

Flygtningenævnets baggrundsmateriale

Bilagsnr.:	659
Land:	Nigeria
Kilde:	Action on Armed Violence - AOAV (tidligere Landmine Action)
Titel:	Explosive violence monitor 2022
Udgivet:	24. april 2023
Optaget på baggrundsmaterialet:	19. september 2023

ACTION ON
ARMED VIOLENCE

AOAV

EXPLOSIVE VIOLENCE MONITOR 2022



Report by
Chiara Torelli

Editor
Iain Overton

Consultant
Jennifer Dathan

Copyright © Action on Armed Violence (2023)

Cover illustration
Dnipro after Russian missile attack, Jan 14, 2023.
By Dnipropetrovsk Regional State Administration, licensed under CC BY 4.0.

Design and printing
Tutaev Design

AOAV would like to thank the Syrian Network for Human Rights (SNHR) for kindly allowing us the use of their images.

Clarifications or corrections from interested parties are welcome.

Research and publication funded by the Government of Norway, Ministry of Foreign Affairs.

Contents

Introduction	1
Key Findings	3
Key Terms	7
2022 Overview	9
Incidents of explosive violence recorded by AOAV in 2022	12
Explosive Weapons in Populated Areas	14
Locations: 2022 Hotspots	17
Explosive Weapon Types	28
Air-launched Explosive Weapons	30
Ground-launched Explosive Weapons	32
Improvised Explosive Devices (IEDs)	35
Conclusion	41
Recommendations	43
Methodology	44
Notes	47

Introduction

Even when parties claim to use explosive weapons in populated areas in compliance with international humanitarian law, this still causes a pattern of devastating harm to civilians in the immediate and long term. There is an urgent need for parties to avoid the use of explosive weapons with wide-area effects in populated areas.

António Guterres, UN Secretary-General

Protection of civilians in armed conflict, Report of the Secretary-General, 03 May 2022.¹

This report presents the findings of global explosive violence patterns in 2022. It constitutes the twelfth consecutive year of Action on Armed Violence's (AOAV) Explosive Violence Monitoring Project (EVMP), which records the casualties from explosive weapon use worldwide as reported in English-language media.

In 2022, AOAV recorded 31,273 deaths and injuries as a result of the use of explosive weapons around the world. Civilians continued to suffer disproportionately from this harm, accounting for 20,793 of these casualties - or 66% of all those killed and injured by explosive weapons around the world.

As has been demonstrated every year for the past decade, this threat to civilians is exacerbated when explosive weapons are used in populated areas: in 2022, 90% of all those reported killed and injured by explosive weapons in populated areas were civilians. Furthermore, 94% of global civilian casualties from explosive weapons over the past year occurred in locations reported as populated.

These findings reflect a consistent pattern of harm that AOAV has documented for more than a decade: on average over the last eleven years, when explosive weapons were used in populated areas, nine in every ten of those killed or wounded were civilians.

Overall, 2022 saw a 73% increase in incidents of explosive weapon use around the world, and an 83% spike in civilian casualties compared to 2021. This rise was predominantly down to Russia's full-scale invasion of Ukraine, but it was also caused by smaller flare-ups of violence between Armenia and Azerbaijan; increased

volatility between Kyrgyzstan and Tajikistan; and ongoing conflicts and armed struggles in Afghanistan, Ethiopia, Myanmar, Syria, Yemen, Somalia, and the Occupied Palestinian Territories.

Last year, Ukraine was by far the worst impacted country in terms of civilian casualties from explosive weapon use. Civilian deaths and injuries from explosive violence in Ukraine increased by 36,868% between 2021 and 2022, with the highest levels of civilian harm occurring in March (1,592 civilian deaths and injuries), during the initial surge of Russia's failed push for Kyiv, and in July and September (1,265 and 1,141 civilian casualties respectively), in Russia's rush to solidify gains before the onset of winter. Afghanistan, the worst impacted country for two consecutive years (from 2020 to 2021), saw a 57% decrease in recorded civilian deaths and injuries from explosive violence over the past year, but remained the second worst impacted country in 2022. Syria also experienced lower levels of civilian harm compared to 2021, although the reduction was smaller, with civilian casualties of explosive violence falling by 35%.

Somalia saw the fourth highest level of civilian casualties from explosive weapons use in 2022. Al Shabaab increased attacks against military and civilian targets in response to the Somali government's renewed military campaign, causing civilian deaths and injuries from explosive violence in the country to increase by 128% between 2021 to 2022.

Ethiopia's two-year civil war, from November 2020 to November 2022, saw a spike in civilian harm from explosive weapons use last year, when civilian deaths



Debris from a 9M79 Tochka missile with the Russian inscription 'за детей' ('for the children'), from the rocket attack on Kramatorsk railway station, Donetsk, April 8, 2022. By armyinform.com.ua, licensed under CC BY 4.0.

and injuries from explosive violence increased by 114% compared to 2021. In 2022, Ethiopia experienced the fifth highest level of civilian harm from explosive weapon use globally.

Explosive weapons:

Weapons that share common characteristics causing deaths, injuries, and damage by projecting explosive blast, heat and often fragmentation around a point of detonation. These weapons include a variety of munitions such as air-dropped bombs, mortars, improvised explosive devices (IEDs) and artillery shells.

For the first time since 2015, Yemen was not among the five worst impacted countries for civilian casualties of explosive violence. Myanmar, which was the ninth most impacted country in 2021, saw the sixth highest level of civilian casualties in 2022.

The data presented in this report quantifies exclusively the immediate harm to civilians caused by the use of

explosive weapons. This form of violence, however, has widespread and enduring impacts that affect civilians and their environment long after the initial devastation. AOA and our colleagues continually seek to highlight some of the reverberating effects of explosive violence harm, which see even greater numbers of civilian lives affected and continue to impact communities and nations across multiple generations.

Thousands more civilians are harmed by the use of explosive weapons than can possibly be hinted at in our casualty figures. AOA's data is not an attempt to capture every casualty of every incident around the world. No claims are made that this sample of data, taken from English-language media reporting, can represent the total impact of explosive weapons on civilians in 2022.

Since the monitor began in 2010, AOA has recorded the appalling suffering caused across the globe by both manufactured and improvised weapons. AOA welcomes Ireland's November 2022 Political Declaration, on the protection of civilians from the use of explosive weapons in populated areas, as a significant first step. However, the harm recorded in 2022 and reflected in this report further illustrates the clear urgency of acting on this commitment, and of furthering the protection of civilians through proactive policy and operational reform.

Key Findings

OVERVIEW

- In 2022, AOAV recorded **31,273** deaths and injuries caused by explosive weapons across **4,322** incidents.
- Of these casualties, **20,793** were civilians, making up **66%** of the total number. This marks the highest levels of civilian harm recorded since 2018.
- The report shows that civilian casualties from the use of explosive weapons soared by **83%** last year, predominantly because of the war in Ukraine. AOAV recorded **10,351** civilian casualties in Ukraine alone.
- Explosive weapons used in populated areas were responsible for **90%** of civilian casualties, while other areas accounted for only 12%.
- AOAV recorded **19,632** civilians killed and injured in populated areas, which represented **94%** of globally reported civilian deaths and injuries.
- The average number of civilians harmed per incident rose from 4.5 in 2021 to 4.8 in 2022, indicating a **7%** increase.

- Reported female civilian casualties of explosive violence rose by **1.6%** from 744 in 2021 to 756 in 2022, while reported female casualties in 2022 represented 4% of total civilian casualties.
- The number of reported child casualties fell by **19%**, from 1,419 in 2021 to 1,146 in 2022, and child casualties of explosive violence fell to 5% in 2022 from the 13% recorded in 2021.
- **Ukraine, Afghanistan, Syria, Somalia, and Ethiopia** saw the highest number of global civilian casualties in 2022.
- Manufactured explosive weapons accounted for **78%** of civilian casualties in 2022, while improvised explosive devices (IEDs) accounted for **21%**.
- Ground-launched manufactured explosive weapons were responsible for **52%** of all civilian casualties, while air-launched explosive weapons accounted for **19%**.
- The average number of civilians harmed per air-strike rose from 5.6 to 7.5, indicating a **34%** increase.
- Incidents were recorded in **60 countries and territories** around the world, which is three more than in 2021.

EXPLOSIVE VIOLENCE IN 2022

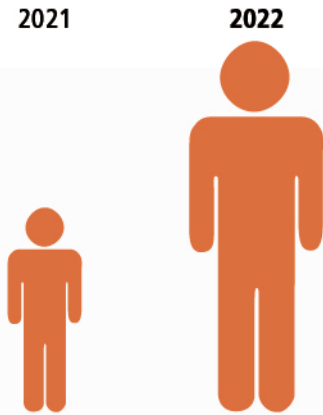


66%

CIVILIAN CASUALTIES

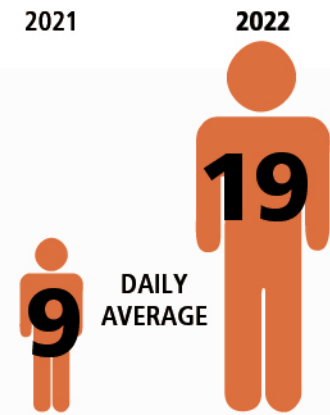
TOTAL REPORTED DEATHS & INJURIES: 31,273
TOTAL CIVILIAN DEATHS & INJURIES: 20,793

= 400 Civilian casualties = 400 Armed Actor casualties



83%

INCREASE IN TOTAL CIVILIAN
DEATHS & INJURIES



211%

INCREASE IN AVERAGE NUMBER
OF CIVILIAN DEATHS PER DAY

TARGETED AREAS

POPULATED AREAS



90% CIVILIAN DEATHS & INJURIES
IN POPULATED AREAS



3,002 ATTACKS IN POPULATED AREAS

NON-POPULATED AREAS

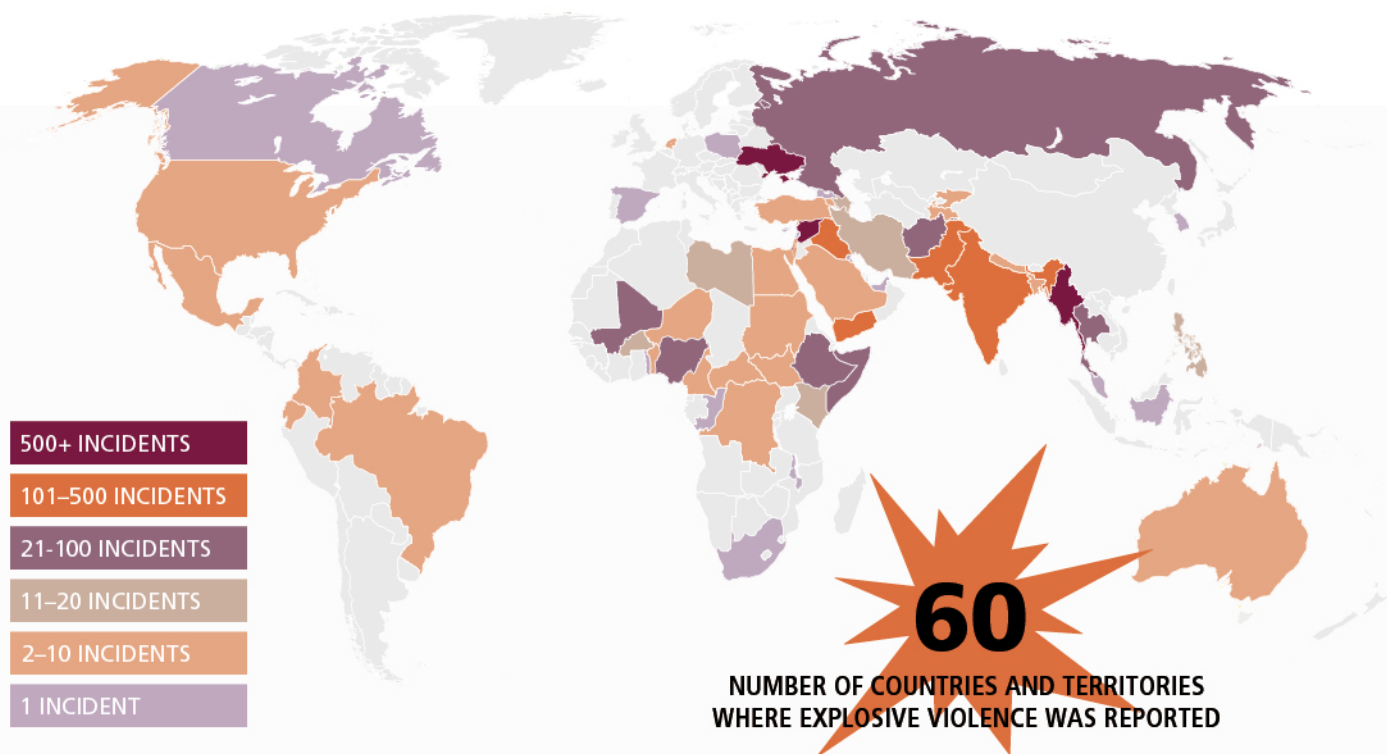


12% CIVILIAN DEATHS & INJURIES
IN NON-POPULATED AREAS



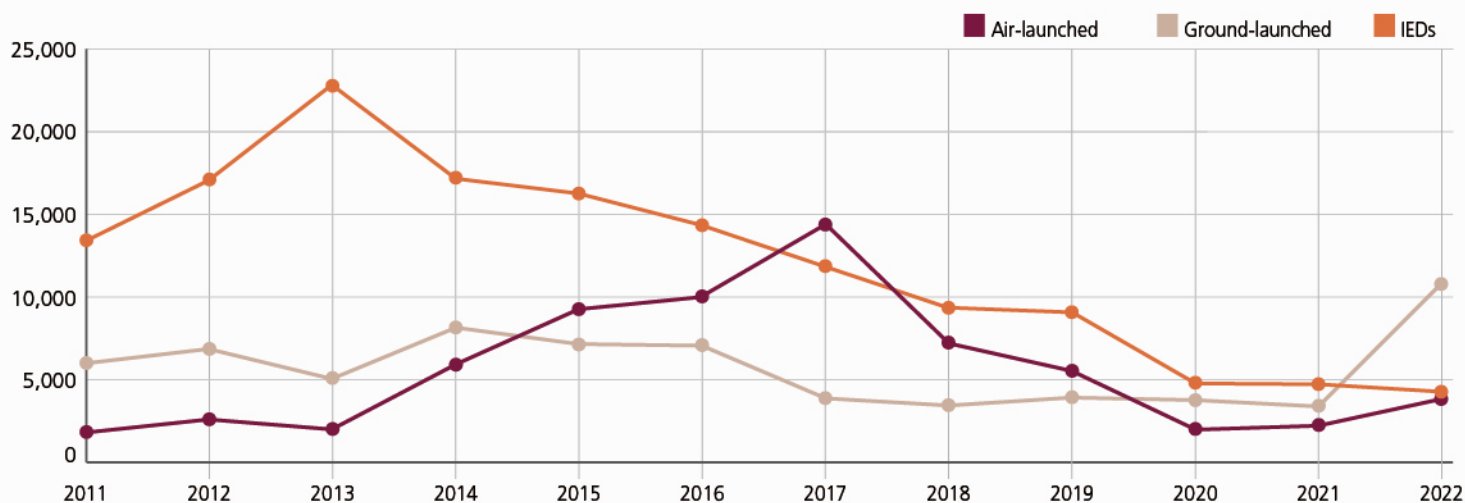
1,320 ATTACKS IN NON-POPULATED AREAS

	TOTAL DEATHS & INJURIES	CIVILIAN DEATHS & INJURIES	AVERAGE CIVILIAN DEATHS & INJURIES PER ATTACK
URBAN RESIDENTIAL	5,160	95%	4
VILLAGE	4,731	99%	9
MARKETS	3,281	77%	4

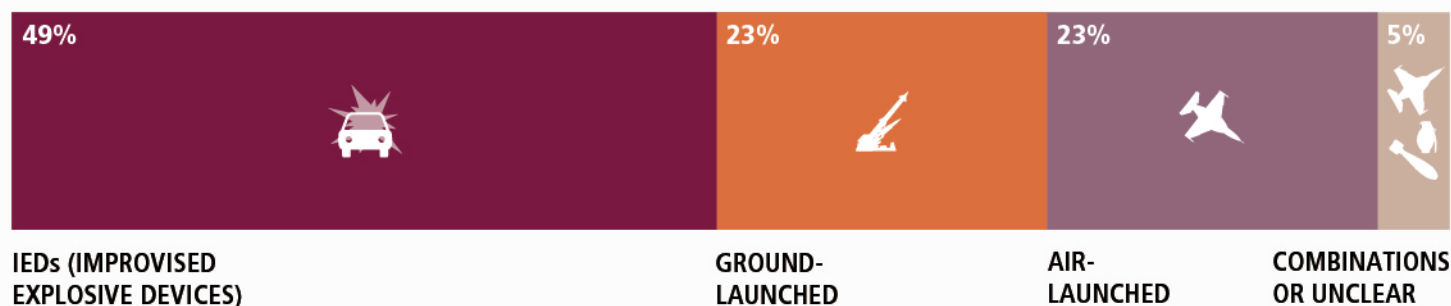


DEADLY WEAPONS

CIVILIAN DEATHS & INJURIES BY AIR-LAUNCHED, GROUND-LAUNCHED AND IEDS, 2011 – 2022



CIVILIAN DEATHS & INJURIES BY WEAPON LAUNCH METHOD



Key Terms

CIVILIAN/ARMED ACTOR OR SECURITY PERSONNEL:

Casualties were recorded as ‘armed actors’ only if they were reported as being part of the state military, were members of non-state armed groups, or were security personnel who AOVAV considered likely to be armed. This includes police, security guards, intelligence officers, and paramilitary forces. All casualties not reported as belonging to these armed groups were recorded as civilians.

EXPLOSIVE VIOLENCE INCIDENT:

Refers to the use of explosive weapons that caused at least one casualty and took place in a 24-hour period.

POPULATED AREA:

Refers to areas likely to contain concentrations of civilians.²

WIDE-AREA EFFECTS:

Refers to the use of explosive weapons which, result in a large blast and fragmentation radius, lack accurate delivery systems, and/or, use multiple munitions.³

EXPLOSIVE WEAPONS TYPES:

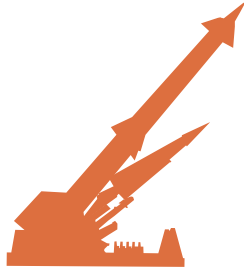
Weapons were classified by AOVAV based on consistently-used language in media reporting. The categories used are deliberately broad in order to capture a range of different weapon types in light of considerable variance in the level of detail provided by news sources.

- **Multiple types:** Used to refer to incidents where a combination of different explosive weapon types were used and it was not possible to attribute casualties to each munition. These can involve any combination of air, ground-launched, or improvised explosive devices. The category most commonly includes attacks where ground-launched weapons such as rockets and artillery shells were fired together.
- **Mine:** Refers to incidents where the explosive weapon was described as a mine or landmine. These include both antipersonnel and anti-vehicle mines.⁴

AIR-LAUNCHED:



- **Air strike:** The broadest recording category in this grouping. It refers to incidents where manufactured explosive weapons were reported as delivered by drones, planes, helicopters, or other aircraft, and the type of munition fired was not specified in the news source.⁵ Where the munition used is specified in news sources it is recorded as one of the following more specific weapon categories below.
- **Air-dropped bomb:** References to areas being ‘bombed’ by military aircraft were recorded as air-dropped bomb incidents. This can include cluster bombs and manufactured explosive weapons, such as grenades, dropped from drones.
- **Missile:** Recorded where explosive missiles delivered by air were reported in a news source, most commonly in drone attacks.⁶
- **Rocket:** Typically used to refer to unguided missiles, rockets were recorded wherever they are specified in a news source.⁷

GROUND-LAUNCHED:

- **Shelling (unspecified):** The broadest recording category in this grouping. It refers to reports of the use of explosive shells that do not specify how they were delivered (e.g. mortars, rockets, artillery, or tanks).
- **Artillery shell:** An explosive projectile fired from a gun, cannon, howitzer or recoilless gun/rifle. This refers to medium and large-calibre munitions primarily designed to fire indirectly. Artillery shells were recorded wherever specified in news sources.
- **Missile:** Recorded where reported in news sources, or where a ground-launched missile type was reported in the incident (e.g. SCUD, MANPAD). Ground-launched missiles can range from shoulder-mounted to ballistic missiles.
- **Rocket:** Recorded where reported in news sources, or where a known ground-launched rocket type was reported in the incident (e.g. Grad, Katyusha).
- **Mortar:** Recorded where reports specified that a mortar bomb was the munition used.⁸
- **Tank shell:** Explosive shells fired by tanks.
- **Grenade:** Recorded where reports indicate grenades deployed an explosive blast and/or fragmentation. Grenades specified as 'homemade' were recorded as IEDs.
- **RPG:** Rocket-propelled grenades. Grenades which are rifle-launched were recorded as grenades rather than RPGs.

IMPROVISED EXPLOSIVE DEVICES (IEDS):

- **Non-specific IED:** The broadest recording category in this grouping. It refers to all IEDs which could not be categorised as either 'roadside bombs' or 'car bombs.'
- **Car bomb:** Incidents where the IED was clearly described as a 'car bomb,' or other vehicles like trucks were used. IEDs which were reported as being attached to vehicles, such as a sticky bomb attached to a politician's car or a remote control IED attached to a bicycle, were recorded as 'Non-specific IEDs.'
- **Roadside bomb:** IEDs which were either specifically reported as 'roadside bombs' or where an IED was reported to be used alongside a road and no further information was provided.
- **Air-dropped bomb:** References to IEDs delivered via commercial drones are coded as air-dropped bombs.

2022 Overview

AOAV recorded **31,273** casualties (people who were killed or injured) by explosive weapons across **4,322** incidents in 2022.

Of the casualties recorded in 2022, **66%** were civilians (**20,793** civilians killed and injured).

When explosive weapons were used in populated areas, **90%** of those killed and injured were civilians (**19,632** civilian casualties).

In 2022, AOA V recorded 20,793 civilian deaths and injuries from explosive weapons reported around the world. In total, 14,235 people were killed (of which 6,886 were civilians) and 17,038 were injured (of which 13,907 were civilians) by explosive weapons globally.

As seen every year since AOA V began recording in 2010, civilians continued to represent the majority of casualties from explosive weapon use, accounting for 66% of all recorded deaths and injuries.

This harm was further exacerbated when explosive weapons were used in populated areas, a pattern witnessed across over a decade.⁹

In 2022, 69% (3,002) of all recorded incidents took place in populated areas. In those attacks, 90% of those killed or injured were reported as civilians. This compares to 12% (1,161) of deaths and injuries reported as civilians when explosive weapons were used in areas not reported as populated.

Last year AOA V recorded a 59% increase in overall deaths and injuries from the use of explosive weapons around the world, up from 19,722 total casualties recorded in 2021. Of note, civilian casualties saw a

significant increase of 83% in deaths and injuries from global explosive violence, compared to the 11,343 civilians harmed in 2021 - the largest increase in AOA V's civilian casualty figures since we began recording in 2010. The number of incidents of explosive weapon use also rose significantly in 2022, increasing by 73% from 2,500 incidents recorded in 2021 to 4,322 last year. However, the level of civilian harm per incident increased marginally, with the average number of civilians killed and injured in each incident of explosive weapons use rising by 7% from 4.5 in 2021 to 4.8 in 2022.

The significant increase in civilian casualties of explosive weapons last year stands in sharp contrast to the 3% increase recorded the year before, and to the consistent decline in civilian casualties previously recorded since 2015. In 2020, the number of civilians killed or injured by explosive weapons was 43% lower than the previous year, falling from 19,401 recorded civilian casualties in 2019 to 11,055 in 2020.

Global numbers of civilian casualties from explosive weapons increased by such a significant factor largely due to the surge in incidents of explosive violence in specific contexts.

Civilian harm in Ukraine saw its highest levels since AOA V started recording, by a very significant factor: AOA V has recorded a yearly average of 304 civilian casualties of explosive violence in Ukraine from 2011 to 2021, compared to the 10,351 civilians harmed last year. The second worst year for civilian harm from explosive weapons in Ukraine was 2014, when AOA V recorded 1,428 civilian casualties.

In Somalia, where civilian casualties of explosive weapons use increased by 128% last year, from 537 in 2021 to 1,224, 2022 was the most injurious year for civilians since 2017. That year, 1,584 civilian casualties from explosive violence were recorded.

Similarly, 2022 was the most injurious year for civilians in Ethiopia since AOA V started recording. On average, between 2011 and 2021 AOA V has recorded 120 civilian casualties from explosive weapons use a year in Ethiopia, compared to the 1,138 civilians harmed in 2022.





Maram IDP camp, Idlib, after bombardment using missiles loaded with cluster munitions. Missiles originated from a site where Syrian regime forces are stationed, Nov 6, 2022. By SNHR.

Worst explosive incidents of 2022

Incident	Location	Civilian casualties
Russian airstrike on a theatre sheltering over a thousand civilians in Mariupol, 16 March ¹⁰	Mariupol, Ukraine	600
Al Shabaab car bomb attack on the Ministry of Education in Mogadishu, where the first explosion hit the ministry and the second targeted medical teams and first responders, 29 October ¹¹	Mogadishu, Somalia	454
Mortar and RPG attack in Baghdad's Green Zone, 29 August ¹²	Baghdad, Iraq	429
Artillery and firearm attack on communities in Wollega by the Oromo Liberation Army, 18 June ¹³	Wollega, Ethiopia	300
Saudi airstrike on a migrant detention centre run by Houthis, 21 January ¹⁴	Saada, Yemen	291
Suicide attack on a shia mosque in Peshawar, 04 March ¹⁵	Peshawar, Pakistan	250
Airstrike by unknown state actors on an IDP camp in Dedebeit, 08 January ¹⁶	Dedebeit, Ethiopia	182
Ethiopian airstrike on Ofu Bekke village in Chobi, 23 October ¹⁷	Chobi, Ethiopia	168
Suicide attack on the Kaaj educational institute in Kabul while exams were taking place, 30 September ¹⁸	Kabul, Afghanistan	163
Al Shabaab suicide attack on public buildings in Beledweyne, 23 March ¹⁹	Beledweyne, Somalia	156

In Myanmar, civilian casualties rose by 178% last year, from 353 recorded in 2021 to 980 in 2022 - the highest level of civilian harm reported since 2010, and largely due to the military's response to intensified resistance and the growth of local People's Defense Forces.

Last year, Iraq saw the highest level of civilian harm recorded since 2018, with civilian casualties of explosive violence increasing by 43% from 620 in 2021 to 885 - due in large part to a 723% increase in civilians harmed in ground-launched attacks by non-state and unknown actors (from 61 in 2021 to 502 in 2022), and a 398% increase in civilian casualties of air-launched weapons (from 43 in 2021 to 214 in 2022), predominantly perpetrated by state actors. In 2021, civilian casualties had already more than doubled in Iraq, owing to an increase in high-casualty IED attacks by the Islamic State in Baghdad.

In Pakistan, civilians harmed by IED attacks, notably perpetrated by the Tehrik-e Taliban Pakistan (TTP) and Baloch Liberation Army (BLA), rose by 67% in 2022 (from 308 to 515 civilian casualties). This caused the total number of civilian casualties of explosive violence in the country to increase by 62%, the highest levels recorded since 2018. 721 civilians were reported killed and injured last year.

Similarly, Nigeria saw a 604% spike in civilian casualties of IEDs in 2022, from 25 recorded in 2021 to 176 last year, predominantly perpetrated by Islamic State West Africa Province (ISWAP) and Boko Haram. Total civilian

casualties of explosive violence in Nigeria rose by 88% over the past year, the highest level recorded since 2018. 300 civilians were reported killed and injured by explosive weapons in 2022.

Burkina Faso experienced a dramatic 2,063% increase in civilian harm in 2022, led by a 1,575% increase in civilian casualties of IEDs, from eight recorded in 2021 to 134 last year. With a total of 173 reported civilian casualties, 2022 was the most injurious year for civilians in Burkina Faso since AOA started recording in 2010.

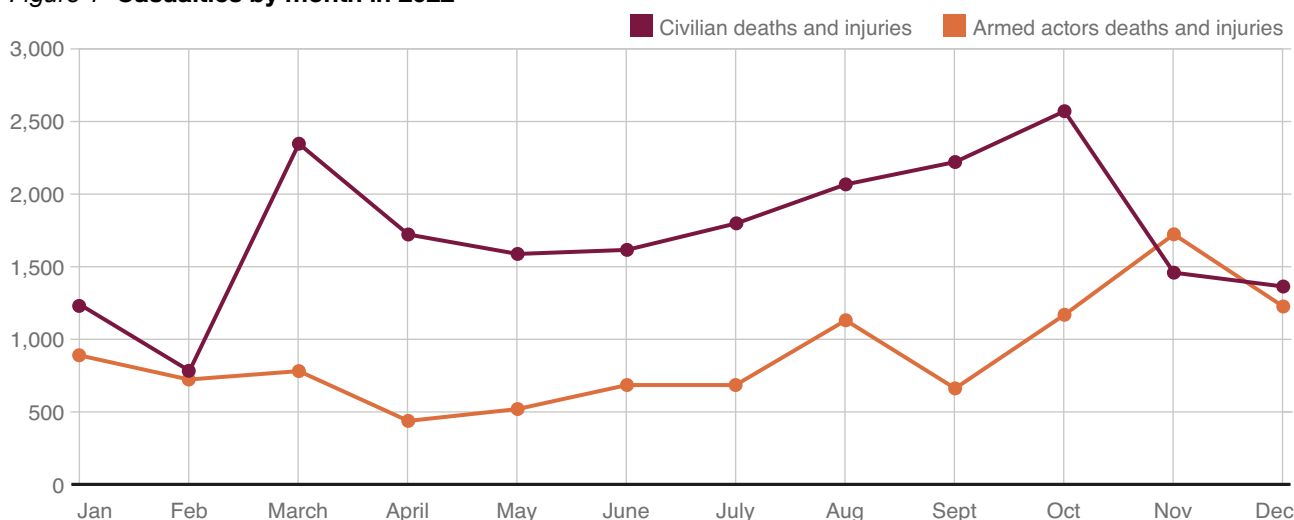
The flare-up of hostilities between Tajikistan and Kyrgyzstan caused civilian casualties of explosive violence to spike in both countries in 2022, with civilian harm increasing by 384% in Kyrgyzstan, from 25 civilian casualties recorded in 2021 to 112 last year, and 67 civilian casualties recorded in Tajikistan compared to zero in 2021.

Of the ten most injurious incidents recorded in 2022, three took place in Ethiopia, and two in Somalia.

On average, AOA recorded 1,732.8 civilian casualties reported every month in 2022 (*Figure 1*), compared to 873.3 armed actors. This means that every day an average of 57 civilians were reported killed and injured by explosive weapons, and 28.7 armed actors.

In terms of fatalities specifically, on average every day 18.9 civilians were reported to have been killed by explosive weapons in 2022 around the world.

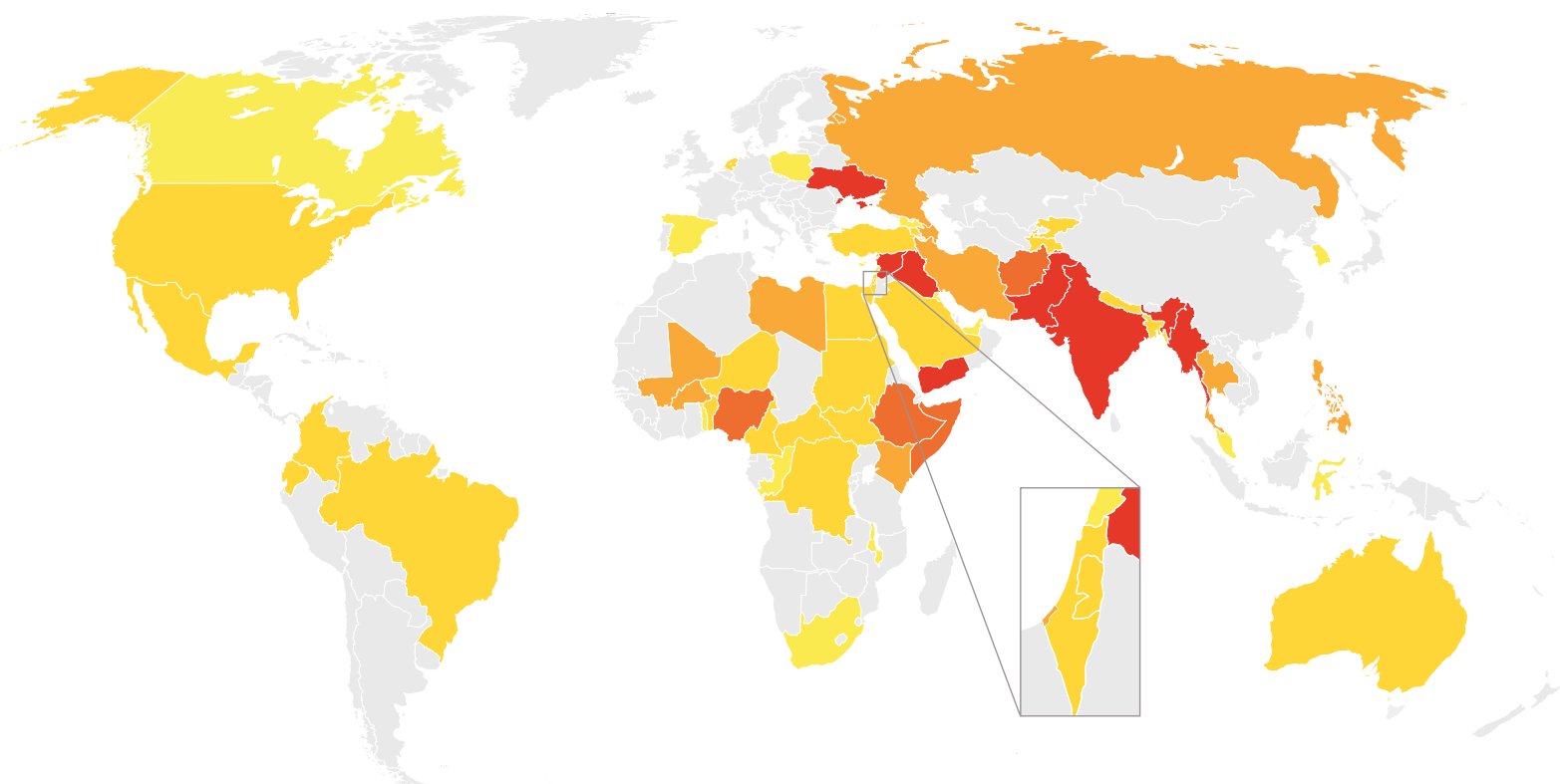
Figure 1 Casualties by month in 2022



Casualty-causing Incidents of Explosive Violence Recorded by AOAV in 2022

AOAV recorded explosive violence in 60 countries and territories across the world.

Explosive violence was particularly intense in several contexts.

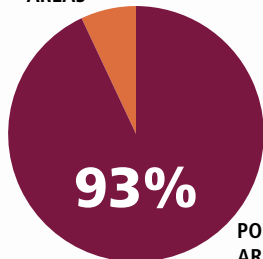


- **Countries and territories with between 101 and 1,000 incidents**
 Ukraine 1854, Syria 652, Myanmar 550, Iraq 253, Yemen 157, Pakistan 126, India 113
- **Countries and territories with between 31 and 100 incidents**
 Somalia 95, Afghanistan 90, Nigeria 66, Ethiopia 33
- **Countries with between 11 and 30 incidents**
 Thailand 30, Gaza 29, Russia 26, Mali 25, Philippines 19, Azerbaijan 17, Burkina Faso 15, Iran 12, Libya 12, Kenya 11
- **Countries with between 2 and 10 incidents**
 Turkey 10, Tajikistan 9, Colombia 8, Israel 8, Niger 8, DRC 8, Bangladesh 7, Cameroon 7, USA 6, Mexico 6, West Bank 5, Armenia 5, Egypt 5, South Sudan 4, Benin 4, Saudi Arabia 4, CAR 3, Sudan 3, Kyrgyzstan 2, Australia 2, Ecuador 2, Brazil 2, Nepal 2, Netherlands 2
- **Countries and territories with 1 incident**
 Cyprus, UAE, Poland, South Korea, Georgia, Malawi, Togo, Spain, Congo, Malaysia, Indonesia, Kuwait, South Africa, Canada, Lebanon

CIVILIANS KILLED AND INJURED: 2021 V 2022

2021

2022

NON-POPULATED
AREASPOPULATED
AREAS

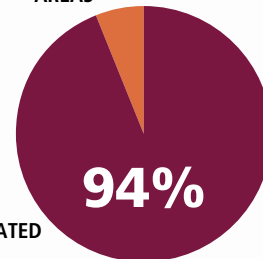
10,295
CIVILIAN CASUALTIES
IN POPULATED AREAS

11,102
TOTAL CIVILIAN
DEATHS & INJURIES



83%
INCREASE

20,793
TOTAL CIVILIAN
DEATHS & INJURIES

NON-POPULATED
AREASPOPULATED
AREAS

19,632
CIVILIAN CASUALTIES
IN POPULATED AREAS

THE MOST DANGEROUS PLACES TO BE A CIVILIAN

2021



AFGHANISTAN
3,051 CIVILIAN DEATHS & INJURIES



SYRIA
2,016 CIVILIAN DEATHS & INJURIES



GAZA
1,478 CIVILIAN DEATHS & INJURIES



YEMEN
867 CIVILIAN DEATHS & INJURIES



IRAQ
600 CIVILIAN DEATHS & INJURIES



2022



UKRAINE
10,351 CIVILIAN DEATHS & INJURIES



AFGHANISTAN
1,314 CIVILIAN DEATHS & INJURIES



SYRIA
1,304 CIVILIAN DEATHS & INJURIES



SOMALIA
1,224 CIVILIAN DEATHS & INJURIES



ETHIOPIA
1,138 CIVILIAN DEATHS & INJURIES



 =300 Civilians

Explosive Weapons in Populated Areas

In 2022, **90%** of casualties in populated areas were reported as civilians, compared to 12% in other areas.

The majority of explosive incidents – **69%** in 2022 – were perpetrated in populated areas.

Civilian deaths and injuries in populated areas represented **94%** of all reported civilian deaths and injuries from explosive weapons.

POPULATED AREAS

As *Figure 2* shows, when explosive weapons were used in populated areas in 2022, 90% of those reported killed and injured were civilians. This compares to 12% in other areas. In total, 19,632 civilians were killed and injured in locations reported as populated.

These findings are consistent with the pattern of harm AOAV has persistently recorded since 2011. In that time, it has been clearly shown that the use of explosive weapons in populated areas overwhelmingly harms civilians: on average, when explosive weapons are used in populated areas, nine in every ten casualties (deaths and injuries) will be civilian. Previous years data can be found on AOAV's website.

Despite the likely harm, the use of explosive weapons in populated areas remains the predominant form of violence carried out by state and non-state actors alike: the majority of explosive incidents last year, 69% (3,002), were perpetrated in such areas. This is compared to 1,320 incidents in lesser populated areas.

The number of incidents reported in populated areas was significantly higher in 2022 compared to 2021, when 1,436 such incidents were recorded.

Civilian deaths and injuries in populated areas represented 94% of all reported civilian deaths and injuries from explosive weapons last year, demonstrating the disproportionate effect of explosive weapons deployed in these locations.

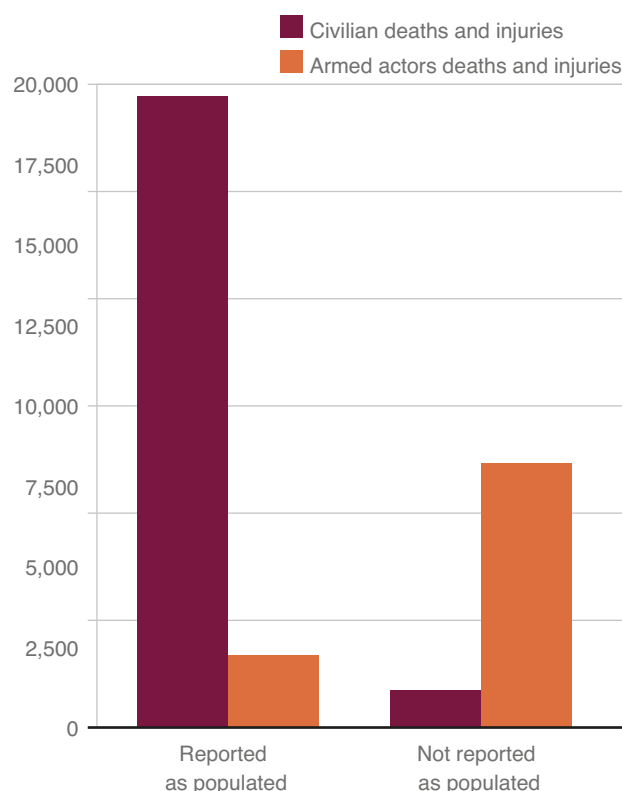
LOCATIONS

RESIDENTIAL

The highest number of civilians killed and injured were from incidents in residential areas or civilian houses. AOAV recorded 1,112 such incidents in 2022, which accounted for 26% of all incidents of explosive weapon use in 2022, and increased by 147% compared to 2021.

These incidents resulted in 4,924 civilian deaths and injuries (24% of all civilian casualties recorded globally), marking an increase of 106% from 2021, when 2,391 civilian casualties were recorded from 450 incidents in such areas. 71% (795) of explosive weapons use in residential areas in 2022 occurred in Ukraine, where 3,097 civilian casualties of such attacks were recorded - 63% of all civilian casualties recorded in urban

Figure 2 Total casualties by populated area / non-populated area



residential areas globally. Overall, when explosive weapons were used in residential areas, 95% of the total 5,160 casualties were civilians.

As in previous years, due to the frequency of bombardment in urban areas, many incidents in urban locations where more than one type of environment was impacted became categorised under “multiple (urban)”. An additional 503 incidents of explosive violence were recorded in this location, resulting in 4,695 civilian casualties. Similarly, 93% (467) of such incidents were recorded in Ukraine, where 80% (3,776) of global civilian casualties of explosive violence in such areas were also recorded.

Of the civilian casualties recorded in urban residential areas, ground-launched explosives caused 69% (3,393); air strikes accounted for 12% (615); and IEDs accounted for 8% (391).

VILLAGES

630 incidents of explosive violence in villages were recorded last year, resulting in 3,281 total casualties. 78% (2,518) of these were reported as civilians - a 68% increase from 1,501 civilians reported killed and injured by explosive weapons in villages in 2021.

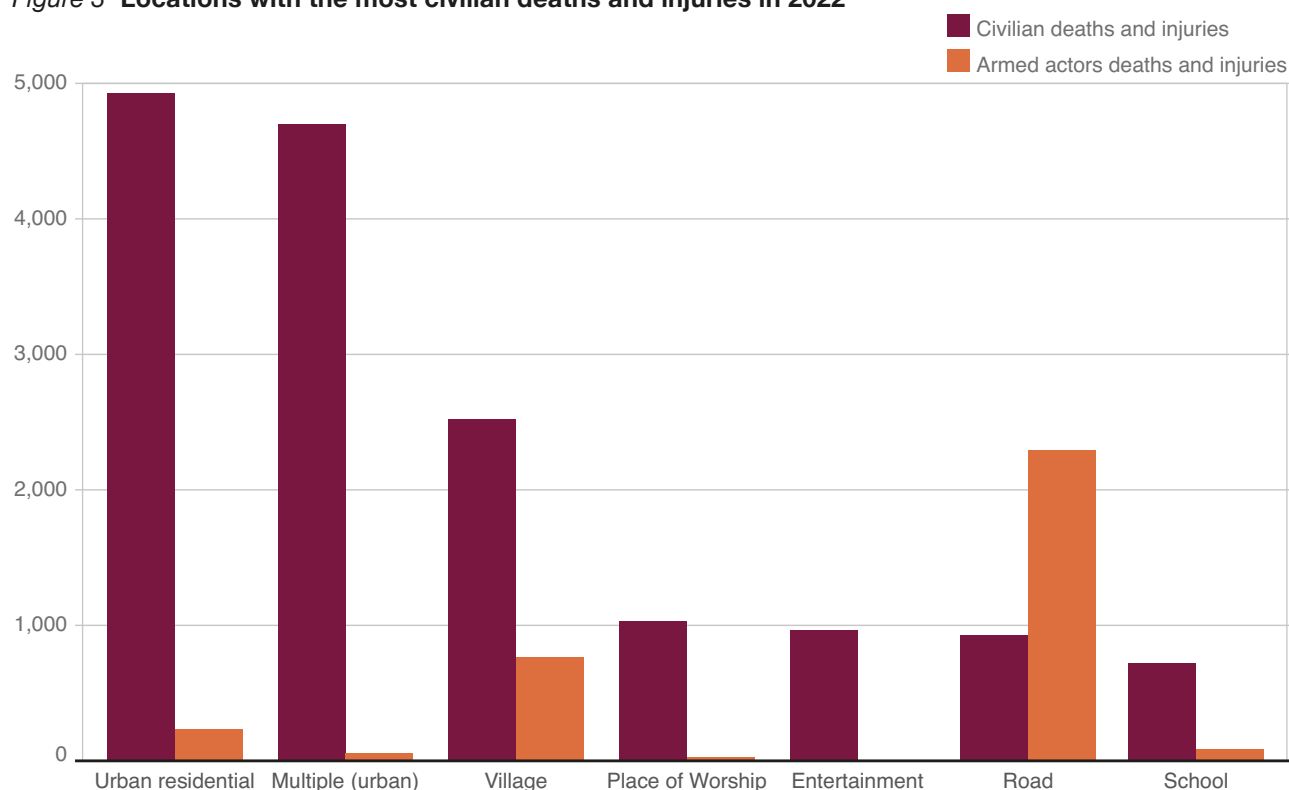
The majority of these incidents were perpetrated in Syria (187 incidents) and Myanmar (180), but Ukraine accounts for the majority, 616, of civilian casualties from explosive violence in villages, followed by Myanmar (506 civilian casualties), Ethiopia (468), Syria (370), and Yemen (101).

In villages, 57% (1,442) of civilian casualties were caused by ground-launched explosives, 31% (789) by air-strikes, and 4% (112) by IEDs. The remaining civilian casualties are attributed to mines, combined explosive weapons, and weapons of unclear launch method.



The main market in Afis village, northern Idlib, in the aftermath of a land attack by Syrian regime forces. Feb 7, 2022.
By Ahmad Rahhal, SNHR.

Figure 3 Locations with the most civilian deaths and injuries in 2022



PLACES OF WORSHIP

Last year, AOV recorded 1,057 casualties from incidents of explosive violence in places of worship, of whom an overwhelming 98% (1,032) were civilians. This marks a 96% increase in civilians reported killed and injured in places of worship, compared to 527 in 2021.

IEDs accounted for 81% (841) of civilian casualties from explosive weapons in places of worship last year, followed by ground-launched weapons (132 civilian casualties) and airstrikes (44).

53% (553) of civilian casualties from such incidents were recorded in Afghanistan, and 24% (250) in Pakistan.

I opened my eyes and there was dust and bodies everywhere.

Shayan Haider, a worshipper at a Shi'ite mosque in Peshawar, Pakistan, survived a suicide attack during Friday prayers on March 4, 2022 (Dawn, March 04). At least 56 people were killed and 194 injured.²⁰



School in Bilohorivka settlement, Luhansk, after a Russian airstrike. By National Police of Ukraine, May 7, 2022. Licensed under CC by 4.0.

Locations: 2022 Hotspots

AOAV recorded at least one death or injury from an explosive weapon attack in 60 different countries and territories (see *map on page 12*).²¹

Casualties from explosive weapons were consequently reported in three more countries and territories in 2022 than in 2021. There were 18 countries impacted by explosive violence last year that had not seen casualties the previous year.²²

As *Figure 4* shows, Ukraine was the country with the most civilian deaths and injuries in 2022, followed by Afghanistan, Syria, Somalia, and Ethiopia.

UKRAINE

Russia's full-scale invasion of Ukraine, on 24 February 2022, drove civilian casualties to the highest level the country has seen since AOA began recording. Increasing by 36,868%, from 28 civilians harmed in 2021 to 10,351 last year, civilians accounted for 83% of all 12,417 casualties recorded in the country. Significantly, however, AOA noted a lack of incident-specific reporting around military casualties on both sides, affecting our ability to accurately portray patterns of harm. Of the civilian casualties, 3,672 were killed and 6,679 injured. At least 320 children were among the civilians harmed, 295 women, and 337 men.

72% (7,452) of civilian casualties in Ukraine were caused by ground-launched weapons, which also accounted for 81% (1,494) of the 1,854 incidents recorded in the country last year. Air-launched weapons, which accounted for 6% (105) of incidents, caused 15%

(1,543) of civilian casualties. On average, therefore, 15 civilians were harmed per airstrike in Ukraine in 2022.

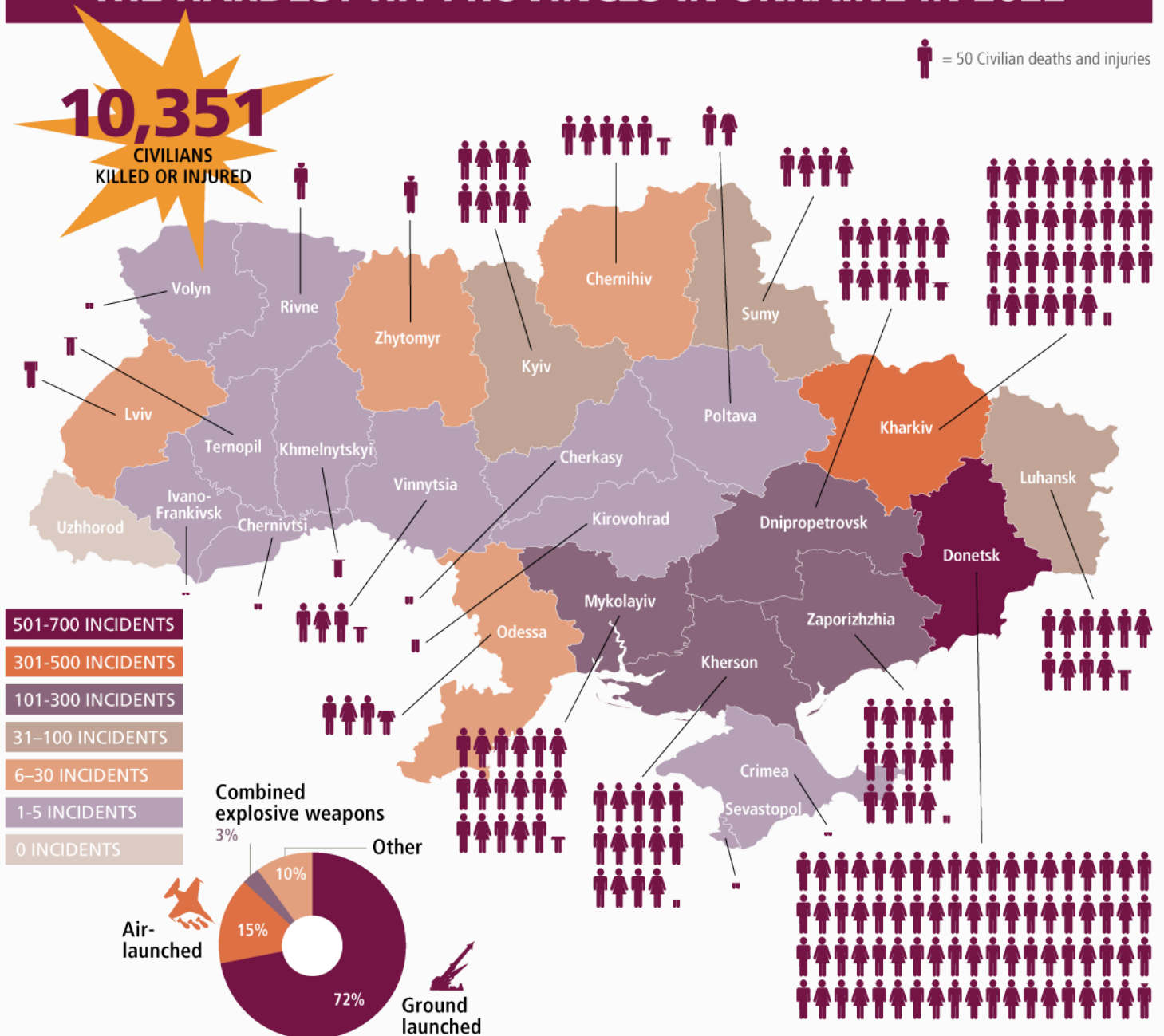
85% (1,575) of incidents of explosive weapon use in Ukraine were recorded in populated areas, compared to 16% (18) in 2021 - a proportional increase of 431%.

State actors were the reported perpetrators in the case of 94% (1,745) of incidents in Ukraine last year, compared to 20% (22) in 2021. Similarly, in 2021 39% (11) of civilian casualties were caused by state actors, compared to 98% (10,178) in 2022. While Russian proxy groups and Ukrainian separatists perpetrated the majority of incidents in 2021, 74% (81), the shift incurred by the Russian invasion is illustrated in the fact that the Russian armed forces caused 90% (1,668) of incidents and 90% (9,290) of civilian casualties in Ukraine last year. 88% (1,472) of Russian explosive attacks in Ukraine were directed at populated areas.

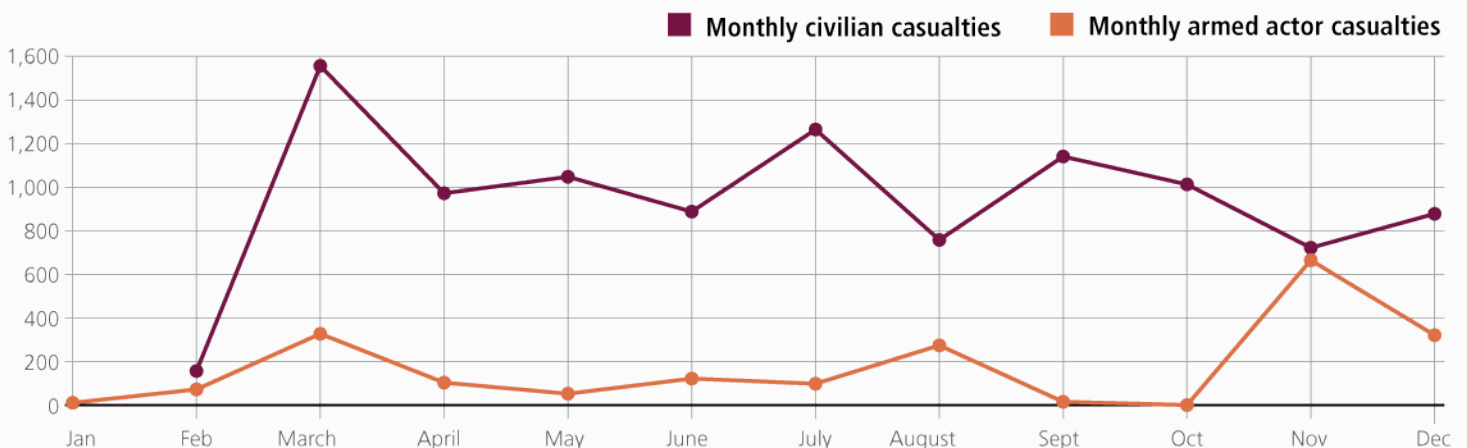


Dormitory in Chernihiv after Russian airstrike, March 13, 2022. By Dsns.gov.ua, licensed under CC by 4.0.

THE HARDEST-HIT PROVINCES IN UKRAINE IN 2022



MONTHLY CASUALTIES OF EXPLOSIVE VIOLENCE IN 2022



Donetsk was by far the worst affected region in the country last year. 36% (3,738) of civilian casualties and 35% (658) of incidents were recorded there, followed by 1,667 civilians harmed in Kharkiv, 871 in Mykolaiv, 713 in Zaporizhzhya, and 710 in Kherson. Almost five times more regions of Ukraine were impacted by explosive weapon use in 2022 compared to 2021: incidents were recorded in five regions in 2021, and in 25 regions last year.

Russia's invasion has been characterised by deadly attacks targeting civilians and civilian infrastructure, with 45% (754) of Russian attacks directed at urban residential areas, 27% (457) across multiple urban locations, and 7% (121) in villages. The conflict has also been defined by the increasing polarisation of the warring parties and their allies, with seemingly few opportunities for diplomatic solutions to emerge as the rhetoric becomes increasingly confrontational, pitching the war as a battle for democratic ideals or a resistance to Western imperialism.

I looked at my arms, and they were covered in blood up to the elbow.

Dmitriy Yurin rushed to assist survivors emerging from the rubble after Russian armed forces bombed the theatre in Mariupol, on 16 March 2022. The theatre was being used as a temporary shelter for thousands of civilians, including children. (Associated Press, May 04).²³

AFGHANISTAN

Despite a significant drop in civilian casualties recorded in Afghanistan in 2022, from 3,051 the previous year to 1,314 - a 57% decrease - the country remained the second most impacted for civilian deaths and injuries from explosive violence last year. Indeed, last year AOAV noted the lowest levels of civilian harm from explosive violence in Afghanistan since recording began in 2010. The number of reported incidents also decreased, dropping by 80% from 458 to 90. However, the proportion of casualties of explosive weapons use that were reported as civilians increased significantly, with civilians representing 92% of all casualties recorded

in the country. In 2021, civilians accounted for 55% of all casualties. The proportion of casualties of explosive violence that were civilians consequently increased by 67% last year. Of the civilian casualties recorded in 2022, 404 were killed, and 910 injured. At least 29 were reported as children, nine as women, and two as men.

IEDs continued to cause the majority of civilian harm in Afghanistan. They caused 77% (2,347) of civilian casualties across 294 incidents in 2021, and 85% (1,121) of civilian harm across 68 incidents in 2022. Correspondingly, in both 2021 and 2022, non-state actors were responsible for the majority of civilian harm, causing 84% (2,578) of civilian casualties in 2021 and 91% (1,191) last year. However, the average number of civilians harmed per IED attack spiked over the past year, rising by 106% from 8 to 16.5. In 2022, IED attacks in places of worship caused 48% (539) civilian casualties across 12 reported incidents, and attacks in schools caused 222 civilian casualties across four incidents.

The Taliban's take-over of Afghanistan, in August 2021, consequently didn't transform patterns of civilian harm from explosive violence very much, save that the Taliban reportedly perpetrated no incidents of explosive violence last year, compared to 60 in 2021, and caused no reported civilian casualties of such attacks, compared to 320 the year before. Islamic State's affiliate in Afghanistan, ISIS-Khorasan Province, or ISIS-K, caused 376 civilian casualties last year, across 14 incidents. Just like 2021, the majority of civilian casualties, 62% (815), were caused by unknown non-state actors. Pakistan reportedly caused 70 civilian casualties in Afghanistan in 2022, across three incidents.

Significantly fewer provinces were impacted by explosive violence last year compared to 2021. AOAV recorded incidents of explosive weapons use across 16 Afghan provinces in 2022, a 59% decrease from 39 the year prior. The highest civilian casualties occurred in Kabul (701), Balkh (143), Kunduz (110), Herat (97), and Khost (63).

The Taliban made claims that they would bolster security in Afghanistan and clamp down on jihadi and extremist violence. While incidents of IED attacks have decreased since the group took control of the country, such attacks have only become more deadly.



A chicken farm in Armanaz town, Idlib, in the aftermath of a Russian airstrike, Jan 3, 2022. By Sad al-Din Zidan, SNHR.

SYRIA

Syria also experienced a significant fall in civilian casualties of explosive violence last year, dropping by 35% from 2,016 in 2021 to 1,304 in 2022. Of these, 340 were killed and 964 injured. Of note, 2022 was the year with the lowest recorded civilian casualties in Syria since 2012. Similarly, the number of recorded incidents also decreased, falling by 8% from 709 to 652. Overall, civilians represented 50% of all 2,591 recorded casualties, compared to 57% in 2021. At least 238 civilians harmed were reported as children, 131 as men and 146 as women.

While ground-launched weapons continued to cause the majority of civilian casualties in Syria, accounting for 54% (702) of civilian harm last year, this represents a significant decrease from the 1,176 civilians killed and injured by such weapons in 2021. Similarly, civilian casualties of IEDs fell from 516 in 2021 to 152 last year, a 71% decrease. While in 2021, IEDs accounted for 26% of civilian casualties in Syria, last year they caused 12%. Incidents of both ground-launched attacks and IEDs decreased between 2021 and 2022, from 334 to 303, and from 203 to 149 respectively.

On the other hand, incidents of air strikes increased marginally, from 104 to 129, and civilian casualties of such weapons rose from 214 to 297. In 2021, air strikes accounted for 12% of civilian casualties, compared to 23% last year.

Similar to 2021, last year state actors were the reported perpetrators of the majority of incidents, 54% (355), as well as the majority of civilian casualties, 64% (829). Non-state actors caused 21% (277) of civilian casualties across 35% (228) of incidents. State actors were also the predominant perpetrators of ground-launched and air-launched attacks, accounting for 68% (207) and 99% (128) of civilian casualties from such attacks respectively.

The majority of civilian harm was attributed to Turkey, who was the reported perpetrator in the case of 25% (330) of civilian casualties, closely followed by Syria (324 civilian casualties). Russia caused 82 reported civilian casualties in Syria last year, and Israel 37. Unknown state actors were the reported perpetrators of 53 civilian casualties. Comparatively, in 2021, Syria caused the majority of civilian casualties, 33% (660),

followed by Russia (132 civilian casualties), Turkey (118), and Israel (26).

Of the predominant non-state armed groups active in the country, last year the Islamic State (ISIS) caused 66 civilian casualties, and the Syrian Democratic Forces (SDF) caused 43. This is a marked increase from the 16 civilian casualties of the SDF recorded in 2021, but a drop compared to the 80 civilian casualties of ISIS recorded that year. However, Syria continues to be characterised by the presence of a large number of non-state actors, with at least 17 recorded in 2021 and 24 in 2022.

As in 2021, Aleppo and Idlib were the most affected governorates in terms of civilian casualties last year, accounting for 34% (447) and 21% (279) of civilian harm respectively. 190 civilian casualties occurred in Hasakah, 115 in Daraa, and 84 in Raqqqa. Aleppo and Idlib have consistently been two of the five most dangerous governorates for civilians in Syria since 2012.

The continuing downward trend in numbers of civilian casualties in Syria raises hopes that the conflict, which only shows signs of becoming increasingly tense and contentious, will have a reduced impact on civilians, but it is likely that AOAV's data is influenced by the decreased media and reporting interest around the Syrian conflict.

SOMALIA

In 2022, Somalia experienced the most injurious year since 2017, when AOAV recorded 1,584 civilian casualties of explosive violence. Last year, 1,224 civilians were recorded killed and injured across 95 incidents, marking a 128% increase from the 537 civilians harmed the year before (and a small increase from 89 incidents). At least 25 of the recorded civilian casualties were children, nine were men, and three were women. Overall, civilians represented 75% of all 1,634 recorded casualties, compared to 59% in 2021.



A house on the outskirts of Shan village, Idlib, in the aftermath of artillery bombardment by Syrian regime forces, Sept 6, 2022. By SNHR.

Incidents of IED attacks fell by 17% last year, dropping from 66 in 2021 to 55 in 2022. Civilian casualties of such attacks, however, increased from 452 to 1,091, a 141% increase. This means the number of civilians harmed per IED attacks rose from 6.4 to 19.8. Civilians represented 86% of all 1,274 recorded casualties of IED attacks in Somalia last year, and IEDs accounted for 89% of all civilian casualties of explosive violence in the country, compared to 79% in 2021. Civilian casualties of ground-launched weapons and mines also increased, from 71 to 81, and 14 to 52 respectively.

In 2021, non-specific IEDs caused 44% (187) of civilian IED harm in Somalia, across 32 incidents, and car bombs caused 176 civilian casualties across 10 incidents. However, in 2022 car bombs caused 75% (821) of civilian casualties of IEDs, across 13 incidents. The average rate of civilian harm per car bomb attack consequently grew from 17.6 to 63.2. Non-specific IEDs caused 184 civilian casualties in 2022 across 25 incidents, so the rate of civilian harm from such attacks also rose, from 5.8 to 7.4.

AOAV recorded 18 incidents that were reported as suicide attacks in Somalia in 2022, compared to 20 the year before. However, civilian casualties of such attacks increased by 68%, from 278 to 468. Last year, therefore, an average of 26 civilians were harmed per suicide attack in Somalia, compared to 13.9 in 2021.

In 2022, non-state actors were the reported perpetrators of 77% (73) of incidents, and 95% (1,160) of reported civilian casualties from explosive violence in Somalia, with the remaining 5% attributed to actors of unknown name and status. This is similar to 2021, when non-state actors caused 82% (73) of incidents and 92% (492) of civilian casualties. While state actors were the reported perpetrators of 12 civilian casualties in 2021, there were no reported civilian casualties of state-perpetrated explosive violence in Somalia in 2022.

Al Shabaab continued to be the predominant perpetrator of civilian harm in Somalia, having caused 60% (324) of civilian casualties in 2021 and 86% (1,055) last year. 35% (17) of all 48 recorded incidents of Al Shabaab explosive violence were reported as suicide attacks, and such attacks resulted in 465 reported civilian casualties.

Banaadir was the most affected region last year, and in particular, the city of Mogadishu accounted for 27% (26) of incidents, and 54% (655) of civilian casualties throughout Somalia. Consequently, last year an average of 25.2 civilians were harmed per explosive attack in the city.

The intensification of attacks directed at civilian and military targets is linked to what is being referred to as “the most significant military offensive” against Al Shabaab in more than a decade, as the president announced a ‘total war’ against the group in August 2022, and encouraged the mobilisation of clan militias and local vigilantes.²⁴

ETHIOPIA

AOAV recorded 1,138 civilian casualties of explosive violence in Ethiopia last year, of which 632 were killed and 506 injured, across 33 incidents. This represents both the highest level of reported incidents and of civilian casualties in the country since AOAV began recording in 2010. The civil war, which began in November 2020 and seemingly drew to a close with a peace deal in November 2022, caused civilian casualties to increase sharply between 2020 and 2021, rising by 1,462% from 34 to 531. The ongoing violence throughout 2022, marked predominantly by air strikes directed at villages, caused a further spike in civilian casualties, which increased by 114% between 2021 and 2022. Civilians represented 99.7% of all 1,141 casualties of explosive violence recorded in Ethiopia last year.

In both 2021 and 2022, air-launched weapons caused most of the civilian casualties in the country. Last year, they accounted for 67% (765) of civilians killed and injured across 23 incidents, while ground-launched weapons accounted for 32% (362) across nine incidents. Both air and ground attacks consequently had a high rate of civilian harm, killing and injuring on average 33.2 and 40.2 civilians per incident respectively.

In 2021, air-launched weapons caused 509 civilian casualties, and harmed on average 46.2 civilians per incident, while ground-launched weapons caused 22 civilian casualties with an average of 5.5 civilians harmed per incident. AOAV recorded one IED attack in Ethiopia last year, which resulted in 11 civilian casualties, when an IED was detonated at a market in Desi.

Figure 4 Most affected countries and territories in 2022

Ranking	Country/ Territory	Civilian casualties	Total casualties	Number of recorded incidents	Average civilian casualties per incident	Percentage of casualties who were civilians	Global ranking in 2022
1	Ukraine	10351	12417	1854	6	83%	24
2	Afghanistan	1314	1429	90	15	92%	1
3	Syria	1304	2591	652	2	50%	2
4	Somalia	1224	1634	95	13	75%	6
5	Ethiopia	1138	1141	33	34	99%	9
6	Myanmar	980	3515	550	2	28%	8
7	Iraq	885	1534	253	3	58%	5
8	Yemen	872	1811	157	6	48%	4
9	Pakistan	721	1016	126	6	71%	7
10	Nigeria	300	1338	66	5	22%	12
11	India	266	352	113	2	76%	10
12	Burkina Faso	173	268	15	12	65%	45
13	Gaza	156	162	29	5	96%	3
14	Kyrgyzstan	112	113	2	56	99%	27
15	Turkey	107	140	10	11	76%	58

Echoing the patterns AOA recorded in 2021, state actors caused 71% (806) of civilian casualties in Ethiopia last year, and were the reported perpetrators of 82% (27) of incidents. Specifically, Ethiopian air-strikes caused 38% (436) of civilian casualties, while air-strikes by unknown state actors caused 28% (323).

Eritrean and Ethiopian ground attacks resulted in 41 civilian casualties. Non-state actors caused 28% (322) of civilian casualties across four incidents, with the Oromo Liberation Army (OLA) causing the majority of these, killing and injuring 300 villagers in an artillery and firearm attack on villages in Wollega.

Tigray remained the most affected region for civilian casualties of explosive violence last year, as 53% (607) of civilian harm occurred there. This is up from the 509 civilian casualties recorded in the region in 2021. AOA further recorded 300 civilian casualties in Wollega,

followed by 213 in Oromia, 17 in Amhara, and one in Bakool.

2020 was the first year in which AOA recorded incidents of state-perpetrated explosive violence in Ethiopia. Consequently, following the ending of open hostilities in Tigray it is likely the region will experience decreasing state and non-state explosive violence in 2023, or decreased reporting on such incidents. However, in Oromia, the OLA remains actively opposed to the state, so the region could continue to experience both state and non-state explosive attacks.

A Global problem

The consequences of explosive violence continue to be visible across the globe, with every continent being affected by explosive violence at least once over the past year.

MYANMAR

Since the military coup on 1st February 2021, Myanmar's military government has responded with increasing violence to both civil and armed resistance. A growing use of air-strikes and artillery to target ethnic armed organisations, People's Defence Forces, and the civilian networks that sustain them has caused civilian casualties of explosive violence to spike, rising by 178% from 353 in 2021 to 980 over the past year. The number of reported incidents also spiked in 2022, increasing by 429% from 104 to 550.

56% (308) of incidents took place in populated areas, and 95% (930) of civilians were harmed in these locations. As in 2021, the most affected locations in Myanmar last year were villages and public gatherings, in which 506 and 129 civilian casualties were recorded respectively. 74 civilian casualties were also recorded in places of worship. Villages accounted for 33% of incidents last year, and 52% of civilian casualties of explosive violence in Myanmar.

Non-state actors perpetrated 309 incidents of explosive violence in 2022, causing 140 civilian casualties, or 6% of the total 2,408 casualties of non-state groups in the country. State actors, specifically Myanmar's military government, caused 758 civilian casualties across 204 incidents. Civilians accounted for 74% of all 1,024 recorded casualties from explosive violence perpetrated by Myanmar's military government.

Ground-launched weapons caused 56% (553) of civilian casualties, across 179 incidents, and air-launched weapons caused 21% (202) across 52 incidents. IEDs killed or injured 114 civilians, mines harmed 61 civilians, and combined explosive weapons caused 49 civilian casualties.

Reflecting the state of open hostilities between the military and its allied armed groups on the one hand, and People's Defence Forces and other ethnic armed organisations on the other, the number of recorded armed actor casualties increased significantly last year. Already in 2021, armed actor casualties rose from 12 to 345, and they increased again to 2,535 in 2022.

They were shooting at civilians, not at the enemy. This is an evil act, and this is a war crime. We are grieving over the deaths of our people.

45 civilians were killed and injured when the Myanmar military conducted airstrikes on a concert celebrating the Karen Independence Organisation's (KIO) 62nd anniversary, on Oct. 24 2022. KIO Colonel Naw Bu insists the Myanmar military would have known such anniversaries are marked by large numbers of Kachin civilians. (*Irrawaddy*, Oct. 24).²⁵

NIGERIA

Nigeria experienced a notable increase in both incidents and civilian casualties of explosive weapons use last year. AOVAV recorded 66 incidents of explosive violence in the country, the highest number since 2015, and 300 civilian casualties, the highest level since 2018.

This is likely due the increased activity of non-state actors in Nigeria: incidents of explosive weapon use by non-state actors rose by 138% in 2022, from 13 to 31 incidents, with Boko Haram and Islamic State's affiliate in Nigeria, Islamic State-West Africa Province (ISWAP), as the main known perpetrators. Overall, 200 civilian casualties were attributed to non-state actors last year. Possibly in response to this, state-perpetrated incidents of explosive violence also increased significantly, rising by 278% from 9 to 34, with reported civilian casualties of such attacks increasing from 58 to 96. Reflecting this status quo, IEDs caused the majority, 59% (176), of civilian casualties in 2022, while air-launched weapons caused 33% (100).

35% (23) of incidents occurred in populated areas, but 90% (269) of civilians were killed and injured in such attacks. The most affected locations for civilian casualties in Nigeria last year were villages (92 civilian casualties), entertainment venues (57), places of worship (51), and schools (36). Of note, the most frequently targeted locations, accounting for 23% (15) of incidents, were armed bases.

The number of regions impacted by explosive violence last year more than doubled, with 14 regions affected in 2022 compared to six the year prior. Zamfara was the most affected state, with 76 civilian casualties recorded there, followed by Ondo (51 civilian casualties), Borno (42), Kano (36), and Taraba (35).

PAKISTAN

Last year, Pakistan experienced the most injurious year since 2018, with AOA V recording 721 civilian casualties of explosive weapons use across 126 incidents. This marks a 62% increase from 445 civilian casualties recorded across 100 incidents in 2021. Moreover, it means the rate of civilian harm per incident increased from 4.5 to 5.7.

Most notably, incidents of explosive weapon use by non-state actors rose by 31% last year, from 71 to 93 incidents, and civilian casualties of such attacks rose by 47% from 376 to 554. While the number of recorded incidents of state-perpetrated explosive violence remained the same as 2021, with three incidents recorded, the rate of harm from state attacks increased from 1 to 18.3, with three civilians harmed in such attacks in 2021 compared to 55 last year.

IEDs caused 71% (515) of civilian casualties in Pakistan over the past year, while ground-launched weapons caused 194 civilian casualties, and mines caused 12 (a small drop from 15 in 2021). The Tehrik-e Taliban Pakistan (TTP) and Baloch Liberation Army (BLA) are the predominant known perpetrators of explosive violence in the country, and in November 2022 the TTP called off a ceasefire with the Pakistani government, suggesting that non-state actors will continue to increase their activity in Pakistan.

WHO IS BEHIND THE EXPLOSIVE VIOLENCE?

A significant proportion of explosive violence incidents recorded by AOA V in 2022 went unclaimed, and could not be attributed to a specific actor. In 8% (341) of all incidents it was unclear from reporting whether a state or non-state actor was responsible.

State actors

AOA V recorded 2,645 incidents attributed to state actors, which resulted in a total of 19,859 casualties. 71% (14,166) of these were civilians. This compares to

8,803 deaths and injuries from state perpetrated explosive violence in 2021, of which 48% (4,230) were civilians - a 48% proportional increase in civilians killed and injured by state explosive violence. The most prolific state users of explosive weapons are listed in Figure 5.

Figure 5 **Biggest state users of explosive weapons in 2022**

State		
1	Russia	64% of incidents
2	Turkey	9%
3	Myanmar	8%
4	Ukraine	3%
5	Syria	3%

Russia was the predominant state perpetrator of civilian harm last year, causing 9,372 civilian casualties across 1,686 incidents. Civilians accounted for 93% of all 10,083 recorded casualties from Russian explosive violence. 17 of those incidents took place in Syria, where Russian explosive weapons caused 82 civilian casualties, and the rest occurred in Ukraine.

The second highest state perpetrator of explosive violence was Myanmar, with 206 recorded incidents and 766 resulting civilian casualties. Other states identified as key perpetrators of civilian harm from explosive violence included Ukraine (600), Saudi Arabia (507 civilian casualties), Turkey (459), Ethiopia (436), and Syria (324).

Thirty-two different state forces used explosive weapons in 2022. This is a significantly higher number than recorded in 2021, during which 24 state forces used explosive weapons.

In addition to these state military forces, three coalition forces carried out casualty-causing incidents of explosive violence: the Saudi-led coalition, the US-led coalition and AFRICOM. These coalitions often comprise multiple states that carry out attacks under the coalition.

Non-State Actors

Collectively, 9,811 casualties were attributed to non-state actors' use of explosive weapons in 2022, across

1,333 incidents. 54% (5,290) of these casualties were civilians. This compares to 9,515 casualties in 2021, of whom 65% were civilians (6,187), representing a relatively notable decline in civilian deaths and injuries from non-state actor use of explosive weapons.

AOAV recorded at least 73 different non-state actors using explosive weapons in 2022.²⁶ The most prolific non-state actors last year are listed in *Figure 6*. In 2022, Islamic State groups caused the highest numbers of civilian casualties from explosive weapon use among non-state groups, with 1,723 civilians harmed across 214 incidents in six countries. Of these, most occurred in Afghanistan, with 376 civilian deaths and injuries across 14 incidents. Al Shabaab caused 1,059 civilian casualties across 51 incidents, and the Oromo Liberation Front caused 300 in one incident. Houthi rebels were also among the key perpetrators of explosive violence last year, having caused 161 civilian casualties across 31 incidents.

Due to AOA's methodology, those groups which do not routinely claim responsibility for their attacks or which operate in areas where attribution to a specific actor is difficult, may be responsible for more attacks than recorded. 689 incidents committed by non-state actors were not attributed to any group, out of a total of 1,333 incidents.

Figure 6 Biggest non-state users of explosive weapons in 2022

Non-state		
1	People's Defense Forces, Myanmar	17% of incidents
2	ISIS	7%
3	Al Shabaab	4%
4	Houthi rebels	2%
5	Communist Party of India (Maoist)	2%

TARGETING

AOAV's records have consistently demonstrated the imprecision of explosive weapons, such that targeting armed actors in these attacks rarely prevents civilians from being killed or injured.

In 2022, civilians made up 9% (727) of all those killed

and injured in attacks explicitly coded as targeting armed actors.

WOMEN

756 women were reported among those killed and injured across 481 incidents in 2022. The number of reported female casualties of explosive violence consequently rose by 1.6% last year, compared to 744 in 2021. In the incidents across 2022 where a figure was recorded for women among the casualties, women accounted for 27% of the total civilian casualties recorded from these incidents.

The majority of media sources did not report on the gender of civilian casualties in 2022. Furthermore, many sources which did report on gender often did not specify exact casualty counts. In a further 15 incidents, women were reported amongst the civilians killed or injured, but no exact figure for the number of women harmed was provided. However, the proportion of women reported among civilian casualties in 2022, at 4%, was marginally higher than the average over the last decade: since 2011, an average of 3% of civilian casualties have been reported as women.

This figure does not include armed actors. Likewise, it does not include female suicide bombers.

93% (704) of recorded female casualties occurred in populated areas. The deadliest attack against women took place on 23 January 2022, when 29 women and seven children were killed by airstrikes in Khisham, in the Syrian governorate of Deir Ezzor.²⁷

MEN

Last year was the first year in which AOA started recording casualties reported as men. 901 men were reported among the civilian casualties in 2022, across 566 incidents - in nine further incidents, men were reported amongst the civilians killed or injured, but no exact figures were provided. Where the gender of casualties was mentioned, civilians killed or injured were often not reported explicitly as men, but were referred to as 'he,' or 'him' within the report.

Men represented 4% of total recorded civilian casualties of explosive weapon use worldwide in 2022. In the incidents across 2022 where a figure was recorded for

men among the casualties, men accounted for 39% of the total civilian casualties recorded from these incidents.

85% (767) of recorded male casualties occurred in populated areas. The most injurious attack on male targets occurred on 3 March 2022, when 38 men and nine women were killed in Russian airstrikes on a school and residential areas in Chernihiv.²⁸

CHILDREN

In 2022, 1,146 child casualties were recorded across 557 incidents, the lowest levels of child harm reported since 2015. Recorded child casualties fell by 19% last year, compared to 1,419 children killed and injured in 2021.

The majority of media sources did not include reporting on the age of any casualties in 2022, and in 28 incidents, children were reported among those killed and injured but no exact figures were provided. In the incidents across 2022 where a figure was recorded for children among the casualties, children accounted for 26% of the total civilian casualties recorded from these incidents.

The gender of children killed and injured was reported for 341 child casualties, of whom 169 were girls and 172

were boys. The rest were reported without specifying any gender.

Of the children killed and injured, at least 93% (1,064) were harmed in incidents which occurred in populated areas.

The deadliest recorded incident of explosive violence targeting children took place on 16 September 2022, in Myanmar's Sagaing province. The military junta conducted airstrikes on a monastic school in Let Yet Kone village, where they killed seven children and injured 14.²⁹

The children told me that their friends were dying. I also heard a student yelling, 'It hurts so much. I can't take it anymore. Kill me, please.' This voice still echoes in my ears.

Mar Mar, a school administrator in Let Yet Kone village, Sagaing, describes the military's attack on her school. (Associated Press, Sept. 20).³⁰



At least 15 people, including children, were killed when a Saudi-led coalition airstrike hit a home in the southwestern city of Taiz, Yemen, April 9, 2018. By Felton Davis, licensed under CC by 2.0.

Explosive Weapon Types

AOAV records information on the explosive weapon used in any incident which results in civilian casualties. The full list of recording types used by AOA can be found on 7-8. These are kept deliberately broad in order to reflect the language commonly used in source reporting (i.e. 'shelling', which can cover several types of ground-launched weapons). More specific weapon types are included where such information is available in the source material.

The total number of civilian casualties AOA recorded for each explosive weapon type is shown in *Figure 7*. Over the following sections, AOA evaluates the threat which various weapon types posed to civilians in 2022, by exploring the resulting deaths and injuries, the countries affected, and the reported users.

In order to better understand how these different explosive weapons have endangered civilians over the past year, AOA has split them into three different groups based on their launch method.

Air-launched weapons include any explosive munition dropped from an aircraft or aerial vehicle. If a bomb, missile or rocket is specified in the reporting of an incident, it is coded as that specific weapon. Other explosive attacks from the air are coded more generally as 'Air strike'.

Ground-launched weapons are manufactured conventional ordnance that range from small hand grenades to heavy artillery and multiple rocket launchers. They can be fired from a variety of platforms, but all are launched from surface level.

IEDs are improvised explosive devices. This designation covers any explosive weapon not manufactured through a commercial process, although IEDs can include conventional ordnance in their construction. IEDs vary greatly in purpose, size and power, and in their mode of detonation.³¹

The broadest recording type is 'Non-specific IED' which encompasses anything from a magnetic bomb attached to a car to a vest of explosives detonated in a market square.

In addition to these three categories, AOA records casualties from attacks where multiple launch methods

are used to deploy explosive weapons. AOA also records reported casualties of mines, including landmines, anti-personnel mines, and anti-vehicle mines. These are excluded from analysis in the following sections.³²

Figure 7 **Civilian casualties by weapon type in 2022**

Weapon type	Total civilian casualties	Average civilian casualties per incident
Air-launched	3,865	7
Air Strike	3,391	8
Missile	393	9
Air-dropped bomb	56	2
Multiple explosive weapons	12	12
Rocket	12	2
Grenade	1	0.1
Ground-launched	10,847	5
Shelling	5,770	4
Artillery shell	1,235	4
Rocket	1,024	7
Missile	942	8
Multiple explosive weapons	923	14
Grenade	590	4
Mortar	290	4
Tank shell	60	15
RPG	13	1
IED	4,277	5
Non-specific IED	2,757	5
Car bomb	1,005	19
Roadside bomb	509	2
Air-dropped bomb	6	0.2
Mine	486	1
Landmine	461	1
Anti-vehicle mine	17	3
Anti-personnel mine	8	1
Multiple types	347	7
Multiple explosive weapons	245	5
Missile	102	102
Naval-launched	27	9
Missile	27	9
Unclear	944	6
Missile	780	6
Rocket	164	4
Grand Total	20,793	5

AIR-LAUNCHED EXPLOSIVE WEAPONS



3,865

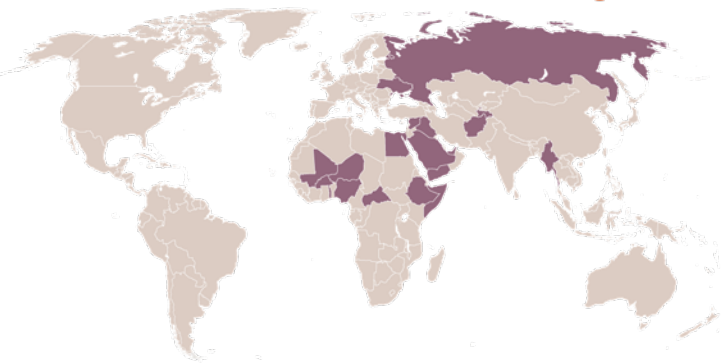
CIVILIANS KILLED
& INJURED IN 2022



6 IN 10 INCIDENTS OCCURRED IN
POPULATED AREAS



87% OF DEATHS & INJURIES IN
POPULATED AREAS WERE CIVILIANS



INCIDENTS WERE RECORDED IN
20 COUNTRIES AND TERRITORIES IN 2022

GROUND-LAUNCHED EXPLOSIVE WEAPONS



10,847

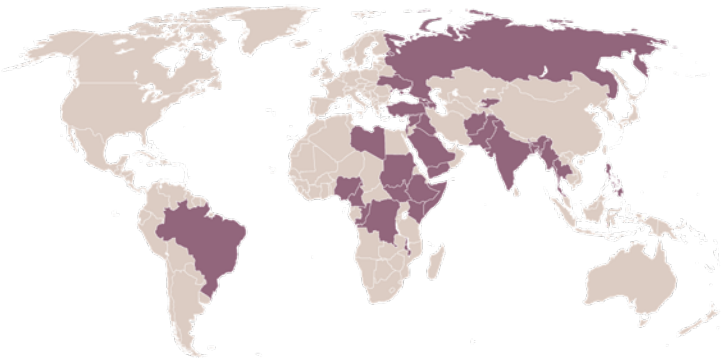
CIVILIANS KILLED
& INJURED IN 2022



8 IN 10 INCIDENTS OCCURRED IN
POPULATED AREAS



93% OF DEATHS & INJURIES IN
POPULATED AREAS WERE CIVILIANS



INCIDENTS WERE RECORDED IN
35 COUNTRIES AND TERRITORIES IN 2022

IMPROVISED EXPLOSIVE DEVICES (IEDS)



4,277

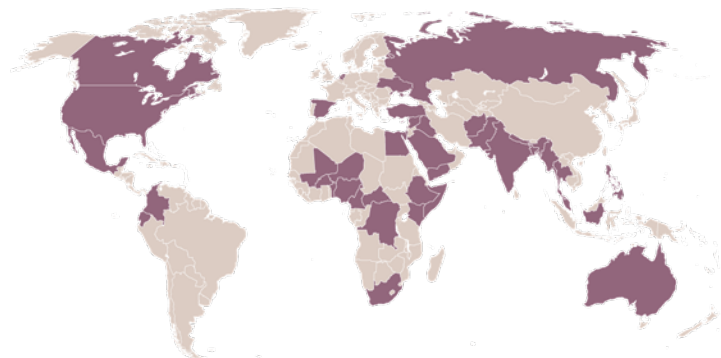
CIVILIANS KILLED
& INJURED IN 2022



6 IN 10 INCIDENTS OCCURRED IN
POPULATED AREAS



85% OF DEATHS & INJURIES IN
POPULATED AREAS WERE CIVILIANS



INCIDENTS WERE RECORDED IN
42 COUNTRIES AND TERRITORIES IN 2022

Air-launched Explosive Weapons

50% (3,865) of all **7,661** casualties of aerial attacks were civilians.

When airstrikes were recorded in areas reported as populated, **87%** of those killed and injured were civilians.

DEATHS AND INJURIES

In 2022, air-launched explosive weapons caused 3,865 civilian casualties, 20% of all civilian deaths and injuries recorded worldwide that year. This marks a 58% increase in civilians harmed by air-launched attacks compared to 2021, when 2,451 civilian casualties of such weapons were recorded. Of note, in 2021, the number of civilians harmed by airstrikes had risen by 16% compared to 2020, the first increase in civilian casualties from air-launched weapons recorded by AOV since 2017.

In total, AOV recorded 7,661 deaths and injuries from aerial explosive weapons across 518 incidents in 2022, with civilians accounting for 50% of these casualties - a

considerable increase from 2021, when civilians accounted for 37% of casualties from air-launched weapons.

The average rate of civilian harm per air strike also rose last year, increasing by 34% from 5.5 in 2021 to 7.5 in 2022.

Last year, 60% (311) of recorded air-launched attacks were reported in populated areas, a small increase from 55% in 2021. When aerial explosive weapons were used in populated areas, 87% of those killed and injured were civilians. In areas that were not recorded as populated, that figure dropped to 3%.

COUNTRIES

AOV recorded incidents of air-launched weapons use in 20 countries last year, three more than in 2021. In 2022, Ukraine was the worst-impacted country for civilian casualties of aerial attacks, accounting for 40% (1,543) of all civilians harmed globally by such weapons. Unsurprisingly, last year Ukraine saw its highest levels of civilian casualties from air-launched weapons since AOV started recording.

Ethiopia and Yemen also saw high levels of civilian harm from airstrikes in 2022, with 765 and 398 civilian casualties of air-launched weapons recorded in each



Twenty people were killed in an air strike by a Saudi-led military coalition in southwestern Yemen, April 20, 2018. By Felton Davis, licensed under CC by 2.0.

country respectively. In Ethiopia, civilian casualties of such attacks rose by 50%, with 509 civilians reported as harmed in aerial attacks in 2021. Of note, 2021 was the first year since AOA's monitor began, in 2011, that casualty-causing airstrikes have been recorded in Ethiopia.

In Yemen, AOA recorded a 328% increase from 93 civilians harmed in 2021, to 398 last year.

Iraq, Myanmar, and Nigeria also witnessed spikes in civilians harmed by aerial weapons in 2022. AOA recorded a 398% increase in Iraq, from 43 to 214 civilian casualties; a 173% increase in Myanmar, from 74 to 202; and a 72% increase in Nigeria, from 58 to 100.

On the other hand, civilians harmed by such weapons dropped by 61% in Afghanistan in 2022, from 178 to 69; and by 89% in Gaza, which was the worst-impacted country for aerial violence in 2021, when AOA recorded 1,230 civilians harmed by such weapons. In 2022, there were 136 recorded civilian casualties of air-launched weapons in the territory.

PERPETRATORS

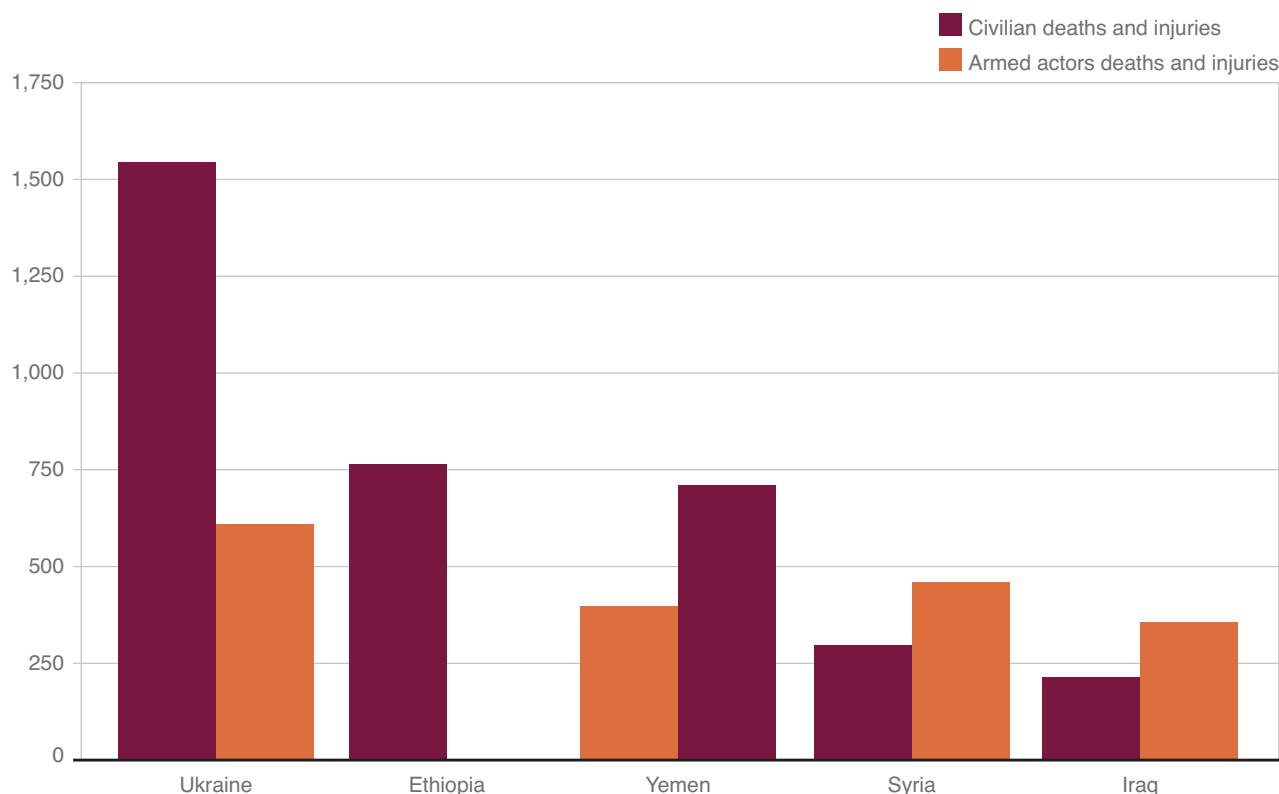
Last year, state actors were the reported perpetrators of 95% (494) of air-launched explosive attacks, and caused 99% (3,815) of civilian casualties from such violence.

Russia was by far the most harmful user of air-launched weapons in 2022, having caused 1,615 civilian casualties (1,538 in Ukraine, 77 in Syria) across 114 recorded incidents, and harming an average of 14.2 civilians per airstrike. Russian aerial attacks accounted for 42% of all civilian casualties of such weapons worldwide.

Ethiopia and Saudi Arabia were also key perpetrators of airstrikes in 2022, reportedly causing 436 and 327 civilian casualties respectively. All casualties of recorded Ethiopian airstrikes were civilians within Ethiopia, while civilians accounted for 72% of all 452 casualties of Saudi airstrikes, which were all recorded in Yemen.

Other state actors who caused significant civilian casualties from air launched weapons include Turkey, which reportedly caused 272 civilian casualties, specifically 126 in Iraq and 146 in Syria; Myanmar (192 civilian casualties); Israel (136 in Gaza and 35 in Syria); and Nigeria (124).

Figure 8 Top five countries worst-affected by air-launched weapons in 2022



Ground-launched Explosive Weapons

Ground-launched weapons caused **12,666** casualties in 2022. **86%** (10,847) of those killed and injured in ground attacks last year were civilians.

Ground-launched weapons caused **52%** of all civilian harm recorded in 2022.

When ground-launched attacks were recorded in populated areas, **93%** (10,290) of those killed and injured were civilians.

DEATHS AND INJURIES

Ground-launched weapons are manufactured conventional ordnance that range from small hand grenades to heavy artillery and multiple rocket launchers. They can be fired from a variety of platforms, but all are launched from surface level.

In total, across 2,270 incidents, these weapons reportedly caused 12,666 casualties in 2022, of which 86% (10,847) were civilians. In 2021, civilians accounted for 77% (3,411) of total casualties of ground-launched explosive violence, and over the last decade, AOVAV recorded a yearly average of 4,910 civilians harmed by ground-launched weapons worldwide. Last year consequently saw the highest levels of civilian harm from ground-launched weapons since 2010, and witnessed a 218% increase in civilians harmed in such attacks compared to 2021.

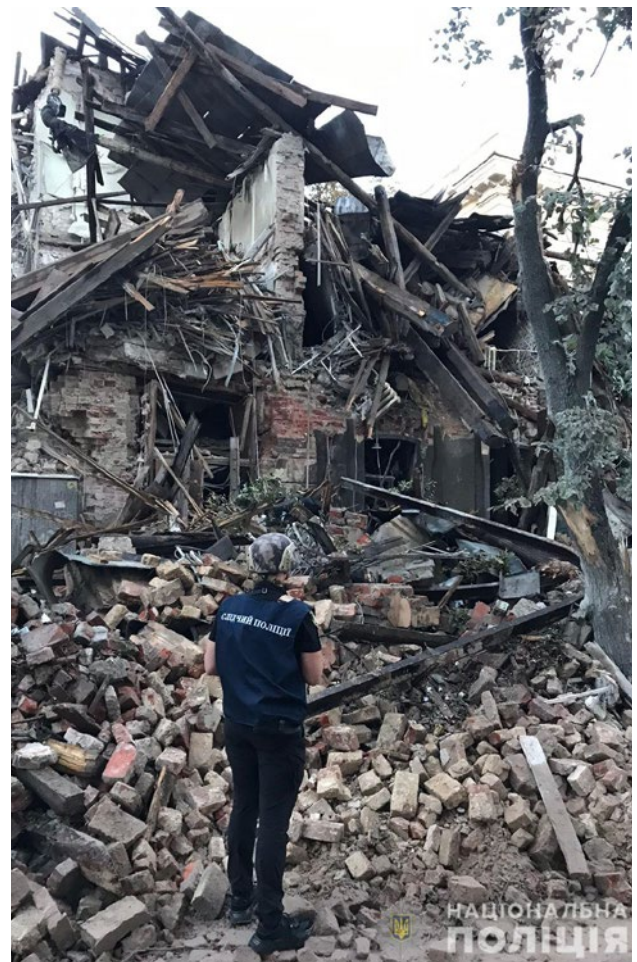
Civilians killed and injured by ground-launched weapons accounted for 52% of total civilian casualties from all explosive weapon types globally in 2022.

Last year, 83% (1,886) of ground-launched explosive attacks were recorded in locations reported as

populated - locations where 93% (10,290) of resulting casualties were reported as civilians. This marks an increase compared to 2021, when 70% (553) of ground-launched explosive attacks were recorded in populated areas. In areas not reported as populated, civilians accounted for 35% of casualties of ground-launched weapons in 2022.

COUNTRIES

Casualties from ground-launched explosive weapons were reported in 35 countries and territories in 2022, five more than the previous year. Ukraine was the worst impacted country by far, with 7,452 recorded civilian casualties of ground-launched weapons across 1,494 incidents. Ukraine consequently accounts for 66% of all 2,270 incidents of ground-launched explosive weapon use globally, and 69% of total civilian casualties from such weapons.



Building in Kharkiv's Myronosytska Street after Russian shelling, 22. Aug 28, 2022. By National Police of Ukraine, licensed under CC by 4.0.

Syria, Myanmar, and Iraq also experienced high levels of ground-launched explosive violence. Despite a recorded 40% decrease in civilian casualties of such weapons in Syria, from 1,176 civilians harmed in 2021 to 702 last year, the country remains the second worst impacted for civilian casualties of ground-launched explosive attacks.

Myanmar experienced a 289% increase in civilian casualties of ground-launched weapons last year, with 553 civilians harmed in 2022 compared to 142 the year before. 2022 saw the highest levels of civilian harm from ground-launched weapons use in Myanmar recorded since 2010. Similarly, in Iraq, recorded civilian casualties of ground-launched attacks rose by 723%, from 61 in 2021 to 502 in 2022. Last year saw the highest recorded levels of civilian harm from these weapons in Iraq since 2014.

Ethiopia and Kyrgyzstan also witnessed spikes in civilians harmed by ground-launched weapons, with civilian casualties increasing by 1,545% (from 22 to 362) in Ethiopia, and 348% in Kyrgyzstan (from 25 to 112).

On the other hand, in Yemen, civilian casualties from these weapons fell from 569 to 383 between 2021 and 2022, and in Afghanistan they dropped from 476 to 110 - a 77% decrease.



Kuwait al-Rahma IDP camp, Aleppo, in the aftermath of bombardment by an SDF rocket launcher, July 24, 2022. By SNHR.

Figure 9 Top five countries worst-affected by ground-launched weapons in 2022

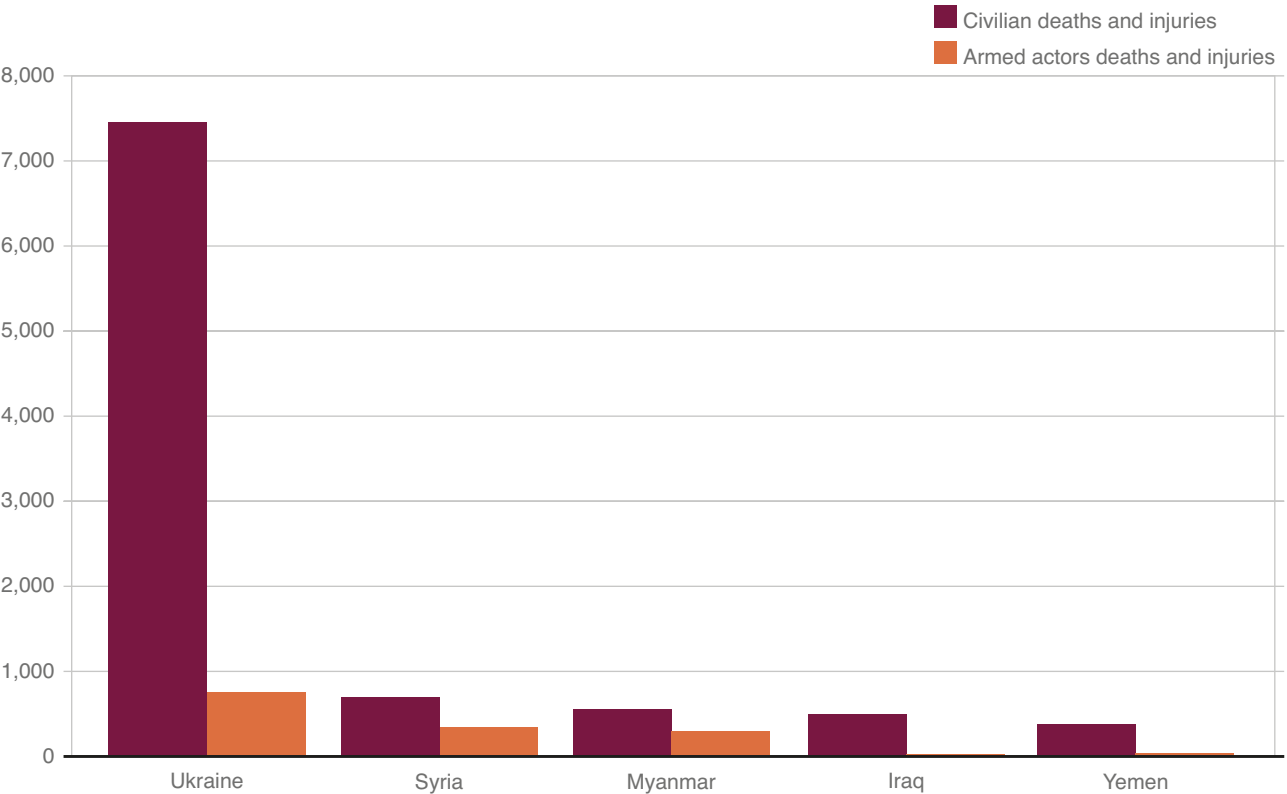
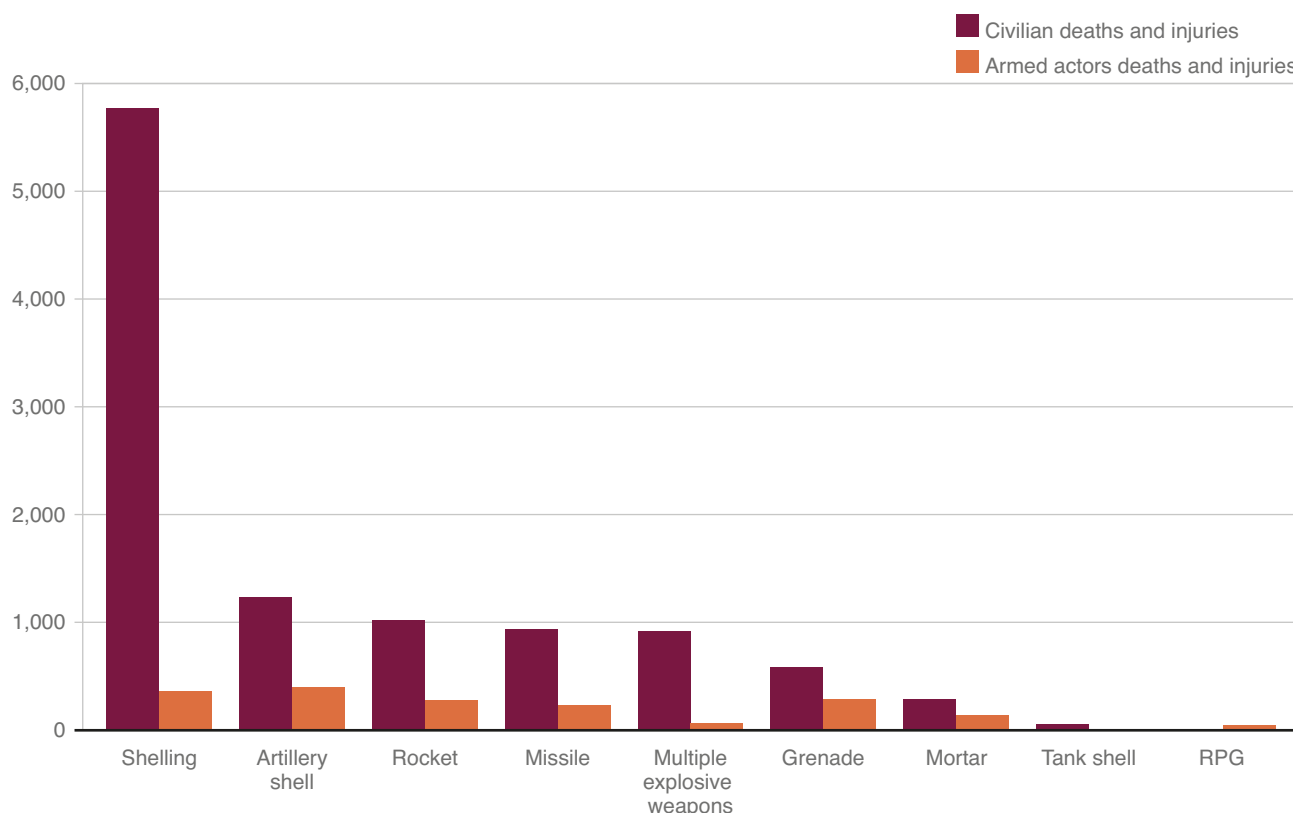


Figure 10 Casualties by ground-launched weapon type in 2022

PERPETRATORS

Last year, 85% (1,922) of incidents of ground-launched explosive weapon use were attributed to state actors, as were 83% (9,037) of civilian casualties from such weapons. This is a significant increase compared to 2021, when state actors reportedly caused 45% (354) of incidents and 44% (1,488) of civilian casualties of ground-launched explosive weapons.

Russia was the reported perpetrator of 62% (1,412) of all incidents of ground-launched weapons use globally, and 61% (6,581) of global civilian harm from these weapons, predominantly in Ukraine. Other states who caused significant civilian casualties from ground-launched attacks include Ukraine (569 civilian casualties), Myanmar (504), and Syria (301).

Non-state actors caused 9% (950) of civilian casualties from ground-launched explosive weapons in 2022, across 228 incidents. Unknown non-state actors were the reported perpetrators of 306 of these civilian casualties, while the Oromo Liberation Army (OLA) caused 300, and Houthi rebels caused 126. Other

significant non-state perpetrators of civilian harm from ground-attacks include Al Shabaab (53 civilian casualties), the Islamic State (ISIS) (44, across Iraq, Syria, Afghanistan, and Nigeria), and the Syrian Democratic Forces (SDF) (28).

SPECIFIC TYPES

Figure 10 illustrates the range of ground-launched weapon types that AOAV tracks, and their respective impact on civilians in 2022.

Non-specific shelling accounted for 53% (5,770) of civilian deaths and injuries from ground-launched weaponry.

Artillery shelling, rockets, missiles, and combined ground-launched weapons also caused significant civilian harm last year. Artillery shelling caused 1,235 civilian casualties (11%), rockets caused 1,024 (9%), missiles caused 942 (9%), and combined weapons caused 923 (9%). In 2021, grenades, mortars, and rockets were responsible for 686 (20%), 553 (16%) and 390 (12%) civilian casualties respectively.

Improvised Explosive Devices (IEDs)

In 2022, AOA recorded **6,608** deaths and injuries from IEDs, of which **65%** (4,277) were civilians.

IEDs resulted in at least one casualty in **42** different countries and territories.

DEATHS AND INJURIES

In 2022, AOA recorded 6,608 deaths and injuries from IEDs, with civilians continuing to bear the brunt of harm from such devices - 65% (4,277) of casualties from IEDs last year were civilians. However, this is the lowest level of recorded civilian harm from IEDs since the Explosive Violence Monitoring project began.

Civilian casualties of IEDs decreased by 10% compared to 2021, when 4,727 civilians were reported killed or injured in IED attacks. Overall, recorded civilian casualties of IEDs have been decreasing since 2013,

which saw the highest levels of reported civilian harm from these devices.

IEDs caused 20% of all civilian casualties recorded worldwide - a 52% proportional decrease from 2021, when IEDs caused 42% (4,727) of all recorded civilian casualties.

2022 also saw the lowest level of recorded incidents of IED attacks since 2010, with reported attacks falling by 13% from 1,033 in 2021 to 896 last year. This is significantly lower than the yearly average of 1,112 IED incidents recorded by AOA over the past decade.

56% (505) of all recorded IED attacks took place in populated areas. In these incidents, which caused 94% (4,025) of civilian harm from IEDs, 85% of reported deaths and injuries were civilians, contrasting with 13% in other areas.

COUNTRIES

In 2022, as in 2021, IEDs resulted in at least one casualty in 42 different countries and territories. *Figure 11* shows the six countries that saw the most civilian harm from IEDs last year.

Figure 11 Top six countries for civilian casualties of IEDs in 2022

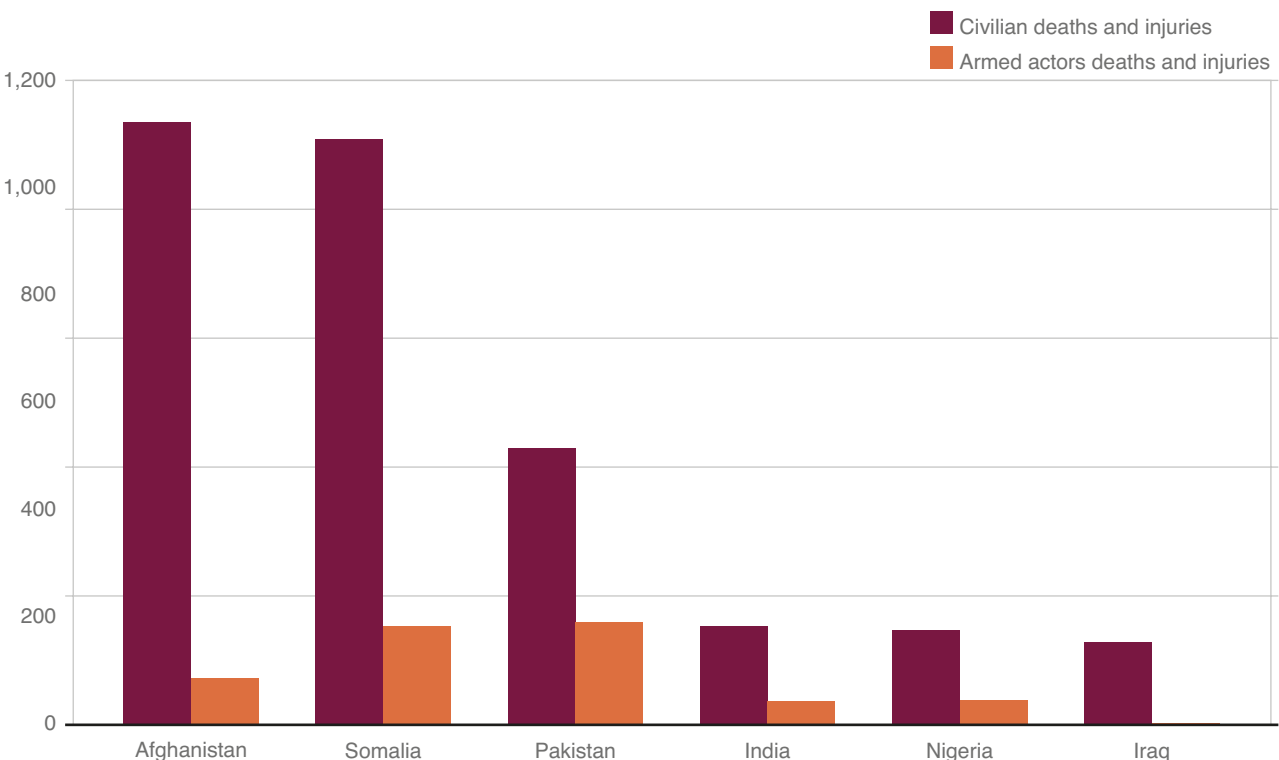
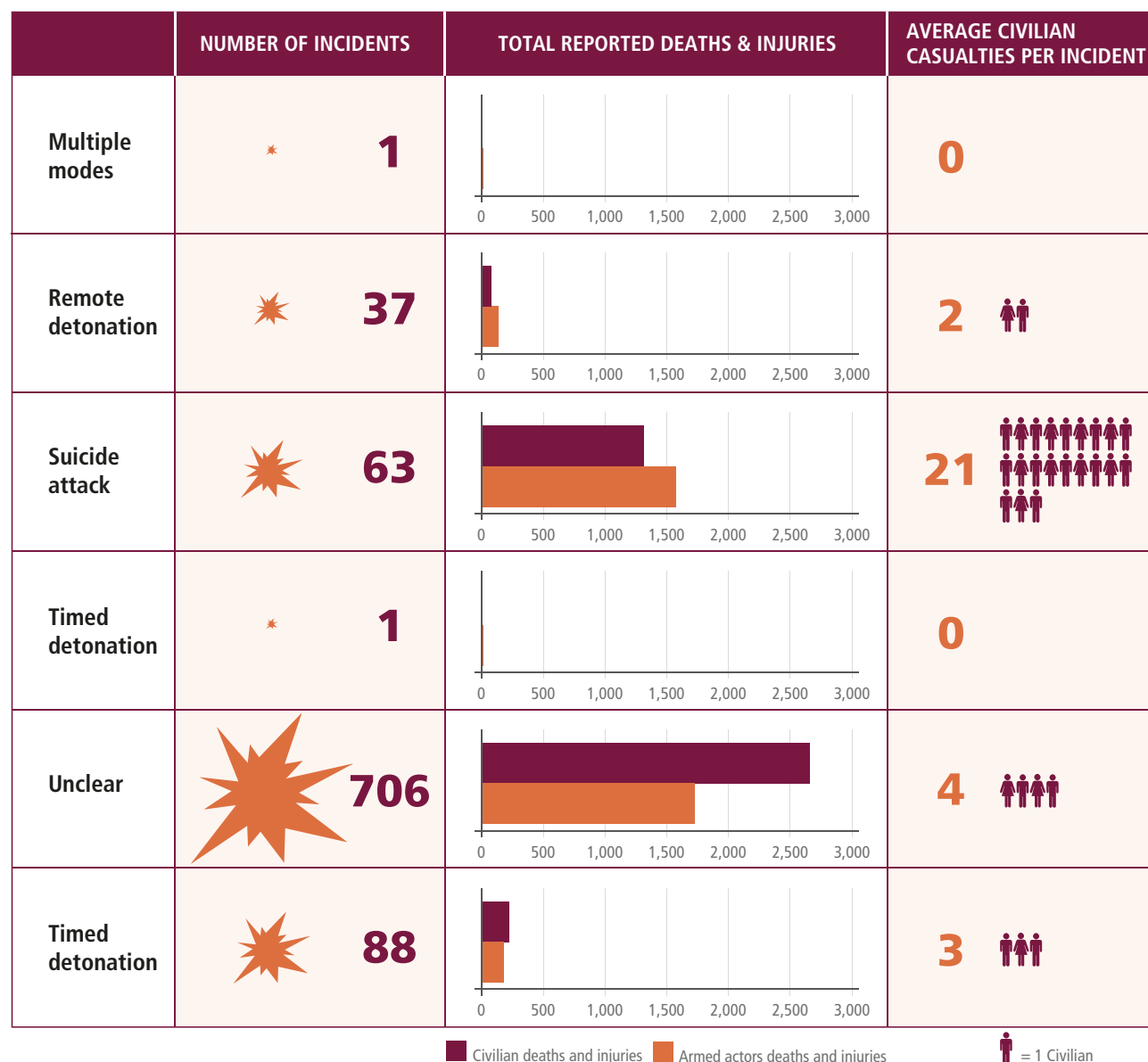


Figure 12 Average civilian deaths and injuries by IED detonation method



Nine countries saw more than 100 civilian deaths and injuries from IED attacks last year: Afghanistan (1,121 civilian casualties), Somalia (1,091), Pakistan (515), India (184), Nigeria (176), Iraq (154), Syria (152), Burkina Faso (134), and Myanmar (114). Of those, Afghanistan, Somalia, Pakistan, Nigeria, Iraq, and Syria represent the worst impacted countries for IED violence over the last decade. Of note, however, last year Afghanistan, Iraq, and Syria all experienced a decrease in levels of civilian harm from IEDs compared to 2021.

For the sixth consecutive year, Afghanistan was the worst impacted country for civilians harmed by IEDs,

with 1,121 civilians killed or injured across 68 attacks. Nonetheless, this represents a 52% decrease in civilian casualties from such attacks, compared to 2,347 in 2021, and a 77% decrease from the 294 incidents of IED attacks recorded in the country that year. In fact, 2022 was the year with the lowest recorded number of IED attacks in Afghanistan since 2010, and the lowest levels of civilian harm from such attacks since 2011.

However, the average number of civilians harmed per IED attack in Afghanistan doubled last year, with 16.5 civilians killed or injured per incident (compared to 8 in 2021).



An IED, whose source SNHR have been unable to identify, exploded in al-Bab city's northern neighbourhood, in Aleppo, killing a humanitarian worker, June 15, 2022. By SNHR.

AOAV recorded 449 civilians killed or injured in eight reported suicide IED attacks in Afghanistan last year. Recorded suicide attacks in the country have been decreasing since 2018, and 2022 saw the lowest level of such attacks since 2010, as well as the lowest levels of civilian harm from such attacks since that same year. However, the rate of harm from suicide attacks in Afghanistan remains high, with 56.1 civilians killed or injured per suicide attack last year, compared to 57.9 in 2021.

Somalia also saw high levels of harm from IEDs, with 1,091 civilians harmed over 55 incidents in 2022. This marks a 157% increase in civilian casualties of IEDs compared to the 425 civilians harmed in 2021, and is the highest level of civilian harm from such attacks recorded in the country since 2017. Recorded incidents of IED attacks in Somalia fell by 17% over the past year though, from 66 to 55 - meaning that the rate of civilian harm per IED attack rose from 6.4 to 19.8, a 209% increase.

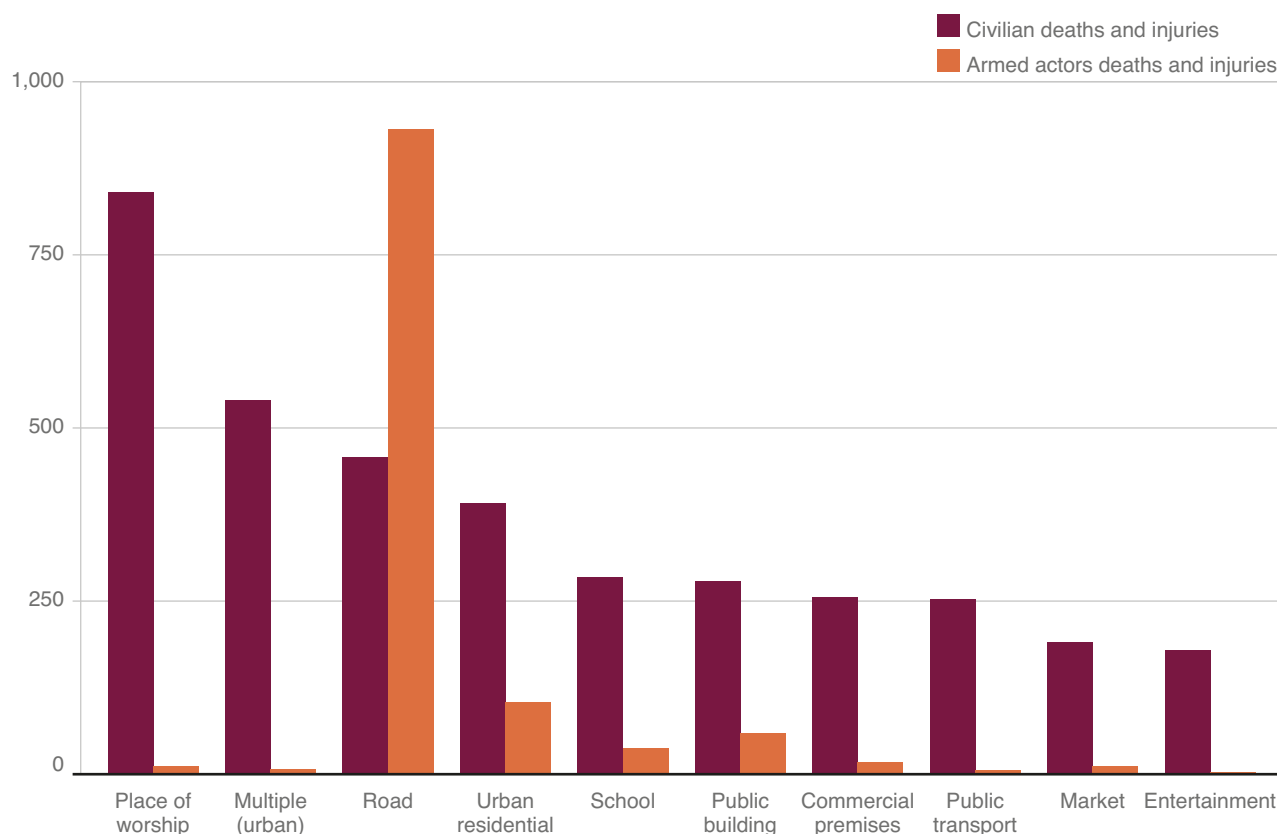
Similarly, recorded incidents of suicide attacks fell from 19 to 18, the lowest level recorded since 2015, but civilian casualties from such attacks rose from 258 to 468, an 81% increase. In 2021, therefore, an average of 13.6 civilians were killed or injured per suicide attack in Somalia, but in 2022 this grew to 26.

In 2022, Pakistan witnessed its highest levels of civilian harm from IED attacks since 2018, with 515 recorded civilian casualties from such devices. Nigeria also saw a spike in civilian harm: 176 civilians were killed or injured in IED attacks in Nigeria last year, compared to 25 in 2021.

USERS

97% (872) of IED attacks were perpetrated by non-state actors in 2022. AOAV recorded IED attacks by 42 known non-state entities, but 22 incidents and 97 civilian casualties were caused by actors of unknown name and status, while 579 incidents (65% of all recorded IED incidents) and 2,462 civilian casualties

Figure 13 Locations where the most civilian harm resulted from IED attacks in 2022



(58% of all recorded civilian casualties of IEDs) were attributed to unknown non-state actors.

The 293 IED incidents for which responsibility was assigned resulted in the killing and injuring of 1,718 civilians. 13% (38) of these incidents were attributed to Al Shabaab, as was 58% (994) of the civilian harm.

30% of these incidents were attributed to Islamic State groups, which also accounted for 29% (497) of civilian deaths and injuries from these attacks. 368, or 74% of civilian casualties from ISIS attacks in 2022, occurred in Afghanistan.

LOCATIONS

Figure 13 shows the locations where the most civilian harm occurred as a result of IED attacks in 2022. IED attacks in places of worship caused the highest number of civilian deaths and injuries last year, accounting for 2% (17) of incidents and 20% (841) of civilian casualties from such devices. An average of 49.5 civilians were consequently harmed per IED attack in places of worship in 2022. Furthermore, civilians constituted

99% of all 849 casualties from IED attacks in these locations.

Other affected location types included mixed urban locations, roads, urban residential areas, and schools. When IED attacks occurred on roads, civilians accounted for 33% (458) of total casualties from such incidents; on the other hand, when IEDs were used in urban locations, residential areas, and schools, civilians constituted 99% (540), 79% (391), and 88% (284) of total casualties respectively. IED attacks in urban locations had the highest rate of civilian harm, killing and injuring an average of 77.1 civilians per attack.

DELIVERY METHOD AND DETONATION SYSTEM

AOAV's recording distinguishes between car bombs,³³ roadside bombs and more general non-specific IEDs. The majority of incidents reported, 65% (578), were recorded as non-specific IEDs. Roadside bombs accounted for a further 24% (219) of incidents, and car bombs for 6% (53). Similarly, the majority of civilian casualties from IED attacks, 64% (2,757), were attributed to non-specific IEDs, while car bombs

caused 23% (1,005), and roadside bombs 12% (509). As is typically the case given their greater payload capacity, car bombs were the most injurious IED type for civilians, killing and injuring on average 18.9 civilians per incident. Non-specific IEDs saw an average of 4.8 civilian casualties per incident, while roadside bombs harmed, on average, 2.3 civilians per attack.

For the majority of IED incidents no detonation mechanism was reported. Nonetheless, AOAV recorded detonation mechanisms for 21% (190) of reported incidents.

VICTIM-ACTIVATED IEDS

Victim-activated devices are most commonly detonated when a person or animal stands on them, or when they are driven over.³⁴ IEDs detonated in this fashion are typically considered as de facto anti-personnel mines³⁵ under the Mine Ban Treaty and are therefore prohibited under international humanitarian law.³⁶ Their random trigger mechanism means that they cannot distinguish between armed actors and civilians, and as such are inherently indiscriminate.

AOAV recorded 88 incidents attributed to victim-activated IEDs in 2022, and 221 civilian casualties, or 5% of all civilian casualties from IED attacks. Civilians accounted for 55% of the total 400 casualties attributed to this type of device, which were most frequently used on roads.

COMMAND-OPERATED IEDS

AOAV groups devices which are detonated by the user, generally by radio signals or command wire, under command-operated IEDs, distinguishing between those detonated by remote-control and those that involved the suicide of the perpetrator.

Command-operated IEDs should technically provide the greatest level of control for a user. However, this is not necessarily an assurance of higher protection standards for civilians, and can be used to instead maximise the number of civilian casualties per incident.

In the 37 incidents of remote-detonated IEDs recorded by AOAV in 2022, 20 of which took place in locations

reported as populated, civilians accounted for 37% (83) of all 222 casualties. Most incidents of remote-detonated IED attacks, 43% (16), took place on roads, where 12% (12) of resulting casualties were civilians.

The majority of civilians, 42% (35), were killed or injured when remote-detonated IEDs were used in markets. In these locations, 35 of the total 37 casualties, harmed across three incidents, were reported as civilians.

SUICIDE BOMBINGS

Suicide bombings, including car bombs operated by suicide bombers, are a form of command-operated IED. In total, AOAV recorded 63 suicide bombings last year, up from 59 recorded suicide bombings in 2021.

In 2022, suicide bombings killed and injured 1,577 people, 83% (1,313) of which were civilians. This represents the lowest level of civilians harmed in suicide bombings since 2010, and an 8% decrease from 1,422 civilians killed and injured in such attacks in 2021.

On average, 20.8 civilians were killed and injured in each suicide bombing last year, down from 24.1 in 2021.

Although suicide bombings represented only 7% of all IED incidents recorded, they accounted for 31% of all civilian deaths and injuries from IED attacks.

49 of the 63 suicide attacks were reported as non-specific IEDs - which, in the case of suicide bombings, largely refers to suicide vests - and caused 949 civilian casualties. 14 incidents were recorded as car bombs, which killed and injured 364 civilians. Consequently, non-specific suicide IED attacks caused an average of 19.4 civilian deaths and injuries per incident, whilst suicide car bombs caused an average of 26.

75% (46) of suicide bombings were recorded in populated areas last year, where civilians accounted for 90% (1,271) of resulting casualties. The highest number of incidents occurred in urban residential areas, with 9 suicide bombings recorded in these locations, followed by public buildings (7 recorded incidents), places of worship (5), and roads, schools and police stations (4).

My friends and I were able to move around 15 wounded and nine dead bodies from the explosion site ... Other bodies were lying under chairs and tables inside the classroom.

Ghulm Sadiq was at home when a suicide bomber detonated his explosive device at the Kaaj education centre, in Kabul's predominantly Hazara Dasht-e-Barchi neighbourhood. Most of the casualties were female students. (*Al Jazeera*, Sept. 30).³⁷

Attacks on places of worship, public buildings, and schools resulted in the highest levels of civilian harm though, causing 518, 250, and 208 civilian casualties respectively. When suicide bombings took place in places of worship, an average of 103.6 civilians were harmed in each attack.

AOAV recorded suicide attacks in 12 countries last year. The countries worst affected by suicide bombings in 2022 were Somalia (468 civilian deaths and injuries), Afghanistan (449), and Pakistan (294).

Last year, civilian casualties from suicide attacks in Somalia rose by 81%, reaching the highest levels

recorded since 2019. The country accounted for 36% of global civilian casualties of suicide attacks recorded in 2022. Al Shabaab were the reported perpetrators of 17 of the 18 recorded suicide attacks, and caused all but three of the resulting civilian casualties. 90% of casualties from Al Shabaab suicide attacks over the past year were civilians.

In Afghanistan, incidents of suicide attacks dropped by 50% in 2022, from 16 to 8, and resulting civilian casualties fell by 52% from 927 to 449. Nonetheless, the country remains the second worst-impacted for civilian casualties of suicide bombings. The Islamic State affiliate in Afghanistan, Islamic State Khorasan Province, or ISIS-K, were the reported perpetrators of three of the eight incidents, causing 162 civilian casualties.

Pakistan saw a significant spike in suicide bombings last year, with recorded attacks increasing by 500% from three to 12. Civilian casualties from such attacks increased by 2,162%, from 13 to 294. The majority of incidents cannot be attributed, but the Tehreek-e-Taliban Pakistan (TTP) were the reported perpetrators of three incidents and 15 civilian casualties, while the Balochistan Liberation Army (BLA) killed and injured eight civilians across a single incident, and the Islamic State (ISIS) caused three civilian casualties across one incident.

Conclusion



National Police of Ukraine and State Emergency Service of Ukraine demine Irpin city, Kyiv, after Russian occupation, April 8, 2022. By National Police of Ukraine, licensed under CC by 4.0.

As has been consistently demonstrated by AOA's Explosive Violence Monitor, civilians continue to suffer acutely and disproportionately from the use of explosive weapons, and this suffering is magnified when such weapons are used in populated areas - a truth that has been painfully highlighted by Russia's brutal invasion of Ukraine, in February 2022, as well as the targeting of civilians and civilian infrastructure in Myanmar and Ethiopia over the last year.

The use of explosive violence in population centres not only leads to civilian deaths and injuries, but also has very tangible reverberating impacts which prevent access to necessities and essential services, as well as posing a significant challenge to recovery and reconstruction efforts in the wake of active hostilities.

Research by AOA and colleagues from the International Network on Explosive Weapons (INEW) has consistently highlighted some of this long-term damage, which continues to devastate the lives of civilians long after the last echoes of the blast have faded.

Consequently, as over a decade of casualty data and research has shown, these casualties and the further reverberating impacts of explosive weapons in populated areas are entirely predictable. Far more needs to be done to protect civilians from the use of explosive weapons in towns and cities. To this end, AOA welcomes Ireland's November 2022 Political Declaration, on the protection of civilians from the use of explosive weapons in populated areas, as a significant first step, and looks forward to engaging

further with state actors, civil society, and the international community to reduce civilian harm from the use of such weapons.

Unfortunately, far more casualties are likely to have been caused by explosive weapons last year than AOA's methodology can capture, particularly as the media continues to face challenges and restrictions to reporting in hostile environments, resulting in limitations around the reporting of explosive violence by English language media sources.

In this report, AOA sought to use the available data to highlight the suffering caused by explosive weapons. While we seek to examine trends and patterns, it is essential to remember that each casualty reflects a life-lost or forever changed.

We urge the international community to take note of the scale of the figures we have included in this report and seek to effectively implement the political declaration to protect civilians from this foreseeable harm.



The location where a shell landed, near Omar ben al-Khattab Mosque in Shnan village, Idlib. The shell was fired by Syrian forces, Sept 6, 2022. By SNHR.

As a member of the International Network on Explosive Weapons (INEW), AOA and its colleagues urges states and all users of explosive weapons to:

- Acknowledge that use of explosive weapons in populated areas tends to cause severe harm to individuals and communities and furthers suffering by damaging vital infrastructure;
- Strive to avoid such harm and suffering in any situation, review and strengthen national policies and practices on use of explosive weapons and gather and make available relevant data;
- Work for full realisation of the rights of victims and survivors;
- Develop stronger international standards, including certain prohibitions and restrictions on the use of explosive weapons in populated areas.

In developing these standards, states and other actors should make a commitment that explosive weapons with wide area effects will not be used in populated areas.

Recommendations

- States and other actors should stop using explosive weapons with wide area effects in populated areas.
- States should review their policies and practices on the use of explosive weapons in populated areas, particularly those which may be expected to impact a wide area, to prevent civilian harm
- States, international organisations and civil society should work together to develop and implement the international political declaration to address the harm caused to civilians by the use of explosive weapons in populated areas, in line with the recommendations of the United Nations Secretary General.
- States should be transparent about civilian casualties and casualty recording methods, and should routinely investigate and report on every casualty caused by their use of explosive weapons.
- States, international organisations, and non-governmental organisations should gather and make available data on the impacts of explosive weapons. Data on the casualties of explosive violence should be disaggregated so that stakeholders can accurately assess the impact of explosive weapons. More should also be done to protect and support people and organisations who gather such data, including providing access to journalists on the ground.
- States should be cognisant of the fact that even where civilians have not been immediately killed or injured as a result of explosive violence, the reverberating effects of attacks may have an impact on infrastructure and civilians' daily lives and survival.
- States and users of explosive weapons should work towards the full realisation of the rights of victims, including those killed and injured, their families, and affected communities. They should strive to ensure the timely and adequate provision of needed services for the recovery, rehabilitation, and inclusion of victims of explosive violence, without discrimination.
- Recognising the large number of civilian casualties caused by IEDs, all parties should work on measures which address the high level of humanitarian harm caused by these weapons.
- AOAV's data has demonstrated the importance of systematic and continuous monitoring of explosive violence and its impacts in populated areas. This monitoring must continue in order to assess the harm and whether recommendations are put into effect.

Methodology

AOAV uses a methodology adapted from an incident-based methodology used by Landmine Action and Medact in 2009 which, in turn, was based on the Robin Coupland and Nathan Taback model.³⁸

Data on explosive violence incidents is gathered from English-language media reports on the following factors: the date, time, and location of the incident; the number and circumstances of people killed and injured; the weapon type; the reported user and target; the detonation method and whether displacement or damage to the location was reported. AOAV does not attempt to comprehensively capture all incidents of explosive violence around the world but to serve as a useful indicator of the scale and pattern of harm.

No claims are made that this data captures every incident or casualty of explosive violence in 2022.

SELECTING INCIDENTS

An RSS reader is used to scan Google News for key terms which relate to explosive weapon use: air strike* artillery* bomb* bombing* cluster bomb* cluster munitions* explosion* explosive* grenade* IED* mine* missile* mortar* rocket* shell*.

At least one casualty from an explosive weapon must be reported in order for an incident to be recorded. Incidents with no clear date or which merely give a location as a country are excluded, as are incidents which occur over a period of more than 24 hours (e.g. 150 people killed by shelling over the last week).

Casualty numbers must be clearly stated; reports which only describe 'several' or 'numerous' cannot be recorded. When there are multiple sources for the same incident, those which provide the most detail or most recent casualty information are selected.

SOURCES

AOAV uses a wide range of English-language news sources, many of which are translated by the publisher. The most commonly-used sources are AP, AFP and Reuters. We also use the most credible data cited from organisations such as Airwars, which are frequently cited in the news reporting.

RECORDING GUIDELINES

Civilian/armed actor or security personnel:

All casualties are assumed to be civilians unless otherwise stated.³⁹ Casualties are recorded as 'armed actors' if they are reported as being members of the military, members of non-state armed groups, or security personnel who are likely to be armed, for example; police, security guards, intelligence officers, and paramilitary forces.

Intended target:

The target for an attack is only recorded if one of the three conditions below are met:

- The target is declared by the user.
- It is clearly reported in the source.
- The specific contextual conditions of use clearly indicate a target (e.g. if an IED is attached to the car of a police officer or soldier, 'State armed' is recorded as the target).

Populated area:

Incidents are designated as occurring in populated areas likely to contain concentrations of civilians if: a) It is stated in the source (e.g. a busy street, a crowded market); b) If an incident occurs in or near a pre-defined location which is likely to contain concentrations of civilians e.g. commercial premises, entertainment venues, hospitals, hotels, encampments (containing IDPs, refugees, nomads), markets, places of worship, public gatherings, public buildings, public transport, schools, town centres, urban residential neighbourhoods, villages/ compounds.

This definition of a populated area is based on Protocol III of the 1980 Convention on Certain Conventional Weapons (CCW) which defines concentrations of civilians as: *"any concentrations of civilians, be it permanent or temporary, such as in inhabited parts of cities, or inhabited towns or villages, or as in camps or columns of refugees or evacuees, or groups of nomads."*⁴⁰

User status:

Responsibility for the use of explosive weapons is assigned where any of the following conditions are met:



Stonemason's workshop in Hafserja village, Idlib, after bombardment by fixed-wing warplanes believed to be Russian, Sept 8, 2022. By SNHR.

- The group or actor responsible has claimed responsibility.
- The user of the explosive weapon is clearly stated in the report.
- If the user of the explosive weapon has employed technology clearly associated only with that user in the context in question.

If none of these conditions are met then the user is recorded as unknown. Users are recorded as 'state and non-state' when both users are identified but it is not possible to establish which one was responsible for the particular incident.

LIMITATIONS

This methodology is subject to a number of limitations and biases, many relating to the nature of the source material on which it is dependent and the lack of a mechanism to follow up reports with in-depth investigation. It is recognised that there are very different levels of reporting across regions and countries so that under-reporting is likely in some contexts. In addition, only English-language media reports are

used, which does not provide a comprehensive picture of definitive explosive weapon use around the world.

The methodology is designed to capture distinct incidents of explosive violence with a clear date and location. In some contexts of explosive violence, particularly during intense armed conflict, casualties cannot be assigned to specific incidents but a total number is reported as the result of a period of days. These casualties cannot be included in the dataset.

As the methodology relies on reports which are filed shortly after an incident took place, there is no mechanism for assessing whether people reported as wounded in the immediate aftermath of an incident subsequently died from their injuries. This is another factor that should be assessed when considering the likelihood that the actual numbers of fatalities of explosive violence are higher than the numbers recorded by AOA. There is no systematic base-line for determining what constitutes an injury, and AOA is therefore subject to the assessment of the news source.

On a number of occasions firearms were also reported as having been used alongside explosive weapons. While AOV always tries to determine the casualties specifically caused by explosive weapons, in these incidents news sources are not always able to clarify which casualties were caused by which weapon type, particularly in incidents that involved large numbers of casualties. It is therefore possible that some casualties in these incidents may not have been caused by explosive weapons.⁴¹

AOV is focused on capturing the harm caused by explosive weapons at the time of use. Accidental detonations are recorded but not included in the overall figures. Last year, AOV recorded 93 incidents of accidental detonation resulting in 278 deaths and injuries, 172 of whom were civilians.

Explosive weapons that fail to explode as intended can linger in the form of explosive remnants of war (ERW) for years, if not decades, to come. Last year, AOV recorded 443 incidents involving unexploded ordnance causing 980 civilian deaths and injuries, including 933 civilians. The actual number of casualties from ERW is far higher.⁴²

Poorly secured or stockpiled explosive weapons can also cause unintended harm to civilians. AOV recorded 14 stockpile explosions in 2022, which caused 108 casualties, killing or injuring at least 90 civilians.

Media reports used by AOV are a valuable resource for better understanding the scale and pattern of explosive violence use. However, these reports are less helpful for capturing other types of harm known to be characteristic of explosive weapons in populated areas.

Damage to infrastructure, the risk of ERW, long-term health effects, and displacement are all aspects of the pattern of harm caused by explosive weapons which are not fully represented in the data set. However, reporting on these effects is often limited, with news sources focusing on the immediate aftermath of an incident. For instance, damage to a location was only reported in 864 incidents, out of the total 4,322 incidents recorded.

Effects which are the result of cumulative levels of explosive violence, for instance communities displaced by heavy shelling or continued insecurity, cannot be fully represented by this research.

Notes

- 1 *UN Secretary General*, 'Protection of civilians in armed conflict, Report of the Secretary-General', UN Security Council, S/2022/381, 10 May 2022, https://www.security-councilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/S_2022_381.pdf (accessed 2 March 23).
- 2 The definition of a populated area used by AOA is based on Protocol III of the 1980 Convention on Certain Conventional Weapons (CCW) which defines concentrations of civilians as: "any concentrations of civilians, be it permanent or temporary, such as in inhabited parts of cities, or inhabited towns or villages, or as in camps or columns of refugees or evacuees, or group of nomads." The full definition is available at: "Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III)," ICRC, Geneva, 10 October 1980. AOA's guidelines for recording an area as populated are included in the Methodology.
- 3 Iain Overton et al, 'Wide-Area Impact: Investigating the wide-area effect of explosive weapons', (AOAV 2015) <https://aoav.org.uk/wp-content/uploads/2016/03/Wide-Area-Impact-explosive-weapons-in-populated-areas.pdf> (accessed 28 Feb. 23).
- 4 The category of 'mines' includes both antipersonnel landmines and antivehicle mines. In many incidents, news sources often report what were likely to have been actually victim-activated IEDs as 'mines' or used ambiguous language; as such, it is not clear in many incidents whether these incidents involve manufactured or improvised explosive weapons.
- 5 Attacks described as air-strikes can combine the firing of explosive missiles, the dropping of aerial bombs, and/or strafing using automatic weapons. There is often a lack of detail in media and official statements as to which specific weapons were used. On this basis, incidents reported as air-strikes were recorded as the use of an explosive weapon unless it is clear that only non-explosive weapons were used.
- 6 Missiles are defined as "Ammunition which consists of propellant type motors fitted with a payload and equipped with guidance devices." International Ammunition Technical Guideline, "Glossary of terms and definitions," United Nations Office for Disarmament Affairs, IATG 01.10:2021(E) 3rd Edition (March 2021) https://unoda-safeguard.s3.amazonaws.com/iatg/en/V3_IATG_compiled-compressed.pdf (accessed 28 Feb. 23).
- 7 Rockets, both air and ground-launched, are defined as "ammunition consisting of a rocket motor and a payload, without an on-board guidance system. NOTE The term often includes both guided and unguided missiles, although it traditionally referred to unguided missiles." International Ammunition Technical Guideline, "Glossary of terms and definitions," United Nations Office for Disarmament Affairs, IATG 01.10:2021(E) 3rd Edition (March 2021) https://unoda-safeguard.s3.amazonaws.com/iatg/en/V3_IATG_compiled-compressed.pdf (accessed 28 Feb. 23).
- 8 "Guided mortar systems provide increased firing accuracy and reduced ammunition consumption over their conventional counterparts. Mortars are normally smooth-bore, muzzle-loading, indirect-fire support weapons, and are typically used against personnel, light armoured vehicles, and structures. Although they can engage targets that may not be within their line of sight, they are limited in range and accuracy when compared to many other artillery systems." N. R. Jenzen-Jones, Small Arms Survey, Guided Mortar Systems (Research Note 51), April 2015. <https://www.smallarmssurvey.org/sites/default/files/resources/SAS-Research-Note-51.pdf> (accessed 28 Feb. 23).
- 9 A populated area is one that is likely to contain concentrations of civilians. It is based on Protocol III of the 1980 Convention on Certain Conventional Weapons (CCW). The full definition and guidelines for recording an area as being populated is detailed on page 44.
- 10 Hinnant, L., Chernov, M., and Stepanenko, V., 'AP evidence points to 600 dead in Mariupol theatre airstrike,' *Associated Press*, 4 May 2022, <https://apnews.com/article/Russia-ukraine-war-mariupol-theater-c321a196bd-568899841b506afcac7a1> (accessed 28 Feb. 2023).
- 11 Maruf, H., 'Death toll rises in 121 in Somalia Al-Shabaab attacks', *Voice of America*, 1 Nov 2022, <https://www.voanews.com/a/death-toll-rises-in-somalia-al-shabab-attacks/6815098.html> (accessed 28 Feb. 23).
- 12 Iraq Security and Humanitarian Monitor, *Enabling Peace*, 02 Sep 2022, <https://enablingpeace.org/ishm367/#Headline2> (accessed 28 Feb. 23).
- 13 *Borkena*, 'Residents who took refuge in mosque were massacred in Wollega: report,' 21 June 2022, <https://borkena.com/2022/06/21/ethiopia-wollega-residents-in-mosque-were-massacred-in-wollega/> (accessed 28 Feb. 23).
- 14 *Reuters*, 'Death toll from Yemen detention centre strike rises to 91, Houthis minister says,' 25 Jan 2022, <https://www.reuters.com/world/middle-east/death-toll-rises-91-yemen-detention-centre-strike-houthi-minister-2022-01-25/> (accessed 28 Feb. 23).
- 15 *Dawn*, 'Suicide blast in Peshawar mosque claims 56 lives, injured more than 190,' 4 Mar 2022, <https://www.dawn.com/news/1678238> (accessed 28 Feb. 23).
- 16 *Globe News*, 'Ethiopia: At least 56 people killed and 126 wounded in late night airstrikes at IDP camp in Tigray,' 8 Jan 2022, <https://globenewsnet.com/news/ethiopia-at-least-56-people-killed-in-late-night-airstrikes-at-idp-camp-in-tigray/> (accessed 28 Feb. 23).
- 17 *Addis Standard*, 'News: Residents say drone strike killed dozens of civilians in West Shewa, oromia region,' 25 Oct 2022, <https://addisstandard.com/news-residents-say-drone-strike-killed-dozens-of-civilians-in-west-shewa-oromia-region-01-ofc-condemn-relentless-airstrikes-across-oromia/> (accessed 28 Feb. 23).
- 18 *AFP*, 'UN says Afghanistan classroom bombing death toll jumps to 53,' 03 Oct 2022, <https://english.alarabiya.net/Africas/world/2022/10/03/UN-says-Afghanistan-classroom-bombing-death-toll-jumps-to-43-> (accessed 28 Feb. 23).
- 19 *Reuters*, 'Death toll from twin Somalia bombings rises to 48: regional leader,' 24 Mar 2022, <https://www.reuters.com/world/africa/death-toll-somalia-attack-that-killed-lawmaker-rises-15-state-tv-2022-03-24/> (accessed 28 Feb. 23).
- 20 *Dawn*, 'Suicide blast in Peshawar mosque claims 56 lives, injures more than 190,' 4 March 2022, <https://www.dawn.com/news/1678238> (accessed 2 March 23).
- 21 In alphabetical order the 60 countries and territories are: Afghanistan, Armenia, Australia, Azerbaijan, Bangladesh, Benin, Brazil, Burkina Faso, Cameroon, Canada, Central African Republic, Colombia, Congo, Cyprus, DRC, Ecuador, Egypt, Ethiopia, Gaza, Georgia, India, Indonesia, Iran, Iraq, Israel, Kenya, Kuwait, Kyrgyzstan, Lebanon, Libya, Malawi, Malaysia, Mali, Mexico, Myanmar, Nepal, Netherlands, Niger, Nigeria, Pakistan, Philippines, Poland, Russia, Saudi Arabia, Somalia, South Africa, South Korea, South Sudan, Spain, Sudan, Syria, Tajikistan, Thailand, Togo, Turkey, Ukraine, United Arab Emirates, USA, West Bank Yemen.

- 22 In alphabetical order these were: Australia, Benin, Brazil, Canada, Congo, Cyprus, Georgia, Kuwait, Malawi, Malaysia, Poland, South Africa, Spain, Tajikistan, Togo, Turkey, United Arab Emirates, West Bank.
- 23 Hinnant, L., Chernov, M., and Stepanenko, V., 'AP evidence points to 600 dead in Mariupol theatre airstrike,' Associated Press, 4 May 2022, <https://apnews.com/article/Russia-ukraine-war-mariupol-theater-c321a196fd568899841b506afcac7a1> (accessed 2 March 2023).
- 24 Maruf, H., 'Exclusive: Somalia sends thousands of army recruits abroad for training,' Voice of America, 31 Jan 2023, <https://www.voanews.com/a/exclusive-somalia-sends-thousands-of-army-recruits-abroad-for-training-/6941868.html> (accessed 28 Feb. 23).
- 25 Zan Htoo, H., 'Myanmar Junta's Deadly Airstrike on Kachin Concert a War Crime: KIA,' Irrawaddy, 24 Oct 2022, <https://www.irrawaddy.com/news/burma/myanmar-juntas-deadly-airstrike-on-kachin-concert-a-war-crime-kia.html> (accessed 2 March 23).
- 26 In alphabetical order, these groups are: Allied Democratic Forces (ADF, Uganda), Ahrar Sinjar (Iraq), Al Amaliqa (Yemen), Al Shabaab (Somalia), Al-Fath Al-Mubin (Syria; coalition including Hayat Tahrir al-Sham, National Liberation Front, Jaysh al-Izza), Afrin Liberation Forces (AFL, Syria), Al Qaeda Arabian Peninsula (AQAP, Yemen), Baloch Liberation Army (BLA, Pakistan), Baloch Republican Guards (BRG, Pakistan), Baloch Liberation Front (BLF, Pakistan), Bangladeshi Nationalist Party (BNP, Bangladesh), Boko Haram (Nigeria), Bui Unity Warriors (Cameroon), Communist Party of India (CPI Maosist, India), Revolutionary Armed Forces of Colombia (FARC, Colombia), Houthi rebels (Yemen), Indigenous People of Biafra (IPOB, Nigeria), ISIS and affiliates in Afghanistan and Pakistan (ISIS-K), Nigeria (ISWAP), and Indonesia, Jaish-i-Mohammad (Pakistan), Katibat Macina (Mali), Lashkar-e-Taiba (Pakistan), March 23 Movement (M23, DRC), at least 34 local defense forces not under the umbrella of the National Unity Government (NUG) (Myanmar), National Defence Forces (NDF, Syria), New People's Army (NPA, Philippines), National Resistance Front (NRF, Afghanistan), Oromo Liberation Army (OLA, Ethiopia), Tehrik-e Taliban (TTP, Pakistan), People's Defence Forces (PDF, Myanmar), Kurdistan Worker's Party (PKK, Turkey), Popular Mobilisation Forces (PMF, Iraq), Pyu Saw Htee (Myanmar), Sinaloa Cartel (Mexico), Syrian Democratic Forces (Syria), Trinamool Congress (TMC, India), Tiritiya Prastuti Committee (TPC, India), Tigray People's Liberation Front (TPLF, Ethiopia), Popular Protection Units (YPG, Syria), Women's Protection Units (YPJ, Syria). There were also various other actors identified only as individuals, mercenaries, or rebels.
- 27 *Syrian Observatory for Human Rights*, '29 martyrs in Khisham massacre | 73 martyrs of three massacres in Deir Ezzor in hours,' 23 Jan 2022, <https://www.syriahr.com/en/236004/> (accessed 1 March 23).
- 28 *Ukrinform*, '47 people killed in Russia's air raid on Chernihiv,' 4 March 2022, <https://www.ukrinform.net/rubric-ato/3419805-47-people-killed-in-russias-air-raid-on-cherernihiv.html>
- 29 Peck, G., 'Witnesses: Myanmar air attack kills 13, including 7 children,' *Associated Press*, 20 Sep 2022, <https://apnews.com/article/police-myanmar-aung-san-su-kyi-govern-ment-and-politics-892bebc1d9966d4a28393e890ed371> (accessed 1 March 23).
- 30 Peck, G., 'Witnesses: Myanmar air attack kills 13, including 7 children,' *Associated Press*, 20 Sep 2022, <https://apnews.com/article/police-myanmar-aung-san-su-kyi-govern-ment-and-politics-892bebc1d9966d4a28393e890ed371> (accessed 2 March 23).
- 31 When IEDs have been reported as delivered by air, often using commercial drones, they have been coded as air-dropped bombs using an IED launch method. In 2022, AOVAV recorded a growth in reported incidents of non-state actors using commercial drones to air-drop improvised explosive devices, as well as an increase in the production and use of explosives reported as improvised mortars and grenades, especially in Myanmar.
- 32 The category of 'mines' includes both anti-personnel landmines and anti-vehicle mines. In many incidents, news sources often report what were likely actually victim-activated IEDs as 'mines' or used ambiguous language; it is not clear in many incidents whether these incidents involve manufactured or improvised explosive weapons. For detailed information on the incidents of anti-personnel and other types of mine use around the world see *International Campaign to Ban Landmines*, 'Landmine Monitor 2022', November 2022, http://www.the-monitor.org/media/3352351/2022_Landmine_Monitor_web.pdf (accessed 1 March 23).
- 33 Car bomb' is taken as shorthand for vehicle-borne IEDs or VBIEDs, including explosives concealed in or built into vehicles of all kinds. Thus some car bombs may in fact be bike bombs or truck bombs.
- 34 46% of IED attacks with a reported mode of detonation in 2022 were triggered by victim-activation. 33% were suicide attacks, and 19% were remotely detonated.
- 35 Though some IEDs may be designed to only be triggered by a vehicle. For instances of this please see: *CAR*, 'Dispatch from the Field: Mines and IEDs Employed by Houthi Forces on Yemen's West Coast', September 2018. *Anti-vehicle mines are not covered by the Mine Ban Treaty*.
- 36 Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their destruction, 18 September 1997, https://treaties.un.org/doc/Treaties/1997/09/19970918%2007-53%20AM/Ch_XX-VI_05p.pdf (accessed 13 Jan. 22).
- 37 *Al Jazeera*, 'Suicide attacker kills at least 19 in Kabul school blast,' 30 Sept. 2022, <https://www.aljazeera.com/news/2022/9/30/at-least-19-killed-in-kabul-blast-authorities> (accessed 2 March 23).
- 38 For more information see www.insecurityinsight.org (accessed 1 March 23).
- 39 In a minority of reported incidents, there is a possibility that armed actors were among those killed and injured by explosive weapons but the exact details of the number of armed actors killed or injured was not recorded. Incidents which meet this profile are coded as 'yes' in a column titled 'Could armed actors be included among the dead and injured?' Incidents coded in this manner represented just 2% of all incidents recorded by AOVAV in 2022.
- 40 Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III), to the UN Convention on Certain Conventional Weapons, Geneva, 10 October 1980, www.icrc.org/ihl.nsf/FULL/515 (accessed 1 March 23).
- 41 AOVAV recorded 81 such incidents in 2022.
- 42 International Campaign to Ban Landmines, 'Landmine Monitor 2022', November 2022, http://www.the-monitor.org/media/3352351/2022_Landmine_Monitor_web.pdf (accessed 1 March 23).

CONTACT

Action on Armed Violence

405 Mile End Road,
London
E3 4PB

T +44 (0)7984 645 145

E info@aoav.org.uk

www.aoav.org.uk