individuals	30
Social Impacts: Displacement and the Fragmentation of the Social Fabric	32
Psychological Impacts: Anxiety, Fear, and Trauma	34
The Needs of Civilian Victims, Their Families, and Affected Local Communities	37
Medical and Treatment Needs	37
Reconstruction of Homes and Compensation for Damage to Private Property	39
Economic Empowerment, the Provision of Livelihoods and a Decent Standard of Living	40
Financial Compensation Proportionate to the Scale and Nature of the Harm	41
Accountability for Violations and a Stop to the Attacks	42
To the United States	46
To the Ansar Allah (Houthi) Group	47
To the United Nations and the International Community	48
Appendix: U.S. Air Attacks Against Civilians and International Humanitarian Law Violations ...	49
1. Indiscriminate Attacks Not Directed at a Specific Military Objective (Street Cemeteries of the Dead)	52
2. Attacks on Civilian Objects with No Nearby Military Sites Unprotected Under International Humanitarian Law (Civilian homes-residential neighborhoods)	53
3. Attacks on Civilian Objects Located Near Sites Used for Military Purposes Without Distinction or Regard for Civilian Life (Civilian houses near sites and gatherings of Ansar Allah Group (Houthis))	53

TABLE OF CONTENTS

4. Airstrikes Resulting in Severe Civilian Casualties (Detention center for African migrants)	56
5. Attacks on Civilian Government Facilities and Essential Service Infrastructure Necessary for the Survival of the Civilian Population (Government service institutions and complexes)	57
6. Attacks on Vital Economic Infrastructure and Facilities (Ras Issa port)	58
7. Attacks on Commercial Facilities and Civilian Property (Steel factory-telecommunications towers" private property)	60
8. Attacks on Medical Teams During Rescue and Relief Operations	61
9. Violation of the Principle of Precautions and Related Preventive Measures	61

01

Summary

DATE THE IMAGE WAS TAKEN 13-4-2025



An image showing the destruction following US airstrikes under "Operation Rough Rider" on the Abu Haqqah Public Health Center in Hajjah on April 1, 2025.

This paper examines the human cost of United States' military operations in areas controlled by Ansar Allah Group (Houthis) in Yemen during "Operation Prosperity Guardian," conducted during President Joe Biden's administration from December 18, 2023 – January 19, 2025, and "Operation Rough Rider," carried out during President Donald Trump's administration from March 15 – May 6, 2025. These operations were launched in response to attacks by Ansar Allah Group (Houthis) on ships and tankers in the Red Sea and the Gulf of Aden — using rockets and unmanned aerial vehicles — that targeted vessels associated with Israel or bound for Israeli ports, concurrent with the Israeli government war in the Gaza Strip that began on October 7, 2023 and was directly supported by the United States.

In addition to the economic, psychosocial, and community impacts of U.S. attacks, the paper documents civilian casualties resulting from 46 U.S. airstrike incidents. Those incidents caused at least 576 civilian casualties (213 killed and 363 injured), including 50 children and 25 women. The strikes hit civilian structures such as homes, shops, farms, residential neighborhoods, and infrastructure.

The U.S. airstrikes also caused severe damage to infrastructure and critical facilities, compounding the humanitarian suffering of local populations by striking essential service facilities, particularly in rural areas that already face acute shortages of clean water, electricity, and health services. Given Yemen's economic deterioration and the catastrophic humanitarian situation produced by the armed conflict that has been ongoing since September 2014, it is likely that the U.S. strikes expanded the cycle of poverty in Yemen by increasing unemployment and multiplying the number of households that lost breadwinners and sources of income.

Survivors and eyewitnesses compared the U.S. attacks in Operations Prosperity Guardian and Rough Rider to earlier strikes carried out by the Saudi/United Arab Emirates (UAE)–led coalition during "Operation Decisive Storm" and "Operation Restoring Hope" (March 2015–April 2022) on many of the same sites. They reported that the U.S. strikes produced heavier civilian tolls than these earlier strikes, which had attracted extensive international criticism and calls for accountability.

Among the most enduring and long-term effects of the U.S. attacks on civilians are the loss of breadwinners through death or disabling injury, and the destruction of livelihoods when farms, shops, factories, workshops, and small enterprises were damaged or destroyed. Hundreds of civilian victims lost their jobs when industrial and critical facilities were wholly or partially destroyed. Even after the U.S. operations

ended in May 2025, affected people could not secure adequate means of subsistence or overcome the severe economic hardship caused by the loss of their businesses or property. Affected households whose homes were destroyed or rendered uninhabitable were forced to migrate, crowd into relatives' homes, or rent small rooms or shops (the local "dukan," a small retail space unsuitable for habitation), and encountered major difficulties in enrolling their children in school. U.S. strikes left many families incapable of providing adequate care for children. Wives who lost husbands face harsh lives and acute insecurity in a society ill-equipped to support victims due to its dire economic and living conditions.

Field data in this paper also indicate limited population displacement following certain U.S. strikes in repeatedly and heavily targeted areas, and in localities whose residents feared re-targeting because of proximity to military sites or because families were perceived to be affiliated with Ansar Allah. The attacks have undermined communal ties, as communities began to regard certain areas or families as stigmatized targets and avoided visiting or approaching them for fear they would also be targeted. Many victims — particularly children and women — suffer severe psychological distress, haunted by scenes of terror, fear, and destruction. Access to psychosocial support and adequate medical care remains largely absent.

The U.S. strikes display a range of violations of international humanitarian law (IHL), including breaches of the proportionality principle, failures to take feasible precautions to minimize civilian harm, and failures to respect the principle of distinction, as evidenced by attacks on infrastructure, essential service facilities, and other civilian objects. These violations of IHL are documented in a detailed list in the Appendix.

Meanwhile, Ansar Allah's continued targeting of commercial vessels associated with Israel in the Red Sea aggravated the plight of Yemeni fishers in some coastal areas. Ongoing naval confrontations and persistent drone overflights deprived them of a principal livelihood—fishing—forcing many to refrain from going to sea in their small, rudimentary boats and to avoid passing ships for fear for their safety.

The needs expressed by interviewed civilian victims centered on urgent and appropriate medical care for the wounded, both for physical injuries and psychological trauma — especially for those who still have shrapnel lodged in their bodies, those who never received any treatment, or those in need of surgical

procedures. Victims also require urgent humanitarian and cash assistance, and financial compensation commensurate with the scale and type of harm suffered by them and their families. Affected households need compensation for partially damaged homes and reconstruction of destroyed homes, or provision of adequate shelter and restitution for damage to property. Affected communities also clearly need rehabilitation and reconstruction of destroyed essential service facilities—health centers, water and electricity supplies—and protection from hazards posed by remnants of bombs and munitions used in the strikes.

02

Introduction

DATE THE IMAGE WAS TAKEN 29-4-2025



An image showing the scale of destruction to the ceiling of the Pre-trial Detention Center in Sa'ada following US airstrikes under "Operation Rough Rider" on April 28, 2025.

This report's analysis covers 46 U.S. airstrike incidents— seven conducted during Operation Prosperity Guardian (December 18, 2023 – January 19, 2025) and 39 during Operation Rough Rider (March 15 – May 6, 2025) — which either targeted civilian objects, resulted in civilian casualties, or caused direct harm to civilians. Each airstrike incident involved multiple munitions and/or bombs, in some incidents exceeding 30. These incidents were documented by Mwatana for Human Rights. The organization's field team, composed of male and female researchers in the targeted areas, conducted site visits to several airstrike locations and carried out 59 interviews with survivors, family members of victims, eyewitnesses, first responders, and other primary sources, after obtaining their informed consent. The team also collected various forms of evidence, including photographs, video recordings, and official documents such as birth certificates, identification cards, death certificates, and medical reports, in addition to information clarifying the nature of victims' work and their civilian and political affiliations, in order to verify their civilian status. For the purposes of this study, any individuals whose civilian status could not be verified were excluded from the count of civilian casualties. Likewise, attacks targeting military objectives or those that did not result in civilian harm were excluded.

Due to security restrictions imposed by the Ansar Allah (Houthi) group, the field team was unable to inspect a number of alleged incidents, document certain cases that resulted in civilian harm, or obtain the names of some victims. Accordingly, the incidents analyzed in this paper represent only those U.S. attacks that resulted in civilian casualties and for which the Mwatana field team was able to obtain sufficient and reliable information and evidence. The paper does not address U.S. attacks on military installations, nor does it cover Israeli strikes on civilians and civilian infrastructure, or the impact of Houthi violence on civilians.

The central research problem of this paper lies in clarifying the nature of direct harm inflicted on civilians and on Yemen's civilian and economic infrastructure; examining the ongoing and long-term impacts on civilians; and identifying victims' needs to mitigate the economic, social, psychological, and health consequences of the attacks, as well as their demands for reparations and access to justice. The paper also analyzes patterns of violations of international humanitarian law in U.S. attacks.

The paper briefly contextualizes recent U.S. airstrikes within a history of U.S. interventions in Yemen since the first airstrikes carried out as part of “counterterrorism” operations targeting individuals accused of affiliation with al-Qaeda in Marib governorate following the September 11, 2001 attacks. U.S. airstrikes continued intermittently in pursuit of alleged al-Qaeda members across several governorates, including Marib, Al Bayda, Abyan, Shabwah, Al Jawf, Hadramawt, Sana’a, and Dhamar. In these operations, the U.S. used unmanned aerial vehicles (drones) to target individuals suspected of affiliation with al-Qaeda in Yemen, resulting in deaths and injuries, including among civilians.

03

Historical Context of U.S. Interventions in Yemen

DATE THE IMAGE WAS TAKEN 26-4-2025



An image from inside the Al-Maswari house showing the destruction of a residential building in Al-Hudaydah Governorate following US

Following the September 11 attacks, the U.S. declared a “war on terror,” driven by strategic objectives aimed at safeguarding its national security and advancing its interests in the region. These objectives included combating terrorist organizations, securing maritime navigation routes, protecting energy resources, providing full support to the Israeli government, and countering international rivals¹.

Given that Yemen is among the countries where al-Qaeda in the Arabian Peninsula has been active, it assumed a significant position in the U.S. counterterrorism strategy. This was reflected in security cooperation agreements between the U.S. and Yemen, under which the U.S. provided financial assistance, military equipment, and intelligence support, in addition to training specialized units within the Yemeni armed forces tasked with counterterrorism (Al-Qaeda). Between 2009 and 2014, the U.S. provided approximately \$1.4 billion in financial assistance to the Yemeni government — primarily through the U.S. Department of State and the U.S. Agency for International Development — alongside \$370 million from the U.S. Department of Defense to combat al-Qaeda².

At the same time, the U.S. carried out a series of intensive airstrikes using unmanned aerial vehicles (drones) against al-Qaeda in Yemen. Drone strikes became the preferred method of counterterrorism operations for the Obama administration in Yemen. The fragmentation of the Yemeni army and the escalation of security instability following popular protests against the regime of former President Ali Abdullah Saleh in 2011 during the Arab Spring provided al-Qaeda elements with a renewed opportunity to expand their presence and seize control of large areas in several Yemeni governorates. This situation coincided with growing U.S. concerns regarding the reliability of intelligence provided by Yemeni agencies, due to institutional breakdown and disorder, as well as fears that U.S. forces themselves could become targets of al-Qaeda³.

01. Ghoneim, S. (2023, December 16). Operation Prosperity Guardian. <https://igsda.org/%D8%B9%D9%85%D9%84%D9%8A%D8%A9-%D8%AD%D8%A7%D8%B1%D8%B3-%D8%A7%D9%84%D8%A7%D8%B2%D8%AF%D9%87%D8%A7%D8%B1/?lang=ar>

02. Arab Center for Research and Policy Studies. (2015, January). US Options in Yemen Following the Houthis' Take-Over: Assessment Report. https://www.dohainstitute.org/en/lists/ACRPS-PDFDocumentLibrary/US_Options_in_Yemen_Following_the_Houthis_TakeOver.pdf

03. Arab Center for Research and Policy Studies. (January 2015).

When former president Abdrabbuh Mansur Hadi assumed power in 2012, U.S. drone strikes gained significant momentum. President Hadi publicly praised the precision of U.S. drone operations, stating that their margin of error was effectively zero. Similarly, the U.S. emphasized that the accuracy of its drone technology enabled it to target al-Qaeda militants while minimizing harm to civilians. However, field data from these operations indicated that U.S. drone strikes in Yemen resulted in civilian casualties⁴. Estimates by research groups indicate that the U.S. Joint Special Operations Command (JSOC) — a quasi-secret arm of the military — and the Central Intelligence Agency (CIA) carried out 81 targeted killing operations in Yemen: one in 2002, with the remainder occurring between 2009 and 2013. These strikes, carried out by drones, fighter aircraft, or cruise missiles, resulted in the deaths of at least 473 militants and civilians, according to various tallies⁵. Also, according to New America, between 2002 and 2019 — during the terms of Presidents George W. Bush and Barack Obama, as well as President Donald Trump's first term — the U.S. skilled more than 1,000 civilians and militants in counterterrorism operations in Yemen⁶.

Between May 17, 2012 and September 16, 2014, Mwatana for Human Rights and the Open Society Foundations documented ten U.S. drone strikes that resulted in the killing of 26 civilians, including one woman and five children, and the injury of 16 civilians, including six children. These incidents led to growing criticism of U.S. policy from human rights organizations and the U.S. Congress, particularly due to the rising civilian toll from drone strikes and the absence of accountability mechanisms for the U.S. military in cases involving harm to civilian victims. The U.S. airstrikes in Yemen had significant, adverse effects not only on civilian victims and their family members but also more generally on residents of the areas where the strikes occur⁷.

-
04. For further reference, see: Mwatana for Human Rights. (2025, May). Death by Drones. Available at: <https://www.mwatana.org/reports-en/death-by-drones-7>; Northedge, L. (February 2013). Is the US shadow war helping Yemen? The Repercussions of Drone Strikes. Middle East and North Africa Program, Chatham House. <https://www.chathamhouse.org/publications/the-world-today/2013-02/us-shadow-war-helping-yemen>.
05. Human Rights Watch. (2013, October 22). Between a Drone and Al-Qaeda: The Civilian Cost of US Targeted Killings in Yemen. <https://www.hrw.org/report/2013/10/22/between-drone-and-al-qaeda/civilian-cost-us-targeted-killings-yemen>
06. New America. (2026, January 25). The War in Yemen. <https://www.newamerica.org/insights/americas-counterterrorism-wars/the-war-in-yemen/>
07. Open Society Justice Initiative & Mwatana for Human Rights. (2014). Death by Drone. <https://www.justiceinitiative.org/uploads/1284eb37-f380-4400-9242-936a15e4de6c/death-drones-report-eng-20150413.pdf>

On September 21, 2014, the Ansar Allah (Houthi) group took control of the Yemeni capital, Sana'a, by force, marking the beginning of the ongoing armed conflict between various parties, most notably the internationally recognized government and the Ansar Allah (Houthi) group. On March 26, 2015, the Saudi/UAE-led coalition announced the launch of a military operation against the Ansar Allah (Houthi) group, under what became known as Operations Decisive Storm and Restoring Hope. Between 2015 and 2022, the U.S. provided logistical and intelligence support to the Saudi/UAE-led coalition, as well as weapons used by the coalition in conducting airstrikes that resulted in severe harm to civilians and damage to civilian infrastructure⁸.

Since the launch of the Saudi/UAE-led coalition operations on March 26, 2015, a Joint Planning Cell was established between the U.S. and that coalition to coordinate military operations, share intelligence, provide logistical support and training, conduct aerial refueling of fighter jets, and facilitate arms deals. In addition, the U.S. expanded its role in Operation Decisive Storm by identifying locations and targets for coalition airstrikes, as well as intercepting and inspecting vessels bound for Yemen⁹. Although Washington reduced the number of its military advisors supporting the Saudi/UAE-led coalition in 2016, its support did not cease. The U.S. continued to provide Riyadh with intelligence on the sources of missile attacks launched by the Ansar Allah (Houthi) group against Saudi cities, and it maintained aerial refueling support for coalition warplanes¹⁰.

The U.S. and the United Kingdom have a shameful record from their involvement in past conflicts, which has resulted in large numbers of civilian casualties and severe damage to civilian infrastructure. Damning evidence also shows that U.S. weapons have been extensively used in the war in Yemen, causing thousands of civilian casualties¹¹.

08. Bonyan, J. & Niku, J. (2025, March 3). The US is Failing Yemenis.

<https://www.hrw.org/news/2024/02/21/us-failing-yemenis>

09. Hassan, S. (2019, September 6). Developments in the U.S. Position on the Crisis in Yemen. Center for Arab Unity Studies. Available at:

<https://caus.org.lb/%d8%aa%d8%b7%d9%88%d8%b1%d8%a7%d8%aa-%d8%a7%d9%84%d9%85%d9%88%d9%82%d9%81-%d8%a7%d9%84%d8%a3%d9%85%d8%b1%d9%8a%d9%83%d9%8a-%d9%85%d9%86-%d8%a7%d9%84%d8%a3%d8%b2%d9%85%d8%a9-%d9%81%d9%8a-%d8%a7%d9%84/>

10. Hassan, S. (2019, September 6).

11. Cairo Institute for Human Rights Studies. (2024, January 15). US and UK airstrikes on Yemen raise concern for civilians. <https://cihrs.org/yemen-us-and-uk-airstrikes-on-yemen-raise-concern-for-civilians/?lang=en>

Between 2015 and 2018, Mwatana for Human Rights documented in its report “Day of Judgment” the details of 27 coalition airstrikes, in which U.S.-made weapons were used in 25 incidents. Sixteen of these strikes targeted civilian gatherings, civilian homes, and a civilian boat, while the remaining strikes hit educational and healthcare facilities, civilian commercial establishments, and a government-run cultural center. These attacks resulted in between 203 fatalities and 749 injuries, including 122 children and 56 women among the civilian victims¹².

In February 2021, the U.S. announced its intention to end support for offensive air operations conducted by the Saudi/UAE-led coalition against the Ansar Allah (Houthi) group in Yemen. However, it did not announce any halt to the airstrikes carried out by its own forces against al-Qaeda in Yemen, justifying this by asserting that counterterrorism efforts remain a continuing necessity to protect its security and interests in the region¹³.

During its counterterrorism operations, the U.S. has not adhered to transparency, failing to disclose the number of strikes or the number of civilian casualties killed or injured by its attacks, except in very limited instances. It has also mischaracterized civilian victims by designating them as legitimate targets of its airstrikes¹⁴. Despite the fact that these U.S. attacks have caused significant harm to civilians, violated international law, and may amount to war crimes, the U.S. has shown no acknowledgment of responsibility nor commitment to accountability or redress for civilian victims.

In its annual reports on civilian casualties resulting from armed conflict, the U.S. Department of Defense claimed that it caused no civilian deaths in Yemen in 2018 or 2019. These reports did not address any strikes carried out by the Central Intelligence Agency (CIA), nor did they consider the impact on civilians of military operations supported by the U.S., such as those conducted by the Saudi/UAE-led coalition. The 2019 Department of Defense report, in addition to broadly asserting

12. Mwatana for Human Rights. (2019, March). Day of Judgment: The Role of the US and Europe in Civilians Death, Destruction, and Trauma in Yemen, p. 29. <https://www.mwatana.org/reports-en/day-of-judgement>

13. Mwatana for Human Rights. (2021, March). Death Falling from the Sky: Civilian Harm from the United States' Use of Lethal Force in Yemen. <https://www.mwatana.org/reports-en/falling-from-the-sky>.

14. Mwatana for Human Rights. (2021, March).

the absence of civilian casualties, stated that the U.S. Central Command (CENTCOM), which oversees the region, had received no reports from international or non-governmental organizations regarding civilian harm. This is unsurprising given the absence of a clear and publicly accessible reporting mechanism for NGOs in Yemen or for civilians affected by U.S. military operations.

In 2018 alone, Mwatana for Human Rights documented six U.S. drone strikes that resulted in the killing of at least 17 civilians. Four additional individuals were killed in these attacks, including a child, and another child was injured; these individuals appeared to have been registered in the U.S.-allied Yemeni military, although some had not participated in the ongoing conflict and may have been civilians at the time of the attack. One individual believed to be affiliated with al-Qaeda in the Arabian Peninsula was also injured. These attacks took place in the governorates of Shabwah, Al Bayda, and Al Jawf¹⁵.

In March 2021, Mwatana for Human Rights issued its report “Death Falling from the Sky,” which documents the civilian harm resulting from the U.S.’ use of lethal force in Yemen across 12 U.S. operations (ten drone strikes and two ground raids) carried out between January 2017 and January 2019. These operations resulted in the killing of 38 civilians, including 13 children, six women, and 19 men, as well as the injury of seven civilians, including six children, in addition to damage to civilian homes and essential property and the infliction of long-term psychological harm¹⁶.

After Donald Trump assumed office during his first term in 2017, the number of U.S. drone strikes conducted as part of counterterrorism operations in Yemen increased significantly — from 32 strikes in 2016 to 131 in 2017. The Trump administration also scaled back legal constraints on the U.S. military in conducting its operations in Yemen, demonstrating limited regard for civilian casualties so long as such operations were deemed necessary and proportionate to legitimate military objectives¹⁷.

15. Mwatana for Human Rights. (2019, July 16). Withering Life: The Human Rights Situation in Yemen 2018, p. 96. <https://www.mwatana.org/reports-en/withering-life2018-0>.

16. Mwatana for Human Rights. (2021, March). Death Falling from the Sky: Civilian Harm from the United States’ Use of Lethal Force in Yemen. <https://www.mwatana.org/reports-en/falling-from-the-sky>.

17. New America. (2026, January 28). The War in Yemen. <https://www.newamerica.org/insights/americas-counterterrorism-wars/the-war-in-yemen/>

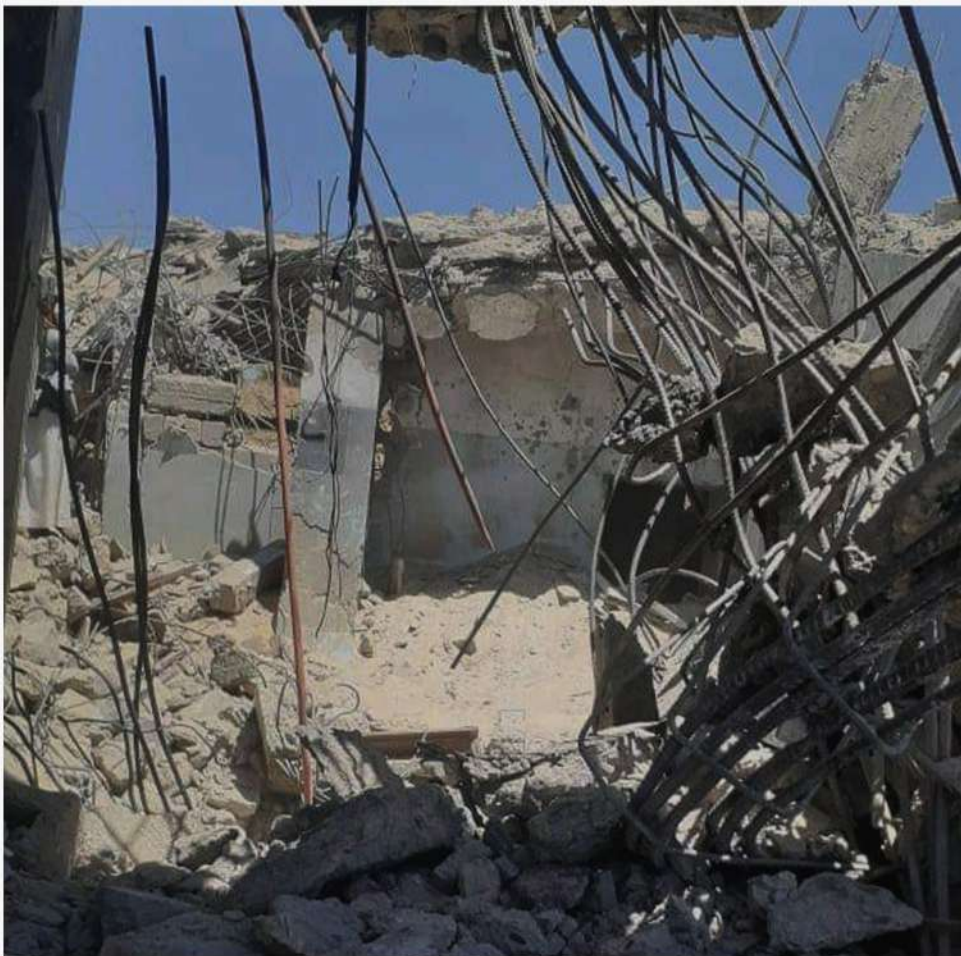
Over the course of more than two and a half decades, all forms of U.S. intervention in Yemen — both direct and indirect — have been characterized by non-compliance with the rules of international humanitarian law, international human rights law, and broader international human rights and justice frameworks. This has occurred in the absence of effective mechanisms for investigation and assessment, alongside a pattern of disregard and non-recognition of civilian victims, and a failure to take meaningful steps toward reparations and accountability¹⁸.

18. Abdulrasheed, A. (2018, April 3). Civilian Casualties and the Effectiveness of Drone Strikes in Yemen. Just Security.<https://www.justsecurity.org/54464/civilian-casualties-effectiveness-u-s-drone-strikes-yemen-part/>.

04

Overview of U.S. Operations Prosperity Guardian and Rough Rider (2023-2025)

DATE THE IMAGE WAS TAKEN 13-4-2025



A third image showing the destruction following US airstrikes under "Operation Rough Rider" on the Abu Haqqah Public Health Center in Hajjah on April 1, 2025.

The Ansar Allah (Houthi) group emerged as an armed movement during and after engaging in six rounds of conflict with the Yemeni government between 2004 and 2010, known as the Sa'dah Wars. The group is named after its founder, Hussein Badr Al-Deen Al-Houthi, who was killed during the first round of those wars. Ansar Allah is currently the most prominent non-state actor participating in the ongoing conflict. The group's armed takeover of the Yemeni capital, Sana'a, on September 21, 2014 ignited a large-scale armed conflict between it and the internationally recognized government, as well as other local and regional actors. The group now functions as the de facto authority in the capital, Sana'a, and in several other governorates, including Sana'a, Amran, Sa'dah, Al Jawf, Hajjah, Dhamar, Ibb, Al Mahwit, and parts of Taiz, Al Bayda, Al Dhale, and Al Hudaydah. In these areas, Ansar Allah exercises control over all state institutions and public facilities. According to the reports of the panel of Experts on Yemen, several Security Council resolutions, and official letters from the internationally recognized Government of Yemen to both the UN Security Council and the Human Rights Council, among other entities, the group receives military, technical, and political support from the Iranian government¹⁹.

On November 19, 2023, and May 6, 2025, the Ansar Allah (Houthi) group forces carried out multiple missile and drone attacks targeting vessels and tankers linked to Israel or heading to Israeli ports in the Red Sea and the Gulf of Aden. According to statements by the group, these attacks were conducted in solidarity with the Palestinian people in the Gaza Strip, who have been subjected to what the group describes as genocide by Israeli forces since October 7, 2023, with direct support from the U.S. The group has repeatedly stated that its attacks are not intended to harm international navigation in the Red Sea and the Bab al-Mandab Strait, and that halting such attacks is contingent upon ending the humanitarian deterioration in Gaza and the violations committed by Israel against Palestinians²⁰.

19. UN Security Council. (2018, January 26). Letter dated 26 January 2018 from the Panel of Experts on Yemen mandated by Security Council resolution 2342 (2017) addressed to the President of the Security Council. S/2018/68, 2, 29. <https://reliefweb.int/attachments/f834db08-28ab-39f2-bfa1-a9147d2b7b1e/N1800513.pdf>

20. Saba News Agency (Sanaa). (2024, January 11). Ansar Allah politician: American movements in Red Sea are illegal. Saba News Agency (Sanaa). <https://www.saba.ye/en/news3295273.htm> ; Al Jazeera English. (2025, January 20). Yemen's Houthis to only target Israel-linked ships following Gaza ceasefire. <https://www.aljazeera.com/news/2025/1/20/yemens-houthis-to-only-target-israel-linked-ships-following-gaza-ceasefire>

These operations resulted in the seizure and sinking of several vessels, including *Galaxy Leader*, *Magic Seas*, and *Trinity C*, belonging to Israeli and Greek companies. International shipping routes were consequently diverted away from the Suez Canal and the Bab al-Mandab Strait, resulting in longer and more expensive voyages. In a statement, the United Nations described these actions as a threat to freedom of maritime navigation, a risk to maritime transport, and a serious danger of significant environmental, economic, and humanitarian damage to an already fragile coastal ecosystem²¹.

On December 18, 2023, U.S. Secretary of Defense Lloyd Austin announced the formation of a multinational maritime military coalition — Combined Maritime Forces — under the name Operation Prosperity Guardian²², led by the U.S., with the objective of countering attacks by the Ansar Allah (Houthi) group forces in the Red Sea and the Bab al-Mandab Strait. Participating states in the “Prosperity Guardian” coalition, led by the U.S., emphasized that the coalition was established for defensive purposes, specifically to protect international maritime traffic in the Red Sea and the Bab al-Mandab Strait and to deter attacks by the Ansar Allah (Houthi) group forces²³.

On January 11, 2024, “Prosperity Guardian” shifted from a defensive posture to offensive operations, launching airstrikes against targets in areas under the control of the Ansar Allah (Houthi) group forces²⁴. Secretary Austin stated that the coalition’s objective was to demonstrate the commitment of the U.S. and its allies to confronting Iran-backed threats in the region²⁵. On January 19, 2025, following the start of a ceasefire between Israel and Hamas and other Palestinian factions in

21. United Nations. (2025, July 11). Secretary-General Strongly Condemns Resumption of Houthi Attacks on Civilian Vessels Transiting Red Sea. <https://press.un.org/en/2025/sgsm22724.doc.htm>.

22. U.S. Department of Defense. (2023, December 18). Statement from Secretary of Defense Lloyd J. Austin III on Ensuring Freedom of Navigation in the Red Sea. <https://www.war.gov/News/Releases/Release/Article/3621110/statement-from-secretary-of-defense-lloyd-j-austin-iii-on-ensuring-freedom-of-n/>.

23. Al Jazeera Net. (2023, December 19). US announces 10-nation force to counter Houthi attacks in Red Sea. <https://www.aljazeera.com/news/2023/12/19/us-announces-10-nation-force-to-counter-houthi-attacks-in-red-sea>, U.S. Department of War. (2024, January 4). U.S., Partners Committed to Defensive Operations in Red Sea. <https://www.war.gov/News/News-Stories/Article/Article/3631623/us-partners-committed-to-defensive-operations-in-red-sea/>

24. U.S. Department of Defense. (2024, January 23). The United States and Its Allies Launch Additional Strikes Against Houthi Military Targets. <https://www.war.gov/News/News-Stories/Article/Article/3652871/us-partners-launch-additional-strikes-against-houthi-military-targets/>.

25. Al-Obeidi, A.J. (2023, December 29). Militarization of the Red Sea A reading into the motives and implications of the new movements. <https://it.italiatelegraph.com/news-70730>

in Gaza, Ansar Allah (Houthi) forces suspended their attacks in the Red Sea. However, the group declared that it would resume attacks if Israel failed to comply with the ceasefire agreement. Accordingly, the coalition's Prosperity Guardian operations in Yemen were also halted.

Between December 18, 2023, and January 2025, coalition aircraft under Operation Prosperity Guardian, led by the U.S. and the U.K., carried out more than 930 airstrikes on Yemeni areas under the control of Ansar Allah (Houthi) forces²⁶. During the same period, Ansar Allah (Houthi) forces launched more than 200 missiles and over 170 drones targeting Israeli-linked vessels or ships traveling to and from Israel through the Red Sea and the Bab al-Mandab Strait, as well as strikes against locations inside Israel²⁷.

On March 1, 2025, Benjamin Netanyahu announced the suspension of the entry of humanitarian aid into the Gaza Strip²⁸. On the evening of Tuesday, March 11, 2025, the Ansar Allah (Houthi) group announced the resumption of its attacks against vessels traveling to and from Israel through the Red Sea and the Bab al-Mandab Strait, as well as against Israeli settlements.

On March 15, 2025, Donald Trump announced the launch of large-scale military operations under the name Rough Rider targeting areas under the control of the Ansar Allah (Houthi) group in Yemen, with the stated aim of protecting navigation in the Red Sea. In response, the Ansar Allah (Houthi) group carried out dozens of missile and drone attacks against Israeli vessels and tankers, or those traveling to and from Israel through the Red Sea and the Bab al-Mandab Strait, as well as against targets inside Israel and U.S. naval assets in the Red Sea.

According to research by Linda Bilmes, the U.S. incurred substantial costs as a result of a wide range of military operations undertaken to support its interests, as well as those of Israel and its allies in the Middle East. The cost of these operations was estimated, between October 7, 2023 through September 2025, to range between

26. AP News. (2025, March 28). New US airstrike campaign targeting Yemen's Houthi rebels more intense than last, AP review finds. <https://apnews.com/article/yemen-houthi-us-airstrikes-israel-amas-278d07bc5aad75bb32e57f99a78cbe88>

27. The Times of Israel. (2024, December 28). Missile fired from Yemen intercepted before reaching Israel territory. https://www.timesofisrael.com/liveblog_entry/idf-missile-fired-from-yemen-intercepted-before-reaching-israel-territory/

28. The Times of Israel. (2025, March 2). Israel Halts Aid to Gaza, Citing Hamas' Refusal to Extend the First Phase of the Truce. <https://www.timesofisrael.com/israel-halts-aid-into-gaza-over-amas-refusal-to-extend-first-phase-of-truce/>.

USD \$9.65 billion and USD \$12.07 billion²⁹. These costs include maintaining two U.S. aircraft carrier strike groups in the Red Sea and the Gulf of Aden, conducting more than 1,000 airstrikes, and deploying expensive missile defense systems to counter drone attacks launched by the Houthis³⁰. In the broader context of these attacks, several indicators — including the provision of military assistance to Israel and the repeated use of veto power in the UN Security Council against draft resolutions aimed at securing a ceasefire and facilitating humanitarian aid to Palestinians — suggest that U.S. intervention during both operations cannot be understood solely within the framework of protecting maritime navigation, but also as part of broader U.S. support for Israel during its war on Gaza. On Tuesday, May 6, 2025, the Omani Ministry of Foreign Affairs announced an agreement between the U.S. and the Ansar Allah (Houthi) group providing for a ceasefire between the two sides in the Red Sea. The agreement, however, does not cover attacks against Israeli vessels or those traveling to and from Israel through the Red Sea and the Bab al-Mandab Strait, nor attacks against targets inside Israel.

29. Bilmes, L. (2025, October 7). Costs of United States Military Activities in the Wider Middle East Since October 7, 2023. Costs of War, Watson School, Brown University. <https://costsofwar.watson.brown.edu/paper/WiderMiddleEastCosts>.

30. Ibid.

05

Overall Impact of U.S. Airstrikes

DATE THE IMAGE WAS TAKEN 8-5-2025



Government Compound in Al-Hazm District, Al-Jawf Governorate, following US airstrikes under "Operation Rough Rider" on March 17, 2025.

A FURTHER — NOTE ON METHODS

Mwatana's field team collected data on civilian victims of U.S. airstrikes through interviews with victims' families, first responders, eyewitnesses, and local residents. For each victim, the team gathered all or some of the following data: name, age, gender, occupation, whether the individual was a breadwinner, location at the time of the incident, type of injury sustained, hospital to which they were transferred, and burial site. The team also obtained supporting documentation, including identity documents, death certificates, hospital injury records, and medical reports, among others. Furthermore, the team verified the civilian and political affiliations of the victims to confirm their civilian status, and excluded any cases where civilian status could not be conclusively established.

During the interviews, Mwatana adhered to transparency with victims and sources of information. It made no promises and provided no financial or in-kind incentives in exchange for testimonies. The interviews and evidence underpinning the findings of this paper underwent multiple levels of review and verification, beginning with field-based investigative research conducted by researchers at the incident sites, followed by review and verification by researchers at the central office. In addition, Mwatana dispatched missions to various areas in Sana'a and Al Hudaydah to contribute to documentation efforts and to conduct in-depth verification and investigation of selected cases of U.S. airstrikes covered in this paper.

In line with Mwatana's methodology for documentation and evidence collection — including physical evidence such as remnants of weapons and photographic material — the organization did not rely on any evidence obtained by or in the possession of parties to the conflict. It also did not conduct interviews with military personnel or individuals suspected of affiliation with any party to the conflict, nor with individuals who were not directly connected to the incident, including local residents or others who had only heard about the incident without witnessing it firsthand.

THE — HUMAN TOLL

During the period from December 2023 to May 2025, Mwatana for Human Rights documented at least 46 airstrike incidents. Of these, seven strike incidents were carried out by U.S. forces under Operation Prosperity Guardian (December 18, 2023-January 19, 2025) resulting in 27 civilian casualties, including five deaths (among them three children) and 22 injured (including nine children). These attacks were concentrated in the governorates of Raymah, Al Hudaydah, and Taiz, areas under the control of the Ansar Allah (Houthi) group³¹. In addition, 39 airstrikes were conducted by U.S. aircrafts under Operation Rough Rider (March 15- May 6, 2025) between March and May 2025, resulting in 549 civilian casualties, including 38 children and 25 women. Among them were 208 fatalities (including 25 children and 12 women) and at least 341 injured (including 13 children and 13 women).

These attacks also caused the total or partial destruction of civilian objects and vital infrastructure, including homes, civilian-owned commercial shops, a farm, industrial facilities, essential public service facilities, and key economic infrastructure such as the Ras Issa oil port, as well as a wedding hall, a stone-processing facility, telecommunications towers, a cemetery, and a detention center for African migrants. The U.S. airstrikes under Operation Rough Rider were distributed across eight Yemeni governorates under the control of the Ansar Allah (Houthi) group: Hajjah, Al Hudaydah, Ibb, Dhamar, Amanat Al Asimah (Capital Secretariat), Sana'a, Sa'dah, and Al Jawf.

31. The Ansar Allah (Houthi) group bears responsibility for one of the attacks documented by Mwatana, which resulted in four civilian casualties. On February 29, 2024, a drone operated by the Ansar Allah (Houthi) group struck the British cargo vessel Rubymar, which was on the verge of sinking approximately 30 km northwest of the city of Mocha (under the control of UAE-backed Joint Forces). The group had previously targeted the vessel with naval missiles, causing it to become disabled at sea. The subsequent drone strike occurred while a number of fishermen had boarded the drifting vessel in search of scrap metal they could salvage before it sank, resulting in the death of a 16-year-old boy and the injury of three other fishermen.

FIGURE 1. --- CIVILIAN CASUALTIES RESULTING FROM U.S. AIRSTRIKES ON YEMEN (DECEMBER 2023– MAY 2025)

Operation	Killed			Injured			Total Casualties
	Men	Children	Women	Men	Children	Women	
Prosperity Guardian	2	3		13	9	2	5 Killed, 22 Injured
Rough Rider	171	25	12	315	13	13	208 Killed, 341 Injured
Total Casualties	173	28	12	328	22	13	213 Killed, 363 Injured

*It is essential to note that the data presented in the table does not cover all U.S. attacks in Yemen during the period from December 2023 to May 2025.

Rather, it is limited to the attacks that Mwatana for Human Rights was able to document, totaling 46 incidents.

The attack on the detention center for African migrants merits further description for its large-scale human toll. On Monday, April 28, 2025, U.S. aircraft launched three airstrikes on a hangar used to detain African migrants within the pretrial detention facility in Sa'dah. One of the strikes directly hit the hangar housing the migrants in the northeastern section of the prison, while two additional strikes hit other parts of the facility but did not detonate. The attack completely destroyed the migrants' hangar, resulting in a high casualty toll of 68 killed and 47 injured among African migrants (Figure1 includes these casualties). Several prison guards and personnel were also killed or injured.

The detention center is located in Al-Sahn area of Sa'dah District and is housed within what was formerly the Central Security Forces (Special Forces) camp. Since around 2020, the Ansar Allah (Houthi) group has reportedly used the camp to detain undocumented migrants from African countries, including those accused of criminal offenses. A large sign bearing the facility's identity as the "Pretrial Detention Center in Sa'dah" was placed at its entrance. A survivor (25 years old, Ethiopian national) told Mwatana:

"At around 4:30 a.m. on Monday, the hangar where I was detained in the pretrial detention center in Sa'dah was bombed. The first strike hit while we were in deep sleep. I could not believe what I saw — thirty of my fellow detainees died; their bodies were charred, and the smell of burned flesh filled the air. The place was crowded with bodies, while others were screaming and calling for help and rescue." He added: "There were about 120 of us in the hangar, all migrants. I tried to provide first aid to some of the injured. Some were crying out and stretching their hands for help before our eyes, and we could do nothing for them. The delay in rescue and medical response — caused by the Ansar Allah (Houthi) group — also contributed to the rising death toll."

ECONOMIC DAMAGE — AND DAMAGE TO CIVILIAN INFRASTRUCTURE

U.S. airstrikes have caused severe damage to infrastructure facilities and vital installations that were targeted, further exacerbating the humanitarian suffering of affected local communities. This is particularly evident in rural areas, which already suffer from a severe lack of basic services such as clean water, electricity, and healthcare, due to the collapse of public service systems in the country and the deteriorating economic situation.

FIGURE 11. **TYPOLGY AND DISTRIBUTION OF CIVILIAN AND VITAL INFRASTRUCTURE BOMBED BY U.S. MILITARY OPERATIONS IN YEMEN (2025-2023)**

Socio-Economic Sector	Targeted Infrastructure / Site Type	Documented Frequency / Incident count
Residential & Housing	Private Residential Dwellings	17 Houses (including 1 strike on a compound of 4 homes)
Healthcare Services	General Hospital & Healthcare centers	3
Critical Infrastructure	Telecommunications Towers & Networks	5
	Ports	3 Incidents (Repeatedly targeted)
	Airport	1
	Public Water Corporation Facility	1
Education & Public Administration	Vocational Training Institute	1 (Repeatedly targeted)
	Government Administrative Complex	1
	Government Complex & Local Radio Station	1 (Repeatedly targeted)
Commercial & Industrial	Manufacturing Factories	2
	Private Stone Processing Workshop	1
	Private Commercial Warehouse (basement Wood/Iron Storage)	1
	Solar Energy Commercial Retail Store	1
Agriculture & Food Security	Farms	4
Social, Cultural & Humanitarian	African Migrant Detention Center	1
	Public Streets & Thoroughfares	2
	Community Sports Club	1
	Public Event & Wedding Hall	1
	Public Cemeteries	2

Although comprehensive and precise data on a potential increase in poverty rates resulting from U.S. attacks in the targeted Yemeni areas is lacking, field information available for this study regarding the number of individuals who lost their jobs or employment in multiple incidents—due to the destruction of factories and vital facilities where they worked—provides a realistic indication that U.S. attacks may have expanded the scope of poverty in these areas. For example, the destruction of the Al-Akhawain factory in Al-Hudaydah resulted in approximately 200 employees and workers losing their jobs. Similarly, U.S. airstrikes on the Ras Issa oil port caused 80 deaths and 171 injuries (Figure 1, above, includes these casualties), most of whom were port loading and unloading workers, meaning that these victims left behind impoverished families without a stable income due to death or disabling injuries that prevent them from working. In another case, the U.S. bombing of the government complex in the center of Raymah governorate led to around 20 employees—who worked at the local radio station that was completely destroyed—losing their jobs. The United Nations stated in a declaration that U.S. airstrikes in Yemen are worsening the already dire humanitarian situation. Humanitarian workers have also warned that the recent violence threatens to further aggravate conditions in Yemen, where more than 19 million people require critical assistance to meet widespread needs related to food, disease, and protection³².

In addition to destroying livelihoods, U.S. airstrikes have targeted essential service facilities such as water and healthcare systems, upon which local populations in poor rural villages depend almost exclusively. The village of Abu Haqqa, in the Washha district of Hajjah governorate, exemplifies the severe harm inflicted on local residents by the destruction of vital public service facilities. The village has only one health center providing limited services, and it also lacks electricity and running water. Women carry water on their heads from the village valley for daily use, while children travel long and arduous distances to reach a small school in another mountainous village, offering education only from first to sixth grade “the only school in their village was taken over by Ansar Allah (the Houthis) and converted into a military barracks”.

32. United Nations. (2025, April 21). U.S. airstrikes on Yemen exacerbate the deteriorating humanitarian situation. <https://news.un.org/ar/story/2025/04/1140861>. Holmes, O. (2025, April 2). US bombing of Yemen compounding dire humanitarian situation – rights groups. The Guardian. <https://www.theguardian.com/world/2025/apr/02/us-bombing-of-yemen-houthis>

One eyewitness described the shock of villagers upon seeing their only health center destroyed by three direct U.S. airstrikes on the evening of April 1, 2015, stating: "I saw the center completely destroyed and finished... all the equipment, supplies, and medicines inside it were gone in a single dark night. People gathered, lamenting their fate — they were deprived of the healthcare services they used to receive from the only health center in their village³³."

As a result, residents have been deprived of basic medical services and are forced to travel to the city center to receive care, bearing additional financial and logistical burdens. According to the witness, there appears to be no hope for restoring the health center, as no authority has announced plans to repair it.

In another case, in the village of Al-Mansuriyah west of Al-Hudaydah city, U.S. fighter jets carried out an airstrike on a two-story building belonging to the Water and Sanitation Corporation. The strike led to a disruption in water supply and halted the institution's services, as all computer systems were destroyed, according to one of the facility's workers. The institution is now operating from rented shops and is unable to provide services as it previously did.

In other instances, U.S. airstrikes targeted an almost-completed hospital, crushing local residents' hopes of improving their healthcare conditions and undermining aspirations for cancer treatment in the region. In northern Saada city, specifically in the Officers' District, the Great Prophet Hospital for Oncology (at the time still under construction) represented a major hope for residents of Saada, Amran, and Al-Jawf governorates to access cancer treatment without needing to travel to Sana'a. The hospital consists of a large two-story building and a spacious courtyard, funded by the Omani government at a cost of USD \$7 million, and was expected to open soon. On March 16, 2025, U.S. fighter jets launched an airstrike with three missiles on the building, followed by another attack on March 24, 2025, involving five airstrikes that caused near-total destruction of the facility. A local resident stated: "This hospital is enormous—there is nothing like it in the governorate... it was on the verge of opening and only needed one or two more months to be ready to provide services³⁴."

33. An interview conducted by Mwatana with an eyewitness from the targeted area, Washa of Hajjah governorate, on April 13, 2025.

34. An interview conducted by Mwatana with an eyewitness from the targeted area, Sa'dah district of Sa'dah governorate, on April 9, 2025.

In Al Jawf Governorate, U.S. airstrikes destroyed the government complex in the governorate center through four air raids on March 17, 2025. The two-story complex—constructed by a Chinese company in the 1980s and spanning an area of approximately one square kilometer—housed administrative and service offices of Al Jawf local authority. The destruction of the government complex led to the closure of government offices and the suspension of their services, resulting in thousands of residents being deprived of access to official transactions, including civil employment services. The strikes also destroyed the central archive containing documents and personnel files of government employees, as well as the database of the State Information Center.

Additionally, the building of the Al-Matoon Primary Court was destroyed, including its judicial archives and case files, leading to a complete halt in the court's operations and the disruption of citizens' legal and judicial interests. The cultural center building —housing a conference hall and venue for national events— was also destroyed, depriving the local community of the only cultural center in the governorate.

Similarly, U.S. airstrikes on the government complex in the center of Raymah Governorate (Al Jabeen) resulted in its complete destruction. The complex included administrative and executive government facilities, the local radio station headquarters, the post office building, and the Social Fund for Development office. One local resident lamented the loss of the building, highlighting both its public utility and symbolic value: "This was the only achievement of the state in Raymah throughout the republican era [more than sixty years] ... it has been destroyed³⁵."

Meanwhile, the continued targeting by the Ansar Allah (Houthi) group of cargo ships linked to Israel in maritime areas near fishing zones has further exacerbated the suffering of fishermen in coastal areas overlooking the Red Sea. It has deprived them of a primary source of livelihood —fishing. A witness interviewed in Al Mokha, west of Taiz, stated: "We are now afraid when we go out to fish at sea— afraid of any passing ship or any aircraft we see in the sky, which are constantly present over the sea in various forms³⁶."

35. An interview conducted by Mwatana with an eyewitness from the targeted area, Al-Jabeen of Raymah governorate, on July 9, 2024.

36. An interview conducted by Mwatana with a survivor, Al-Amodi neighborhood in Al-Mukha city of Taiz governorate, on March 15, 2024.

LONG-TERM EFFECTS OF U.S. ATTACKS ON CIVILIANS

Yemen is experiencing a severe deterioration in its humanitarian situation as a result of the ongoing armed conflict that has ravaged the country for more than a decade. The humanitarian crisis has continued to worsen catastrophically due to the protracted conflict and the failure of local, regional, and international parties to adhere to the principles of international humanitarian law, leaving Yemen to endure one of the worst humanitarian crises in the world. Millions of people, including women and children, suffer from extreme hunger, malnutrition, and lack of access to basic healthcare services. The suffering of Yemenis has been exacerbated by damage to vital infrastructure caused by attacks carried out by the Saudi/UAE-led coalition between March 2015 and April 2022, during which ports, airports, bridges, roads, factories, power plants, healthcare and educational facilities, as well as hundreds of homes and other civilian objects were targeted. This is in addition to ground attacks carried out by other parties, foremost among them the Ansar Allah (Houthi) group, throughout the years of conflict.

This context renders U.S. targeting of already fragile infrastructure—much of which had previously been partially or wholly destroyed during earlier phases of the conflict, and in some cases only partially rehabilitated due to its critical importance to civilians— particularly damaging, as it exacerbates the humanitarian crisis and plunges Yemenis into a new cycle of suffering in accessing essential services and meeting their basic needs.

Currently, more than 17 million people in Yemen are food insecure, including 3.5 million suffering from acute malnutrition, placing their lives at direct risk. At the same time, around 18 million Yemenis face severe shortages of safe drinking water and basic sanitation services³⁷. This acute lack of resources has led to repeated outbreaks of preventable diseases such as cholera, diphtheria, measles, and dengue fever, further deepening the humanitarian crisis and placing additional strain on the country's already fragile healthcare system³⁸.

37. FAO. (2025). Humanitarian Needs and Response Plan 2025. P2.

<https://openknowledge.fao.org/bitstreams/6bc02714-7a9f-4fdc-8c82-e943a888ed75/download>

38. WHO. WHO's Health Emergency Appeal 2025. PN1.

https://cdn.who.int/media/docs/default-source/documents/emergencies/2025-appeals/2025-hea-yemen.pdf?sfvrsn=11094277_5&download=true

ECONOMIC IMPACTS — ON FAMILIES AND INDIVIDUALS

U.S. attacks have resulted in the killing of civilian breadwinners and the loss of livelihoods for dozens of additional civilian victims—either due to long-term disabilities caused by the attacks or the destruction of income-generating assets such as farms, shops, and small factories. In addition, hundreds of civilian victims lost their jobs and employment in factories, government facilities, and vital installations that U.S. airstrikes partially or completely destroyed.

The mother of one victim — who was killed and whose small restaurant was destroyed in the U.S. bombing of the Al-Sawari Ceramics Factory in Matna (Sana'a governorate) stated: "My son was responsible for us after his father fell ill. He provided everything for me, his father, his younger sister, as well as his divorced sister and her two children. He took care of all of us. Without him, we are helpless. The small restaurant he owned supported both families, and we had a decent life. But after the incident, and the destruction of our home and the restaurant, we were left on the street overnight with nothing but the clothes we were wearing. That night, our clothes, belongings, furniture — everything disappeared. We found no shelter except our old house that we had left thirty-five years ago. Life has become difficult; every day we wake up wondering how to find enough food to stave off hunger for ourselves and the children with us³⁹." She added, in anguish: "The school year started, and we could not enroll the children until some people donated money, while others provided clothes, notebooks, and pens... we have become beggars."

One of the victims affected by the destruction of the Al-Ikhwan factory in Al Hudaydah said: "We are now without jobs, and our salaries have stopped. Some employees can no longer afford even a single meal for their children. Our situation has become dire... we were even deprived of the Ramadan bonus (U.S. warplanes carried out the strikes on the factory during the past Ramadan)." He added: "I know some of my colleagues at the factory who used to rent homes for their families and were financially stable. After the factory was destroyed, they can no longer afford to pay their rent⁴⁰."

39. Follow-up interview conducted by Mwatana with a surviving victim (the mother of the deceased victim), Matnah, Bani Matar District, Sana'a Governorate, August 11, 2025.

40. Follow-up interview conducted by Mwatana with one of the surviving factory workers, Al-Salif Junction, Al-Salif District, Al Hudaydah Governorate, August 14, 2025.

At the Ras Issa oil port, surviving victims who work as daily wage laborers have been forced to reduce their working days out of fear of renewed targeting of the port. One survivor working at the port said: “I no longer go to work as I used to because of the fear I feel, and because my relatives and family prevent me from going out of concern for my life. On the few days I do work at the port, I work in terror, not knowing when U.S. aircraft might strike again. We are paid daily wages, and when we miss work or stop working, we receive no pay. That means we become unemployed, with no other source of income. My family, my colleagues, and I are all suffering⁴¹.”

Another worker contracted with the Yemen Petroleum Company said: “I now work only two days a week. Recently, I changed my shift from night to morning, and for shorter hours, out of fear of bombardment⁴².”

The destruction of homes represents another dimension of a dual economic and social tragedy. For affected families, it means the loss of shelter, often coupled with the inability to rent alternative housing. In most cases, victims whose homes have been destroyed are unable to rebuild or repair them due to lack of financial means. One survivor of a U.S. airstrike on her family home in Thaqban district, Bani Al-Harith, Sana’a governorate, said: “After the house was bombed, we no longer had a place to live⁴³.” She currently lives with her family in the home of a relative of her husband near their destroyed house, but does not know how long this arrangement will last.

Describing one aspect of her daily suffering in this temporary shelter, she said: “Despite my illness, I bake bread in a wood-fired oven because we cannot afford gas. It is extremely exhausting.” What deepens her sense of suffering, she added, is that she uses “the wood from our destroyed bedroom furniture as fuel for baking.”

41. Follow-up interview conducted by Mwatana with one of the surviving port workers, Al-Salif District, Al Hudaydah Governorate, August 14, 2025.

42. Follow-up interview conducted by Mwatana with one of the surviving port workers, Al-Salif District, Al Hudaydah Governorate, August 12, 2025.

43. Follow-up interview conducted by Mwatana with a surviving female victim, Thaqban, Bani Al-Harith, Sana’a Governorate, August 12, 2025.

Her husband said: “I lost my home, and I lost my son, who is still in the morgue refrigerator. I have not been able to bury him because I cannot afford the costs of retrieving his body from the hospital⁴⁴.” (This follow-up interview with the victim was conducted five months after the U.S. attack that resulted in the loss of his home and his 17-year-old son.) He added: “The fact that my son remains in the refrigerator and that I cannot bury him is deeply distressing, but there is nothing I can do.”

SOCIAL IMPACTS: ——— DISPLACEMENT AND THE FRAGMENTATION OF THE SOCIAL FABRIC

Some families were forced into temporary displacement due to fear of renewed targeting. Field information gathered for the study indicates that limited population displacement occurred following certain U.S. attacks, particularly in areas that were repeatedly and intensively targeted, as well as in locations where residents anticipated further strikes — either due to proximity to military sites, the known presence of Ansar Allah (Houthi) group members, or the affiliation of local families with the group. According to one eyewitness, U.S. attacks on the Al-Rasoul Al-Azam Oncology Hospital in Sa’dah (still under construction) led to the displacement of several families — especially those living near the main road — seeking safety after shrapnel reached their homes and due to the massive explosions caused by the missiles⁴⁵. Similarly, following a U.S. strike on the Majel Al-Damma cemetery in Sana’a, a number of impoverished families who had been living within the cemetery were forced to relocate away from its vicinity⁴⁶. In another incident involving the bombing of homes in Thaqban, Bani Al-Harith district, Sana’a governorate — where U.S. warplanes fired seven missiles at four houses, killing 11 civilians and injuring four others — all affected families were displaced to other locations. One survivor stated: “One of these families is now living in a small grocery shop⁴⁷.”

44. Follow-up interview conducted by Mwatana with a surviving male victim, Thaqban, Bani Al-Harith, Sana’a Governorate, August 12, 2025.

45. Documentary interview conducted by Mwatana with a victim, Al-Dhubat neighborhood, Sa’dah District, Sa’dah Governorate, April 8, 2025.

46. Documentary interview conducted by Mwatana with the mother of a child victim, Shu’ub, Amanat Al-Asimah Sana’a, April 21, 2025.

47. Documentary interview conducted by Mwatana with a survivor and father of one of the victims, Thaqban village, Bani Al-Harith District, Amanat Al-Asimah Sana’a, April 28, 2025.

U.S. bombardment of civilians has also left children orphaned and families unable to provide adequate care. It has forced widowed women to face harsh living conditions and a profound sense of insecurity — especially in a context where surrounding communities lack the means to offer support due to widespread economic hardship. One woman who survived the bombing of the Al-Sawari factory in Matnah, Bani Matar (Sana'a governorate), said: "If my husband were still alive, I would not have gone through this. My eight-year-old son fell and broke his arm, and I could not afford to treat him. If his father were here, he would have taken care of it... There is no one to comfort my young children or ease the trauma they suffered from losing their father"⁴⁸." She added: "I used to live in dignity in my home — everything came to me. Now, people give me charity."

Another dimension of the social tragedy caused by U.S. strikes has emerged in some repeatedly targeted areas, where a general sense of insecurity has spread among residents. This is due to suspicions held by the Ansar Allah (Houthi) group that some individuals may be cooperating with or providing intelligence to the U.S. Many fear being accused of espionage — whether based on mere suspicion or malicious, unfounded claims — in a context where the rule of law is absent.

U.S. attacks have also strained social relations, particularly among extended families who once lived in close proximity or within shared households, such as farming families. According to several victims, these families have become fragmented, and interactions among their members have grown infrequent and limited. A relative of victims from the Thaqban area in Bani Al-Harith, Sana'a governorate, explained: "Most of them are no longer social. They now chew qat"⁴⁹ at home, unlike before. When I sit with them, I see fear and anxiety on their faces—they are distracted and withdrawn"⁵⁰."

48. Follow-up interview conducted by Mwatana with a surviving victim (wife of the deceased victim), Matnah, Bani Matar District, Sana'a Governorate, August 11, 2025.

49. Chewing Qat is a daily Yemeni social custom that involves chewing the stimulant leaves of the qat plant and storing them in the buccal cavity (the cheek) for several hours to extract their juices, with the aim of inducing alertness and energy. Typically, male friends or neighborhood residents gather in a designated venue to socialize and chew Qat.

50. Follow-up interview conducted by Mwatana with a relative of the victims, Qahza, Sa'dah Governorate, August 11, 2025.

Some families whose homes were destroyed by U.S. strikes have also experienced partial social isolation within their communities. One victim noted: “Those who used to come to chew qat with us no longer visit our home, as they see us as a targeted family⁵¹.”

PSYCHOLOGICAL IMPACTS:— ANXIETY, FEAR, AND TRAUMA

U.S. strikes have caused widespread anxiety, fear, and psychological trauma among victims — particularly women and children, who now live in constant fear of repeated attacks. The harrowing scenes and painful experiences they endured during and immediately after the strikes continue to haunt their memories. One survivor of the U.S. bombing of a family home adjacent to the Al-Sawari factory in Bani Matar, Sana’a governorate, described the impact on her eight-year-old son, who was holding his father’s hand as the family attempted to flee following the airstrike: “He saw his father after he was hit by shrapnel — how he was bleeding, and how his intestines were coming out. His father was screaming: ‘Run... leave me and run before the American aircraft strikes again and finishes me off.’ Taha still cannot sleep; when he does, he wakes up terrified. Whenever he hears thunder or any loud noise, he runs in fear, his whole-body trembling. I hold him to calm him down... Even his school has said his academic performance has declined — he cannot concentrate in class — and they advised that he be seen by a psychologist⁵².”

A survivor of the attack on the Ras Issa oil port stated: “My life has completely changed after this incident. I am suffering, and my psychological condition is unstable. I can no longer sleep as I used to — I only sleep two or three hours a day, and sometimes I have nightmares and wake up frightened⁵³.”

51. Follow-up interview conducted by Mwatana with a surviving victim, Qahza, Sa’dah Governorate, August 13, 2025.

52. Follow-up interview conducted by Mwatana with a surviving victim (wife of the deceased victim), Matnah, Bani Matar District, Sana’a Governorate, August 11, 2025.

53. Follow-up interview conducted by Mwatana with a surviving port worker, Al-Salif, Al Hudaydah Governorate, August 14, 2025.

A resident living near the government complex in the center of Raymah governorate, which was repeatedly targeted by U.S. airstrikes in June 2024, said: “The airstrikes caused us terror, especially among children and women. We feared that the bombing would happen again and that our homes would be hit⁵⁴.”

Another witness described the level of fear caused by the strikes: “Five new airstrikes shook the entire area, waking both young and old, terrifying women and children — we felt as though the Day of Judgment had come⁵⁵,” adding: “We have become afraid to let our children go outside, to play or live their normal lives, for fear of the repeated bombings.”

One of the injured victims in a U.S. attack on a home in the Qahzah area of Sa’dah governorate said: “We all feel fear after the massacre that happened to us on the first day of Trump’s operations. Some families have been displaced, but fear and anxiety affect everyone without exception... this fear may lead to psychological illness or even diabetes⁵⁶.” Another added: “We are living in a constant state of fear — as if we are waiting for death to come at any moment⁵⁷.”

One of the victims sustained injuries to her face and body as a result of the U.S. bombing of the Amin Muqbil residential area in Al Hudaydah. Her mother described her condition, saying: “My daughter is still suffering physically and psychologically from her injuries. She was injured in her face and the rest of her body... her face has been disfigured, and she is suffering. She was in the prime of her youth and took pride in her beauty among her friends, but now she is disfigured and is ashamed to go out or appear before them⁵⁸.”

54. Documentary interview conducted by Mwatana with an eyewitness from the area, Manzar area, Al-Hawk District, Al Hudaydah Governorate, May 14, 2024.

55. Documentary interview conducted by Mwatana with a surviving victim, Al-Jabeen, Raymah Governorate, April 12, 2024.

56. Documentary interview conducted by Mwatana with a surviving victim, Qahza, Sa’dah District, Sa’dah Governorate, April 10, 2025.

57. Documentary interview conducted by Mwatana with a witness and paramedic, Qahza, Sa’dah District, Sa’dah Governorate, April 11, 2025.

58. Documentary interview conducted by Mwatana with the mothers of one of the victims, Al-Hawk District, Al Hudaydah Governorate, April 26, 2025.

In the same incident, the victim's mother also lost her 18-year-old son, who had been preparing to travel abroad. She said: "I wish I did not have to live in this house, but I have no choice. The traces of shrapnel are still visible on the walls, and the windows and doors are shattered, with some walls destroyed and cracked. Even when I hear the call to prayer, it reminds me of that day, because the bombing took place at dawn, as the call to prayer was being broadcast from the mosque next to our home⁵⁹."

The predominance of seemingly indiscriminate patterns of bombardment in U.S. attacks has spread fear among civilians in targeted areas and become a constant source of anxiety. One victim of the U.S. bombing in the Qahzah area of Sa'dah governorate expressed this, saying: "We were targeted during Ramadan. I thought we would be the last to be targeted since we do not belong to the Ansar Allah (Houthi) group, and everyone knows this... fear and anxiety haunt us and our families, especially at night⁶⁰."

A witness from the African migrant⁶¹ community in Yemen, and a relative of one of the victims of the U.S. strike on a detention center for African migrants in Sa'dah, stated that the psychological harm inflicted on African migrants is profound and may take many years to heal. She noted that this was not the first time such a crime had been committed against African civilians in a protected place of detention, saying: "African nationalities are treated with disregard — no one cares about them," and added: "We Africans of different nationalities have become vulnerable to various forms of abuse in different places across Yemen and by different parties."

59. Documentary interview conducted by Mwatana with the mothers of one of the victims, Al-Hawk District, Al Hudaydah Governorate, April 26, 2025.

60. Documentary interview conducted by Mwatana with a surviving victim, Qahza, Sa'dah District, Sa'dah Governorate, April 10, 2025.

61. African Migrants are hundreds of individuals from Africa States (mainly Ethiopia and Somalia) frequently traverse Yemen aiming to reach the Gulf States, particularly Saudi Arabia and Oman, to secure better livelihoods and high-income employment opportunities. This migratory flow is marked by a critical information deficit; many migrants are unaware of Yemen's active armed conflict and the profound dangers ahead, making their subsequent repatriation highly precarious. For comprehensive insights about them and into their transit pathways, gathering zones, and the human rights abuses they endure, refer to the report *Transit in Hell* <https://www.mwatana.org/reports-en/transit-in-hell>

What happened with the U.S. airstrike is a grave and heinous crime that must be made known to the entire world so that it is not repeated⁶².” She also noted that some relatives of the victims “suffered psychological breakdowns upon learning of their deaths, as they depended on them, and because they were killed and targeted without justification and in such a manner.”

THE NEEDS OF CIVILIAN VICTIMS, THEIR FAMILIES, AND AFFECTED LOCAL COMMUNITIES⁶³

The communities of civilians impacted by U.S. airstrikes, including the injured and those whose family members were killed, voice many needs for reparation and redress. They call for the rehabilitation and restoration of damaged essential service facilities, such as health centers and water and electricity supplies. They also call for support in recovery and reconstruction⁶⁴. Some express concerns about the presence of unexploded ordnance or cluster munitions left behind from U.S. airstrikes, rendering targeted areas vulnerable to hidden dangers⁶⁵. Based on interviews with these communities, the research team also identified the following key needs:

Medical and Treatment Needs

Several victims of U.S. attacks received life-saving medical assistance immediately after the strikes, including treatment in public hospitals free of charge. However, other victims who sustained non-fatal injuries were unable to access hospitals or healthcare centers for treatment, or received only first aid without completing their treatment, and continue to lack appropriate medical follow-up.

62. Documentary interview conducted by Mwatana with a female witness and relative of one of the Ethiopian victims, Sa'dah, May 2, 2025.

63. This section is based on 15 interviews conducted by the field team between August 10 and 16, 2025—three months after the cessation of the attacks—with survivors, families of victims, and civilians directly affected by these strikes, in order to assess how the attacks impacted their lives and to identify their most pressing needs.

64. Follow-up interview conducted by Mwatana with a relative of the victims, Qahza, Sa'dah Governorate, August 11, 2025.

65. Follow-up interview conducted by Mwatana with a surviving victim, Qahza, Sa'dah Governorate, August 13, 2025.

A child (16 years old) suffered ruptured eardrums and bleeding from both ears due to the blast pressure caused by a U.S. airstrike while he was grazing sheep and collecting fodder (grass) on a farm near a targeted house in Al-Nusairiya village, Al-Zahra district, Al Hudaydah governorate. The child did not receive medical care due to the family's difficult living conditions. His father, who heads a displaced family from the districts of Midi and Abs to Al-Zahra in Al Hudaydah due to clashes between government forces and the Ansar Allah (Houthi) group, said: "All I could do was buy him ear drops, but unfortunately he is still in pain and has begun to lose his hearing⁶⁶." The child continues to suffer from pain and gradual hearing loss. He says: "My ear still hurts and I cannot hear clearly, and because of our poor financial situation, my father cannot take me to the hospital for treatment⁶⁷."

Another child injured in a U.S. strike on Al-Arbaeen Street in the Amanat Al-Asimah Sana'a, where he and his father used to sell boiled potatoes from a small cart on the roadside, said: "After the incident, I started feeling short of breath, maybe because of the dust from the strike. It has become difficult for me to speak, and the shrapnel in my hand hurts a lot — I think it is still inside. I cannot eat with my hand⁶⁸."

A female victim injured in the U.S. bombing of homes in Thaqban, Bani Al-Harith district, Sana'a governorate, said: "I suffer all night from back pain because I did not complete my treatment... we had no money, so I left the hospital while still needing care. Shrapnel is still in my thigh and foot, and I cannot put weight on them⁶⁹."

Another victim injured in the bombing of a house adjacent to Al-Sawari factory in Matna, Sana'a governorate, stated: "I need surgery but cannot undergo it... I cannot move normally because of the shrapnel injuries⁷⁰."

66. Documentary interview conducted by Mwatana with the father of a child victim, Al-Nasriyah village, Al-Ma'ras sub-district, Al-Zahrah District, Al Hudaydah Governorate, April 25, 2024.

67. Documentary interview conducted by Mwatana with the child victim, Al-Nasriyah village, Al-Ma'ras sub-district, Al-Zahrah District, Al Hudaydah Governorate, April 25, 2024.

68. Documentary interview conducted by Mwatana with the child victim, Al-Arba'een Street, Shu'ub District, Sana'a City, May 7, 2025.

69. Follow-up interview conducted by Mwatana with a surviving female victim, Thaqban, Bani Al-Harith District, Sana'a Governorate, August 12, 2025.

70. Follow-up interview conducted by Mwatana with a victim (wife of the deceased victim), Matnah, Bani Matar District, Sana'a Governorate, August 11, 2025.

A resident of Al-Sahn area in Sa'dah governorate, where U.S. aircraft bombed a detention center for African refugees, noted that many of the injured require medical assistance and care⁷¹. A mother whose daughter suffered facial and bodily disfigurement due to the U.S. bombing of Amin Muqbil residential city in Al Hudaydah said: "All I want is to see my daughter well again — to undergo reconstructive surgery and procedures to remove the shrapnel so she can return to how she was and recover from her condition⁷²."

Lack of medical care is not unique to victims of U.S. airstrikes. A fisherman injured when a drone operated by the Ansar Allah (Houthi) group targeted a British cargo ship off the coast of Mocha said: "I was hit by a small piece of shrapnel in my left thigh, and it is still there. I have not seen any doctor to remove it⁷³."

Reconstruction of Homes and Compensation for Damage to Private Property

Victims whose homes were destroyed or severely damaged have called for their reconstruction or rehabilitation to make them habitable again. One surviving victim, currently living with his family in a relative's house, said: "I need a home to replace the one that was destroyed... a house to shelter my children instead of moving from one person's home to another⁷⁴."

Another survivor stressed her and her family's urgent need for housing: "We need a home instead of living in other people's houses, and furniture to replace what was burned and destroyed⁷⁵."

A victim whose home and farm were damaged by U.S. strikes in the Qahzah area of Sa'dah governorate called for: "repairing homes and compensating for the damage to the farm, the solar energy system, livestock, and other losses⁷⁶."

71. Follow-up interview conducted by Mwatana with a paramedic and eyewitness, Al-Sahn, Sa'dah District, Sa'dah Governorate, August 12, 2025.

72. Documentary interview conducted by Mwatana with the mothers of one of the victims, Al-Hawk District, Al Hudaydah Governorate, April 26, 2025.

73. Documentary interview conducted by Mwatana with a survivor, Al-Amoudi neighborhood, Al-Mukha City, Taiz Governorate, March 15, 2024.

74. Follow-up interview conducted by Mwatana with a surviving female victim, Thaqban, Bani Al-Harith, Sana'a Governorate, August 12, 2025.

75. Follow-up interview conducted by Mwatana with a surviving male victim, Thaqban, Bani Al-Harith, Sana'a Governorate, August 12, 2025.

76. Follow-up interview conducted by Mwatana with a relative of the victims, Qahza, Sa'dah Governorate, August 11, 2025.

Economic Empowerment, the Provision of Livelihoods and a Decent Standard of Living

Survivors of the airstrikes, including the injured and the families of the dead, require support in generating basic livelihoods. One victim, who still has shrapnel from a U.S. strike lodged in her body, states: “All of us in the house are women, except for his father (the victim), who suffered a stroke. Our sole breadwinner has died, and we do not even possess any skills that would allow us to work and earn our daily sustenance⁷⁷.”

Another victim, whose husband was killed in a U.S. airstrike, calls for a source of income to support herself and her children: “A small project, for example — something that my children can later manage and grow, building their future with it. They no longer have anyone to support them... their father, their pillar, has passed away⁷⁸.” A surviving victim also demanded “a commercial project that I can manage to provide a livelihood for my children⁷⁹.”

The needs of workers at the Al-Akhawain Factory for Iron Manufacturing and Shaping — completely destroyed in a U.S. strike on the industrial zone in Al-Salif District, Al Hudaydah Governorate — centered on “rehabilitating and reopening the factory so that we can return to our jobs⁸⁰.” Surviving workers who lost their jobs due to the U.S. strike on the Ras Issa oil port, as well as the families of those killed, called on the Yemen Petroleum Company to formally recognize the port workers as official employees. This will enable their families to receive their salaries and maintain a source of income. One surviving worker, whose brother was killed in the strike on the port, stated: “We knocked on every door to have my brother officially registered as an employee so that his salary would continue for his five children. But until now, the Petroleum company and the relevant authorities continue to reject our demands. They have even refused to employ his wife so she can raise their children. My brother Osama is not the only one whose employment was denied — this applies to all his colleagues who were killed with him, around fifty others⁸¹.”

77. Follow-up interview conducted by Mwatana with a surviving victim (mother of the deceased victim), Matnah, Bani Matar, Sana'a Governorate, August 11, 2025.

78. Follow-up interview conducted by Mwatana with a surviving victim (wife of the deceased victim), Matnah, Bani Matar District, Sana'a Governorate, August 11, 2025.

79. Follow-up interview conducted by Mwatana with a surviving male victim, Thaqban, Bani Al-Harith, Sana'a Governorate, August 12, 2025.

80. Follow-up interview conducted by Mwatana with a surviving factory worker, Al-Salif Junction, Al-Salif District, Al Hudaydah Governorate, August 14, 2025.

81. Follow-up interview conducted by Mwatana with a surviving port worker, Al-Salif, Al Hudaydah Governorate, August 14, 2025.

Financial Compensation Proportionate to the Scale and Nature of the Harm

Some victims received extremely minimal, one-time financial compensation from the Ansar Allah (Houthi) group or affiliated entities. For example, the families of the Aisha School students who were injured in a U.S. strike — carried out under Operation Prosperity Guardian on September 10, 2024, targeting an Ansar Allah (Houthi) military camp near the school in Al-Jund area, Taiz Governorate (resulting in the death of one student and the injury of nine others) — were given food baskets and 10,000 Yemeni rials (approximately USD \$20)⁸². The family of a guard living in a house struck in Sana'a received 200,000 Yemeni rials (approximately USD \$380) from the Ansar Allah (Houthi) group, along with a similar amount from the homeowner residing abroad⁸³.

Some affected families accused the Ansar Allah (Houthi) group of selectively distributing these limited financial grants and in-kind assistance. One victim stated: "Some affected families received 140,000 Yemeni rials (approximately USD \$270) and meat during [the Islamic holiday of] Eid al-Adha, while we received nothing at all..."⁸⁴

A worker from the Ras Issa oil port expressed disappointment with the compensation provided by the Yemen Petroleum Company to victims and their families: "My brother was working for the Petroleum company as a contractor and was never formally employed. The company gives his family 50,000 Yemeni rials (approximately USD \$95), but this amount is not even enough to cover the basic needs of his children... When we see how the state (the authorities affiliated with the Ansar Allah (Houthi) group) has abandoned Osama and his colleagues, we come to hate this work..."⁸⁵

82. lists attacks in which infrastructure was directly targeted, because the school was not directly targeted. The military camp nearby was bombed, causing collateral damage. The injuries resulted from shrapnel and the fact that the bombing coincided with the students leaving school.

83. Documentary interview conducted by Mwatana with a surviving victim (house guard), Haddah, Al-Sabeen District, Sana'a City, June 17, 2025.

84. Documentary interview conducted by Mwatana with a female relative of the victims, Sha'b Al-Hafah, Shu'ub District, Sana'a City, August 12, 2025.

85. Follow-up interview conducted by Mwatana with a surviving port worker, Al-Salif, Al Hudaydah Governorate, August 14, 2025.

In any case, victims and their families do not consider the minimal financial or in-kind assistance provided by the Ansar Allah (Houthi) group to be adequate compensation for the harm they have suffered. They are calling for comprehensive and equitable financial and material reparations, proportionate to the scale and nature of the damage, that would enable them to meet their needs and live with dignity.

Accountability for Violations and a Stop to the Attacks

Some victims called for those responsible for violations of international humanitarian law to be brought to justice⁸⁶ and for victims' voices to be heard so that perpetrators receive fair punishment⁸⁷. Others emphasized the need to end the war and put a stop to the attacks.

86. Follow-up interview conducted by Mwatana with a female witness and relative of one of the Ethiopian victims, Sa'dah, August 12, 2025.

87. Follow-up interview conducted by Mwatana with a witness and first responder in the incident of the U.S. airstrike on a detention center for African migrants, Al-Sahn, Sa'ada Governorate, August 12, 2025.

06

Conclusion

DATE THE IMAGE WAS TAKEN 29-4-2025



A second image showing the scale of destruction to the Pre-trial Detention Center in Sa'ada following US airstrikes under "Operation Rough Rider" on April 28, 2025.

The paper demonstrates that U.S. airstrikes carried out under Operations Prosperity Guardian and Rough Rider between 2023-2025 in Yemen resulted in significant civilian casualties, including deaths and injuries, and caused widespread destruction of vital infrastructure, government buildings essential to civilians, and basic service facilities in areas under the control of the Ansar Allah (Houthi) group. Beyond the immediate damage, these attacks have further exacerbated the suffering of a population already enduring a severe humanitarian crisis and economic deterioration caused by a protracted conflict between Yemeni parties supported by external actors. The strikes conducted under Operations Prosperity Guardian and Rough Rider have intensified the humanitarian, economic, social, and psychological hardships faced by civilians.

Civilians and affected communities in areas targeted by U.S. attacks continue to endure long-term and ongoing impacts, making it difficult for them to return to normal life without addressing their needs, repairing the harm suffered, and providing fair and proportionate compensation commensurate with the scale and nature of the damage inflicted on them and their families.

These U.S. airstrikes have violated various rules and standards of international humanitarian law (IHL), particularly the principles of proportionality, precaution, and distinction between military and civilian objects, as well as between civilians and combatants. U.S. airstrikes documented by Mwatana fall into the following categories of violations of IHL: 1) Indiscriminate Attacks Not Directed at a Specific Military Objective; 2) Attacks on Civilian Objects such as Houses With No Nearby Military Sites; 3) Attacks on Civilian Objects Located Near Sites Used for Military Purposes Without Distinction or Regard for Civilian Life (Civilian houses near sites and gatherings of Ansar Allah Group (Houthis); 4) Airstrikes Resulting in Severe Civilian Casualties (Detention center for African migrants); 5) Attacks on Civilian Government Facilities and Essential Service Infrastructure Necessary for the Survival of the Civilian Population (Government service institutions and complexes); 6) Attacks on Vital Economic Infrastructure and Facilities (Ras Issa port); 7) Attacks on Commercial Facilities and Civilian Property (Steel factory-telecommunications towers" private property); 8) Attacks on Medical Teams During Rescue and Relief Operations; 9) Violation of the Principle of Precautions and Related Preventive Measures. See the Appendix for a detailed list of incidents falling under each of these categories of violations.

07

Recommendations

DATE THE IMAGE WAS TAKEN 29-4-2025



An image showing the destruction at the Pre-trial Detention Center in Sa'ada following US airstrikes on April 28, 2025.

To the United States:

- The U.S. must take full responsibility for the civilian casualties of its military interventions in Yemen by instituting formal reparations programs. To uphold international humanitarian law, the U.S. government needs to provide sustainable financial and medical assistance to survivors, while actively leading post-strike civilian recovery and rehabilitation efforts.

- Ensure transparency and provide accurate information regarding military operations, including assessments of the extent to which airstrikes conducted under Operations Prosperity Guardian and Rough Rider in Yemen comply with international humanitarian law, including publishing actual target lists and evaluating military gains against civilian harm.

- Conduct prompt and transparent investigations into attacks that resulted in civilian casualties, as well as those targeting civilian objects or infrastructure essential to the population; hold those responsible accountable; and take effective steps to compensate civilian victims and their families, provide reparations, and ensure redress.

- Specifically investigate allegations of the use of cluster munitions in the attack on a house in the Qahza area of Sa'dah Governorate.

- Immediately cease support to the Israeli government in order to curb atrocities and crimes committed in the Gaza Strip, work toward ending the war and humanitarian suffering there, and facilitate the delivery of essential humanitarian assistance to the population. These conditions are directly related to the context of violence in Yemen.

- Strengthen political and diplomatic efforts and find alternatives to military approaches in U.S. relations and interventions in the region to reduce human rights violations.

- Respect understandings reached through Omani mediation regarding a ceasefire with the Ansar Allah (Houthi) group, support peace efforts in Yemen, and promote engagement in a political process that ensures an end to the conflict and the achievement of sustainable peace.

To the Ansar Allah (Houthi)Group:

- Facilitate monitoring and documentation of human rights violations, including U.S. attacks in Yemen.
- Ensure transparency regarding the assessment of civilian harm resulting from U.S. attacks and disclose the identities of victims and the scale of casualties, including both deaths and injuries.
- Immediately cease establishing headquarters, weapons depots, and other sites that may constitute military targets within civilian residential areas, and remove or relocate any such sites to protect civilians from harm.
- Provide necessary healthcare and medical services to injured civilian victims and facilitate humanitarian organizations' access to those affected by the attacks.
- Work to halt escalation and engage in a political process that ensures an end to the conflict in Yemen and the achievement of sustainable peace.

To the United Nations and the International Community:

- Support peace efforts in Yemen and the resumption of negotiations among political actors to end the conflict and its associated threats and to achieve sustainable peace.
- Advocate for a comprehensive and transparent investigation into U.S. attacks in Yemen to ensure accountability, redress for victims, and adequate reparations.
- Assist in tracking and documenting harm to civilians, initiate effective efforts to demand accountability and compensation, support advocacy, and empower affected individuals to make their voices heard.
- Support international mediation efforts aimed at ending the war and Israeli blockade on Gaza.
- Enhance international support for peace and stability efforts in Yemen, alongside providing economic and humanitarian assistance to mitigate the worsening humanitarian suffering of civilians.

08

Appendix: U.S. Air Attacks Against Civilians and International Humanitarian Law Violations

DATE THE IMAGE WAS TAKEN 25-3-2025



A second image of the incident site (a basement) in Sana'a City following US airstrikes under "Operation Rough Rider" on March 23, 2025.

International humanitarian law — particularly the four Geneva Conventions and their Additional Protocol I — establishes the obligation to protect civilians in armed conflict. It prohibits indiscriminate attacks that are not directed at legitimate military objectives and requires distinction between military targets and civilian objects, with the aim of protecting civilians, minimizing casualties, and avoiding harm to civilian objects such as homes, educational facilities, and healthcare infrastructure. It also restricts the use of military force to limit destruction and damage.

In addition, the principle of proportionality requires a balance between anticipated military advantage and potential civilian harm, such that incidental civilian damage or loss of life must not be excessive in relation to the concrete and direct military advantage anticipated. This entails assessing the expected effects of any attack prior to its execution, in order to minimize civilian harm and ensure such balance⁸⁸.

U.S. airstrikes reflect several patterns that amount to serious violations of the rules of international humanitarian law, particularly disproportionate attacks—those that fail to distinguish between civilians and civilian objects on the one hand, and legitimate military targets on the other. Under Article 51 of Additional Protocol I (1977), prohibited indiscriminate attacks include:

- Attacks that are not directed at a specific military objective;
- Attacks employing a method or means of combat that cannot be directed at a specific military objective.

Indiscriminate attacks also include those that employ methods or means of combat whose effects cannot be limited, and which consequently strike military objectives and civilians or civilian objects without distinction. Similarly, bombardment attacks that treat as a single military objective a number of clearly separated and distinct military targets located within a city, town, village, or other area containing a concentration of civilians or civilian objects are considered indiscriminate. In addition, disproportionate attacks are those expected to cause incidental civilian harm that would be excessive in relation to the concrete and direct military advantage anticipated by the attacker.

88. See: Protocol Additional I to the Geneva Conventions of 1949, relating to the Protection of Victims of International Armed Conflicts, Articles 48–51. (2025, March). Human Rights Library, University of Minnesota. <http://hrlibrary.umn.edu>

Based on the rules of international humanitarian law, the principles of proportionality and precautions constitute the core of the legal assessment of any military attack. The principle of proportionality provides that an attack is prohibited where the expected civilian harm—including deaths, injuries, and both direct and indirect damage to critical civilian infrastructure—would be excessive in relation to the anticipated military advantage sought by the attack. The principle of precautions obliges the attacking party to take all feasible and reasonable measures to minimize civilian harm before and during the execution of an attack. This includes: verifying targets, distinguishing between military objectives and civilian objects, selecting appropriate means and methods of warfare, issuing effective warnings whenever feasible without compromising military success, and employing munitions and tactics that limit civilian impact.

In light of the attacks covered in this paper under the Operations Prosperity Guardian and Rough Rider, there are elements indicating potential non-compliance with these two principles in multiple instances. The available accounts and evidence suggest that strikes targeted dual-use objects and locations with high population density, at times that may have heightened the risk to civilians. In such cases, it is essential that detailed evidence be provided to clarify how the anticipated military advantage was assessed, the nature of the intelligence underpinning the targeting decisions, and the less harmful alternatives considered by the attacking party prior to conducting the strikes. In the absence of such documentation, concerns arise regarding possible breaches of the obligations of proportionality and precautions.

Moreover, analysis of the incidents indicates the use of weapons with wide-area effects in certain strikes, the targeting of civilian buildings located near sites potentially used for military purposes, and the conduct of strikes during peak hours. These factors constitute practical indicators of shortcomings in the adoption of sufficient precautions—such as selecting more precise means, postponing the attack, issuing warnings where feasible, or targeting distinguishable military elements rather than entire civilian structures. In assessing each case in detail, it is necessary to examine whether the measures taken by the attacking parties met the requirements of verification, distinction, proportionality, and the consideration of reasonable alternatives.

Accordingly, and with a focus on practical legal assessment, this paper concludes — based on the available information in the cases to be presented — that: (a) there are strong indicators warranting independent investigations to determine whether certain strikes violated the principle of proportionality; and (b) there is prima facie evidence suggesting failures to take the necessary precautions to minimize civilian harm.

Operations Prosperity Guardian and Rough Rider have struck civilian locations and facilities, including dual-use sites known for their vital importance to civilians. These attacks have resulted in hundreds of civilian casualties, both killed and injured, as well as significant material losses. These include incidents of the following violations of IHL:

1. Indiscriminate Attacks Not Directed at a Specific Military Objective (Street Cemeteries of the Dead)

The U.S. has conducted multiple attacks that fall within the category of “indiscriminate attacks not directed at a specific military objective” in violations of international humanitarian law. For example, on May 4, 2025, at approximately 11:00 p.m., U.S. aircraft carried out an airstrike on Al-Arbaeen Street in the Sawan area of Shu’ub District in the Capital Secretariat, using a single missile that struck the middle of a public road. The attack injured 14 civilians, including three children. Most of the injured were shopkeepers working in stores along the street, in addition to several laborers who were carrying out asphalt road maintenance. The strike also caused partial damage to nearby commercial shops and residential buildings located on or near Al-Arbaeen Street. Al-Arbaeen Street is considered one of the main and vital thoroughfares in the Amanat Al-Asimah Sana’a, and neither the street nor its vicinity contains sites that are unprotected under international humanitarian law. In another incident, in the Al-Safiya area of the Amanat Al-Asimah Sana’a, U.S. aircraft carried out an indiscriminate airstrike on a cemetery on April 19, 2025, resulting in injuries to a man and his daughter from multiple shrapnel fragments.

Preliminary findings relied upon in this paper indicate a potential breach of the obligation to respect the principle of distinction under international humanitarian law. They also suggest a possible failure to meet the proportionality test, given the absence — or minimal presence — of a concrete military advantage in targeting a public street and a cemetery, compared to the expected civilian harm. Furthermore,

there appears to have been a failure to take the required precautions, particularly with regard to adequately verifying the nature of the target and selecting appropriate means and timing to minimize civilian harm.

2. Attacks on Civilian Objects with No Nearby Military Sites Unprotected Under International Humanitarian Law (Civilian homes-residential neighborhoods)

On Sunday, April 6, 2025, at approximately 8:00 p.m., U.S. aircraft struck a house in the Sha'b al-Haffa area on the outskirts of Shu'ub District in the Capital Secretariat with two missiles. The attack resulted in the killing of four civilians, including three children, and the injury of a woman. An additional ten individuals from neighboring houses were injured, including three women and a person with a disability. The area is semi-rural, lacks basic services, and is densely populated, with no military sites or Houthi positions present.

In Al-Hawak District in Al Hudaydah Governorate, on April 8, 2025, U.S. forces carried out four airstrikes on a house, killing 12 civilians and injuring 16 others, including four children, in addition to completely destroying the house. On March 23, 2025, U.S. forces struck a basement used for storing wood and iron in the Asr area of the Capital Secretariat, Sana'a. The attack killed a man and a child and injured 11 others, including a young girl, and caused damage to nearby homes and commercial shops.

3. Attacks on Civilian Objects Located Near Sites Used for Military Purposes Without Distinction or Regard for Civilian Life (Civilian houses near sites and gatherings of Ansar Allah Group (Houthis))

U.S. aircraft carried out strikes on civilian homes and other civilian objects located near houses believed to shelter members of the Ansar Allah (Houthi) group or to be used for military purposes. These attacks were conducted repeatedly and through successive airstrikes using high-explosive munitions, without distinction or regard for civilian life. Some targeted densely populated areas and were carried out during peak hours.

On Sunday, April 27, 2025, at approximately 9:00 p.m., U.S. aircraft launched seven airstrikes targeting three civilian homes in Thaqban area in Bani Al-Harith District of Amanat Al-Asimah, Sana'a. The attack resulted in the killing of 11 civilians, including five children and four women, and the injury of four others, including a boy and a girl. Notably, eight of the victims belonged to a single family (the father, mother, and their six children).

A paramedic and eyewitness (35 years old) told Mwatana: "I am a resident of the area and a neighbor of the victims. At the time of the strike, I was at home with my family. Without warning, the bombing began. The sound was extremely loud—so powerful that it blew open the windows of the houses. I have a baby girl who was not yet forty days old; she was in her mother's arms. That day felt like a nightmare due to the intensity of the bombardment, fear, and panic. The strike hit the house of Ali Yahya Salah (the house of the family that was entirely killed). I left my house along with other residents of the neighborhood to try to rescue and evacuate the victims, but I could not bear the scenes. We managed to pull out some of the dead, and I transported them with others to Al-Hilal Modern Hospital, and I did not return to the site⁸⁹."

A survivor (40 years old) stated: "I was at my brother's house in the area when we suddenly heard explosions. I panicked and feared for my home and children. I left my brother's house — I don't even know how I reached my home. When I arrived, I found that three missiles had struck my house. I began pulling my children out from under the rubble with the help of my brother. When I went to rescue one of my sons, a fourth missile struck the place where he was... Before the fourth strike, my son was still alive — only his leg had been severed. I could have saved him and taken him for treatment, but the fourth strike killed him⁹⁰." He added: "I was screaming at the top of my voice, 'Ali Yahya!' (my neighbor whose house was targeted and who was killed along with his family), 'They killed my children!' He came out of his house, shouting to his wife to give him the car key so he could help take my children to the hospital. Suddenly, I saw a very large missile heading toward his house. It entered through the window and completely destroyed it. I knew that Ali Yahya had been killed."

89. An interview conducted by Mwatana with a first responder and eyewitness, Thaqban village in Bani Al-Harith district of Amanat Al-Asimah, April 28, 2025.

90. An interview conducted by Mwatana with a survivor and father of one victim, Thaqban village in Bani Al-Harith district of Amanat Al-Asimah, April 28, 2025

It is noteworthy that the three directly targeted houses were located next to a fourth house that U.S. forces claimed was being used by the Ansar Allah (Houthi) group. However, documentation conducted by Mwatana, including eyewitness testimonies, confirms that the fourth house was empty at the time of the strike.

In Washha District in Hajjah Governorate—a remote area deprived of basic services— U.S. forces carried out, at approximately 11:00 p.m. on Tuesday, April 1, 2025, three consecutive airstrikes on a health center located near a checkpoint and a school reportedly used—according to some local residents— by members of the Ansar Allah (Houthi) group as a base. The strikes completely destroyed the health center along with its equipment, supplies, and medicines.

On April 8, 2024, the U.S.–UK coalition carried out an airstrike on a house to a brick factory in Al-Manzar village, Al-Hawk District, Al Hudaydah Governorate. The attack resulted in the destruction of the house and the injury of a 50-year-old civilian, who sustained shrapnel wounds and a fracture to his right shoulder. A facility belonging to the Ansar Allah (Houthi) group was located near the site; however, according to eyewitness accounts, it was unoccupied at the time of the strike. On Friday, March 28, 2025, at approximately 10:20 p.m., U.S. fighter jets conducted two airstrikes in the Qahza area of Sa'dah District, Sa'dah Governorate, targeting a house and a farm situated about 600 meters from a camp belonging to the Ansar Allah (Houthi) group. The strikes caused varying degrees of destruction and damage to the house and the adjacent farm, killing one person and injuring two others. One of the victims recounted that an explosion occurred mid-air, dispersing a large quantity of shrapnel that penetrated the house, pierced its doors, damaged vehicles in the courtyard, struck pomegranate trees, and shattered window glass. He added: “The explosions of the airstrikes that night were less intense than those we had heard in previous days, but the shrapnel spread everywhere⁹¹.”

91. An interview conducted by Mwatana with a survivor, Qahza area in Sa'dah district of Sa'dah governorate, on April 10, 2025. Victims and eyewitnesses in this incident claim that the U.S. attacks were carried out with cluster munitions.

4. Airstrikes Resulting in Severe Civilian Casualties (Detention center for African migrants)

The information relied upon in this paper indicates that the U.S., in a number of aerial attacks, failed to comply with the principle of distinction between civilian and military objectives. It also did not take the necessary precautions to verify the nature of many of the targeted sites. Numerous strikes were carried out—often repeatedly—against civilian locations or against sites where the military objective was unclear. The U.S. bombing of a detention facility holding African migrants stands as a stark example of this pattern.

Ultimately, this operational pattern demonstrates how a lack of precautionary measures directly translates into severe and unlawful civilian toll. These documented incidents underscores that without rigorous targeting verification, civilian casualties and non-military destruction become an inevitable consequence rather than incidental damage.

A survivor (29 years old, Ethiopian national) stated: “I was arrested by the Ansar Allah (Houthi) group in April of this year while returning from Saudi Arabia after staying there for about six months. They transferred me to the pretrial detention center. At dawn on Monday, the hangar where I was detained was bombed. Three bombs fell—one directly on the hangar and two nearby. The bomb that struck the hangar created a crater about one and a half meters deep and approximately two meters wide.” He continued: “At the moment of the explosion, at least 30 people were killed—some suffered head and neck injuries, while others were burned beyond recognition. Most of the medical teams that arrived late at the scene were prison workers and cleaners with no medical expertise, which worsened the situation and led to the deaths of many injured. I am now lost—my money, which was held by those in charge of the center, is gone. My family and others do not know where I am. I have no money and remain detained without work. How will I return to my family? I do not know!”

A medical assistant at the Republican Hospital in Sa’dah (39 years old) told Mwatana: “At around 5:00 a.m. on Monday, 28 April 2025, we were informed of a U.S. attack. I had heard aircraft overhead and the sound of bombing, followed shortly by heavy gunfire. I did not expect the strike to target the pretrial detention center—specifically a hangar holding African migrants. I set out with a medical team of about

30 personnel in only three ambulances. We were delayed on the way for about 40 minutes. When we arrived, the place looked like a marketplace displaying the dead and wounded. I saw people on the verge of death stretching out their hands, pleading for help. I also saw a pile of bodies covered with blankets, with blood flowing from beneath them like a faucet.” He added: “I remain in shock and will continue to be in shock until the end of my life, until I find an explanation for what happened and for what occupies my thoughts.”

One paramedic described the scene to Mwatana: “It was a terrifying scene— something beyond imagination, even compared to what we usually witness of killings and injuries. The scale was enormous; the dead and wounded were mixed together, and we could no longer distinguish between them. Pieces of flesh were scattered across the site. The faint cries and groans of the wounded filled the air. As we tried to rescue people, I walked in a daze, as if I were in a dream or a scene from a horror film. We worked throughout the day and into the next, providing care to the injured. The images of dismembered migrants and bloodshed have not left my mind and continue to haunt me⁹².”

According to field testimonies obtained by Mwatana regarding the incident, the prison administration bears responsibility for the increased death toll, as it refused to transfer the wounded to hospitals immediately after the airstrike and instead kept them with their injuries in order to film them by a crew from Al-Masirah TV (a media outlet affiliated with the Ansar Allah (Houthi) group). Additionally, the prison administration reportedly used live ammunition against some of the injured migrants under the pretext that they were attempting to escape from the detention site targeted by the U.S. strike.

5. Attacks on Civilian Government Facilities and Essential Service Infrastructure Necessary for the Survival of the Civilian Population (Government service institutions and complexes)

On Tuesday, April 1, 2025, U.S. aircraft struck the building of the Water and Sanitation Corporation in Al-Mansuriyah District, Al Hudaydah Governorate, with three consecutive airstrikes spaced no more than 10 seconds apart. The attack resulted in the destruction of the two-story building and the killing of four individuals.

92. An interview conducted by Mwatana with a witness and first responder from the targeted area, Al-Sahn area of Sa’dah District, on May 1, 2025.

On March 17, 2025, U.S. fighter jets carried out airstrikes on the government complex in Al Jawf Governorate, resulting in the deaths of two people and injuries to ten members of the complex's security personnel. The strikes also caused extensive damage to parts of the Primary Court building, the Civil Service Office, and the Civil Status Authority building, while several nearby homes were also affected.

On Thursday, June 13, 2024, forces of the U.S.–UK coalition carried out two airstrikes targeting the government complex building in the center of Raymah Governorate, injuring five civilians with varying degrees of injury. The victims had been working on preparing a hall within the complex. Notably, the building had been targeted less than a week earlier by five airstrikes.

One eyewitness recounted: "At the time, I was having my morning meal (breakfast) at my home in Al-Mansah area, located to the east of the site, about 1,000 meters from the government complex. It felt as though the Day of Judgment had arrived, as the airstrikes came in rapid succession, producing intense explosions. I left the house and saw thick plumes of smoke rising from the government complex."⁹³

6. Attacks on Vital Economic Infrastructure and Facilities (Ras Issa port)

On Thursday, April 17, 2025, at approximately 9:30 p.m., U.S. fighter jets carried out more than 30 airstrikes on the Ras Issa oil port in Al-Salif District, Al Hudaydah Governorate. The strikes resulted in the deaths of 80 individuals and injuries to 171 others, including port employees, workers, and truck drivers. The attacks also led to the destruction of the port's fuel unloading units, the burning of dozens of trucks, and severe damage to the port's infrastructure, including its stations and discharge pipelines. The port was consequently forced to cease operations for several days.

It is noteworthy that the attack occurred during working hours, which contributed to the high number of casualties. The port serves as the primary source of fuel for populations living in areas under the control of the Ansar Allah (Houthi) group, who constitute approximately 70% of Yemen's population. While fuel imported through the port may potentially be used for military operational purposes by the Ansar Allah (Houthi) group—thus rendering the port a dual-use target—its targeting or disruption can also inflict severe harm on civilians.

93. An interview conducted by Mwatana with a witness from the targeted area, Al-Mansah area in Al-Jubain district of Raymah district, on April 4, 2024.

A port worker and brother of one of the victims (32 years old) told Mwatana: “My brother and I were working at Ras Issa port on the day of the incident. I finished my shift and returned home, while my brother remained because he was on the night shift. He worked at the fuel discharge outlets where oil is pumped into trucks. While he was standing on one of the trucks monitoring the unloading process, the port —specifically the discharge outlets (the section where my brother worked)— was struck by six airstrikes at once, burning and destroying everything in the area. There were nine discharge outlets, and under each one a truck was parked; all of them were completely destroyed and burned⁹⁴.” He added: “Their bodies were burned beyond recognition, and to this day we have not found my brother’s body. We searched everywhere— I went to hospitals and looked among the remains, but I could not find him. I only wished to find his body so that my parents could come to terms with his death. As for me, when I received the news from a friend that the port had been bombed, and when I learned exactly where the strike had occurred, I called my brother and he did not answer... I immediately knew he had been killed.”

Another survivor, a port worker (25 years old), told Mwatana: “The night shift had begun, and we had positioned nine trucks under the fuel outlets for loading. The unloading process started, and everything was proceeding normally. At around 9:30 p.m., the loading area and fuel outlets —specifically the gasoline loading point— were struck by several airstrikes. I was about 20 meters away from the unloading site, which is where the missiles landed. I ran quickly to escape, but I was hit by shrapnel in my right knee and another fragment in my left foot. As we were running, each time a missile exploded, it would throw us two to three meters away; we would get up and keep running until I reached the back wall of the sugar company and took shelter there. After the bombardment subsided, I continued fleeing while injured. As for my colleagues who were working at the discharge outlets, they were torn to pieces and their bodies were burned because the strikes hit them directly. Ambulances and firefighting teams did not arrive until about half an hour later. After they began rescue and firefighting operations, the responders themselves were targeted by another airstrike, killing five of them⁹⁵.”

In a statement, Human Rights Watch indicated that the attack on Ras Issa port may amount to a war crime⁹⁶.

94. An interview conducted by Mwatana with a port worker and brother of one of the victims, Al-Hawk district of Al Hudaydah governorate, on April 22, 2025.

95. An interview conducted by Mwatana with a survivor, Ghail area of Al-Hawk district, Al Hudaydah governorate, on April 23, 2025.

96. Human Rights Watch. (2025, June 4). Yemen: US Strikes on Port an Apparent War Crime.

<https://www.hrw.org/news/2025/06/04/yemen-us-strikes-on-port-an-apparent-war-crime>.

Additionally, U.S. Central Command stated in a press release that U.S. forces had taken action to eliminate this source of fuel for Iran-backed Houthi “terrorists” and to deprive them of illicit revenues that had funded their activities in the region for over a decade⁹⁷.

7. Attacks on Commercial Facilities and Civilian Property (Steel factory-telecommunications towers” private property)

U.S. forces did not spare private-sector infrastructure and privately owned civilian property from their airstrikes. On Monday, March 17, 2025, at approximately 8:30 p.m., U.S. fighter jets launched an aerial attack involving more than ten strikes on the Al-Akhawain Iron Manufacturing and Forming Factory, located in the industrial zone of Al-Salif District, Al Hudaydah Governorate. While the attack did not result in civilian casualties, it completely destroyed the factory.

The factory is considered one of the most significant industrial facilities in Yemen and is part of the investments of Al-Akhawain Company, which operates in several governorates, including Aden and Lahj — areas under the control of the internationally recognized government. Approximately 200 workers were employed at the factory, all of whom lost their sources of income as a result of its destruction. U.S. Central Command did not clarify any connection between the factory and the Ansar Allah (Houthi) group, nor did it provide the reasons for targeting it.

A factory worker who survived the attack —along with his colleagues because it occurred minutes before their arrival— told Mwatana: “I could not comprehend what had happened. I never imagined that the aircraft would bomb the factory. There is nothing inside the factory except iron manufacturing — we produce and sell iron to hardware shops. There is no other kind of production...”⁹⁸

97. U.S. Central Command. (2025, April 17). Destruction of Houthi Controlled Ras Isa Fuel Port. <https://www.centcom.mil/MEDIA/STATEMENTS/Statements-View/Article/4159042/destruction-of-houthi-controlled-ras-isa-fuel-port/>.

98. An interview conducted by Mwatana with a survivor worker, Al-Hali district of Al Hudaydah governorate, on March 3, 2025.

On April 2, 2025, U.S. forces carried out two airstrikes on a telecommunications tower owned by a local telecom company in Jiblah District, Ibb Governorate. The attack resulted in the death of one person and caused severe damage to the tower.

In Sa'dah Governorate, U.S. forces conducted three airstrikes on a commercial shop and a residential home in Sahar District on 5 April 2025, killing two civilians and injuring four others.

8. Attacks on Medical Teams During Rescue and Relief Operations

On Sunday, April 13, 2025, at approximately 9:00 p.m., U.S. forces carried out an airstrike on Al-Sawari Ceramics Factory, located in Matnah area, Bani Matar District, Sana'a Governorate. The attack involved four missiles launched within minutes of each other. When an ambulance arrived at the scene, two additional missiles struck the area, injuring one paramedic. The attack resulted in the deaths of six civilians and injuries to 27 others, including one woman and four children.

In a separate incident on April 17, 2025, during the large-scale attack by U.S. fighter jets on Ras Issa port in Al-Salif District, Al Hudaydah Governorate—which involved more than 30 airstrikes and resulted in 80 fatalities and 171 injuries—one of the strikes directly targeted civil defense teams engaged in rescuing victims from under the rubble, killing five civil defense personnel.

9. Violation of the Principle of Precautions and Related Preventive Measures

International humanitarian law obliges an attacking party to do everything feasible to verify that the objectives it intends to strike are military objectives and not civilians or civilian objects. Among the precautionary measures required, in cases of doubt—or where it becomes apparent that the target is not military—is the cancellation or suspension of the attack. Under the principle of precautions, all feasible steps must also be taken to select means and methods of warfare that minimize civilian harm and damage. Practical precautionary measures include providing effective advance warning in attacks that may affect the civilian population.

One of the most prominent violations of the principle of precautions in U.S. air operations lies in the use of lethal means and methods whose destructive effects cannot be confined to the intended target, as well as the failure to provide advance warnings in attacks affecting civilians. Testimonies from survivors and eyewitnesses indicate that U.S. attacks have repeatedly violated the principle of precautions and its associated safeguards.

In the U.S. airstrikes carried out on Sunday, April 13, 2025, involving four missiles targeting Al-Sawari Ceramics Factory in Matnah area, Bani Matar District, Sana'a Governorate, the wife of one of the victims—who lived in the only house adjacent to the factory—stated: “We were not warned in advance of the bombing.” She compared the intensity of the U.S. strikes to those previously carried out by the Saudi/UAE-led coalition over several years, saying: “Saudi Arabia had struck us before, but this is the first time we have seen such missiles. Wherever the shrapnel fell, it burned everything. It was flying and landing in front of us and behind us, burning everything it touched⁹⁹.”

One eyewitness described the U.S. airstrikes on the Al-Rasoul Al-Azam Oncology Hospital (under construction) in Sa'dah on March 16, 2025, saying: “The explosions were extremely terrifying. I have heard many coalition airstrikes over the years in the same locations and at similar distances, but I had never seen or heard missiles like these. I thought the building no longer existed because of the force of the blast¹⁰⁰.”

Another eyewitness describing the U.S. bombing of the government complex in Al-Jabeen District, Raymah Governorate, on Thursday, June 13, 2024, stated: “The entire area shook. It woke both adults and children, terrified women and children, and it felt as though the Day of Judgment had come¹⁰¹.”

99. An interview conducted by Mwatana with a survivor (wife), Sana'a, Matnah area of Bani Matar district, on May 8, 2025.

100. An interview conducted by Mwatana with a survivor, Al-Dhubat neighborhood, Sa'dah district of Sa'dah governorate, on April 8, 2025.

101. A documentation interview conducted by Mwatana with an eyewitness from the area, Al Jabeen, Raymah, August 12, 2024. The building had previously been subjected to approximately 13 airstrikes by the Saudi/UAE-led coalition on September 29, 2015.

An eyewitness to the U.S. strike on a medical center in Abu Haqqah village, Washhah District, Hajjah Governorate, stated: “We had never heard explosions like these during previous coalition bombings. These missiles had a stronger impact and caused greater shake. We could hear the screams of children and women from their homes, as if no one slept that night until early morning¹⁰².”

Regarding the intensity of the U.S. bombardment, a survivor of the attack on Ras Issa oil port—an airstrike incident involving more than 30 munitions (bombs or missiles) deployed—said: “The bombing was extremely intense. Shrapnel was flying everywhere. I saw a man running who was split in half by a piece of shrapnel, another whose leg was severed, and another whose arm was cut off¹⁰³.”

Additionally, the repetition of strikes on the same target days after the initial attack —without due regard for the possible presence of civilians at the site— contributed to an increase in civilian casualties. For example, on February 4, 2024, U.S. aircraft carried out four airstrikes on telecommunications towers belonging to the Yemeni telecommunications company, located at the summit of Jabal Al-Sayyadiyah in Al-Aqhoz subdistrict, Maqbanah District, Taiz Governorate. The Ansar Allah (Houthi) group had seized the towers and used them to monitor maritime traffic in the Red Sea. Subsequently, on February 25, 2024, U.S. aircraft struck the same site again while a number of local residents were collecting metal and cables from the destroyed towers to sell and benefit from them¹⁰⁴. The second strike resulted in the death of one civilian and injuries to six others from shrapnel lodged in various parts of their bodies.

102. An interview conducted by Mwatana with an eyewitness from the area, Washa area of Hajjah governorate, on April 12, 2025. The munitions and destructive power of the weapons deployed by the U.S. seem to have been greater than those utilized by the Saudi and UAE-led coalition. At present, this remains a preliminary conclusion. It is based on the fact that several re-targeted locations were completely leveled or sustained extensive destruction under U.S. strikes, whereas the prior strikes by the coalition on those same sites had resulted in significantly less damage and a much smaller destructive radius.

103. A documentation interview conducted by Mwatana for Human Rights with a surviving worker, Ghalil area, Al Hawak District, Al Hudaydah Governorate, April 23, 2025.

104. A documentation interview conducted by Mwatana for Human Rights with the brother of the deceased victim, Al Sayyadah village, Al Aqhuz 'Uzlah, Maqbanah District, Taiz Governorate, March 6, 2024.

Deaths and Human Costs

of U.S. Airstrikes on Civilian Populations in Yemen
December 2023 -May 2025

This paper was prepared in partnership with **the Costs of War project, housed at Brown University**. It examines the civilian impact of 46 US airstrikes documented by Mawatana for Human Rights. Seven of these strikes were carried out during Operation 'Prosperity Guardian', launched between December 18, 2023, and January 19, 2025, under the administration of President Joe Biden. The remaining thirty-nine strikes were conducted during Operation 'Rugged Rider', launched between March 15 and May 6, 2025, during the presidency of Donald Trump. Both operations were launched in response to attacks by the Ansar Allah group (Houthis) on shipping vessels and tankers traveling to and from Israel through the Red Sea and the Bab al-Mandab Strait. This took place within a regional context characterized by escalating tensions linked to the Israeli war on the Gaza Strip, following the Palestinian factions' attack on Israeli settlements in the Gaza envelope on October 7, 2023.

The paper constitutes a call to respect the victims' right to truth, justice, and reparation, as an essential component of any effort to address the impact of US military operations on civilians in Yemen. It also calls for independent and effective investigations, the publication of their findings, and ensuring that civilian victims have access to effective remedies and adequate reparations, including compensation, rehabilitation, and the reconstruction of damaged property and facilities, depending on the nature of the harm.

Costs
of
War



Mwatana
for Human Rights