THE BURDEN OF HARM
Monitoring Explosive Violence in 2017
The return of armed conflict to towns and cities has been a particular concern of the ICRC in recent years. Approximately 50 million people in urban areas now bear the brunt of conflict. The overwhelming percentage of people killed or injured by explosive weapons in populated areas are civilians. They are mothers, fathers and children who are not part of the fighting and simply wish to lead their lives, not fear for them.

International Committee of the Red Cross.
Statement during the May 2017 UN Security Council Open Debate on the Protection of Civilians in Armed Conflict.1

Introduction

This 2017 report presents the findings of the seventh consecutive year of Action on Armed Violence’s (AOAV) Explosive Violence Monitoring Project (EVMP). The EVMP tracks the impact of explosive weapon use worldwide as reported in the English-language media.

In 2017, AOAV recorded 42,972 deaths and injuries as a result of the use of explosive weapons globally. As has been seen every year for the past seven years, civilians continued to bear the burden of this violence. Of those harmed in 2017, 74% were reported to be civilians.

The most notable finding of the report was that there was an increase in civilian deaths from explosive violence – 38% more than in 2016 – a death toll that is, in large part, down to the substantive increase in air-strikes around the world last year. 14,342 civilians were recorded killed or injured by air-launched attacks, in 2017 44% more than in 2016.

There was a decrease in the numbers of civilians reported injured by such weapons, but this might be down to the limitations of nuanced reporting in conflict zones, especially with such a sharp increase in deaths. Overall, the number of civilian deaths and injuries recorded in 2017 was 47% higher than that recorded in 2011, the year the EVMP began.

Iraq and Syria remained amongst the worst five impacted countries for the fifth year in a row. These two countries have consistently seen the highest numbers of civilian casualties from explosive violence.

AOAV’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 2017.

Since the monitor began in 2010, AOAV has recorded the appalling suffering caused across the globe by both manufactured and improvised weapons. This continued harm that has now manifested in the international refugee and displaced persons crisis shows the urgent need for action to combat and reduce the harm these weapons continue to cause.

Yemen too continues to suffer high levels of civilian harm from explosive weapons. 2017 saw increased calls for an end to the Saudi-led coalition’s bombing campaign, one that has fuelled a humanitarian crisis with almost 75% of the population – 22.2 million people – in need of humanitarian assistance.2

When explosive weapons are used in populated areas, they massively elevate the numbers of civilians killed and injured. In 2017, 92% of those reported harmed by explosive weapons in populated areas were civilians. Last year, AOAV recorded an average of 45 civilian deaths from explosive weapons per day.

Such findings reflect a consistent pattern of harm that has endured throughout the years AOAV has been tracking explosive violence. AOAV’s report, ‘Patterns of Harm’, which examined the trends seen across five years of explosive violence casualty recording, found that when explosive weapons had been used in populated areas, on average 91% of the deaths and injuries caused were civilians.3

Even when explosive weapons with wide area effects were targeted at a military objective in 2017, their effects often meant that bystanders were all too often caught by the blast or hit by projected fragments – something that AOAV catalogued in a separate report in 2015, ‘Wide Area Effects’. Wide area effects, or wide impact area, has been documented by several organisations and highlighted as a concern – including GICHD, Article 36, PAX, the ICRC and the United Nations Secretary General.

This data only shows the immediate impact of explosive violence, but it should be remembered that the impacts of such weapons stretch far beyond these, including the destruction of homes, psychological suffering, and economic deprivation.

Many more people are affected by explosive weapons than can possibly be hinted at by our casualty figures.

Those uprooted by explosive violence are in the millions. Many flee across international borders, whilst even greater numbers are displaced internally.

States and other users must politically commit to stop using explosive weapons with wide area effects in populated areas. The harm recorded in 2017 and reflected in this report illustrates the stark urgency needed to reach this commitment.

Aleppo, June 2017, by SebDech.
Key Findings

OVERVIEW

- AOAV recorded 42,972 deaths and injuries by explosive weapons in 3,825 incidents in 2017. Of these, 31,904 were civilians – 74%.

- In total, 24,848 people were killed (of which 16,289 were civilians), and 18,124 were injured (of which 15,615 were civilians) by explosive weapons globally. This means two-thirds of all people killed and 86% of all people injured were civilians.

- When explosive weapons were used in populated areas, 92% of those killed and injured were civilians. This compares to 20% in other areas.

- Civilian deaths and injuries in populated areas, represented 93% of all reported civilian deaths and injuries.

- AOAV recorded the highest number of civilian deaths seen across the seven years – a 38% increase compared to the previous year, and a 165% increase compared to 2011. Whilst in previous years this rise would also be accompanied by a rise in injuries, this has not been the case in 2017 or the previous year – likely reflecting the nature of reporting in high casualty conflicts, where injuries often fail to make the headlines.

- This might explain why total civilian deaths and injuries from explosive violence saw a decrease of 1% in 2017 from 2016. This is the second year since AOAV began the monitor in which recorded civilian casualties of explosive violence have decreased – albeit slight.

- There was a continued increase in the number of civilians recorded killed or injured by air-launched attacks, reaching 14,342 in 2017. This was 44% more than recorded in 2016. For the first year, incidents caused by air-launched weaponry killed and injured more civilians than any other weapon type. Air-launched explosive weapons were responsible for 45% of all civilian deaths and injuries.

- Syria, Iraq, Afghanistan, Pakistan, and Yemen saw the highest number of civilian deaths and injuries in 2017.

- Numbers of reported deaths and injuries in Syria continued to rise. More than 15,000 deaths and injuries were recorded by AOAV from explosive violence alone in Syria in 2017.

- Some of the most impacted countries saw a significant rise in civilian deaths and injuries as a result of explosive weapons compared to the year before: Pakistan (51%); Somalia (92%); Egypt (305%).

- Six countries and territories saw over 1,000 civilian deaths and injuries in 2017.

- Incidents were recorded in 59 countries and territories around the world.
EXPLOSIVE VIOLENCE IN 2017

74% CIVILIAN CASUALTIES
TOTAL REPORTED DEATHS & INJURIES: 42,972
TOTAL CIVILIAN DEATHS & INJURIES: 31,904

-1% DECREASE IN TOTAL CIVILIAN DEATHS & INJURIES

+40% INCREASE IN AVERAGE NUMBER OF CIVILIAN DEATHS PER DAY

TARGETED AREAS

POPULATED AREAS
92% CIVILIAN DEATHS & INJURIES IN POPULATED AREAS
2,601 ATTACKS IN POPULATED AREAS

NON-POPULATED AREAS
20% CIVILIAN DEATHS & INJURIES IN NON-POPULATED AREAS
1,224 ATTACKS IN NON-POPULATED AREAS

TOTAL DEATHS & INJURIES
CIVILIAN DEATHS & INJURIES
AVERAGE CIVILIAN DEATHS & INJURIES PER ATTACK

URBAN RESIDENTIAL
7,715
93%
9

MARKETS
2,406
97%
23

PLACES OF WORSHIP
2,508
97%
50

DEADLY WEAPONS

CIVILIAN DEATHS & INJURIES BY AIR-LAUNCHED, GROUND-LAUNCHED AND IEDS, 2011 – 2017

CIVILIAN DEATHS & INJURIES BY WEAPON LAUNCH METHOD

DATA: AOAV, BASED ON ENGLISH-LANGUAGE MEDIA REPORTS
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 AOAV 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. Incidents that are unclear as to what proportion are armed groups or civilians constitute less than 5% of all our findings, and in these cases we report the victims as armed actors.

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.

EXPLOSIVE WEAPONS TYPES: Weapons were classified by AOAV 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.

- **Air-launched:**
  - **Air strike:** The broadest recording category in this grouping. It refers to incidents where 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.\(^1\) 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 makeshift manually-deployed bombs, as well as cluster bombs.
  - **Missile:** Recorded wherever explosive missiles delivered by air were reported in a news source, most commonly in drone attacks.\(^7\)
  - **Rocket:** Typically used to refer to unguided missiles, rockets were recorded wherever they are specified in a news source.\(^9\)

- **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 wherever 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:** Typically used to refer to unguided missiles, rockets were recorded wherever they are specified in a news source.
  - **Tank shell:** Explosive shells fired by tanks.
  - **Grenade:** Recorded wherever 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.

Key terms

**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.\(^5\)
AOAV recorded 42,972 people killed or injured by explosive weapons in 3,825 incidents in 2017.

Of the casualties recorded in 2017, 74% were civilians (31,904 civilians killed and injured).

This meant there was a 1% decrease in civilian casualties from explosive violence in 2017 (down from 32,088 in 2016).

In 2017 AOAV recorded 31,904 civilian deaths and injuries from explosive weapons reported around the world. In total, 24,848 people were killed (of which 16,289 were civilians), and 18,124 were injured (of which 15,615 were civilians) by explosive weapons. This means two-thirds of all people killed and 86% of all people injured were civilians.

AOAV recorded the highest number of civilian deaths seen across the seven years of recording.

In 2017 AOAV recorded 31,904 civilian deaths and injuries from explosive weapons reported around the world. In total, 24,848 people were killed (of which 16,289 were civilians), and 18,124 were injured (of which 15,615 were civilians) by explosive weapons globally. This means two-thirds of all people killed and 86% of all people injured were civilians.

AOAV recorded the highest number of civilian deaths seen across the seven years of recording.

Figure 1
Casualties by month in 2017

Whilst this would be expected to accompany a rise in injuries, this was not the case, with injuries failing to make the headlines. As a result of this, in 2017, AOAV saw a slight decrease, of less than 1%, in civilians killed and injured by explosive violence.

The decrease overall may also be accounted for by the decrease in IED attacks targeting civilians. Civilian deaths and injuries from IEDs fell by 18% in 2017 compared to the previous year, a continued trend that seems to reflect the substantive defeat of the Islamic State in Iraq and Syria.

As in previous years, the majority of casualties from explosive weapon use were civilians, accounting for almost three-quarters of all recorded deaths and injuries.

Following a well-established pattern of harm, civilians were also seen to be most at risk when explosive weapons were used in populated areas.

In 2017, 68% of all recorded incidents took place in populated areas. In those attacks, 92% of those killed or injured were reported as civilians. This compares to 20% of victims being reported as civilians when explosive weapons were used in lesser populated areas.

As shown in Figure 1, the reported civilian casualties of explosive weapon use consistently and substantially outnumbered armed actors in 2017.21

On average, AOAV recorded 2,659 civilian casualties reported every month, compared to an average of 922 armed actors. This means that, every day, there were on average 87 civilians reported killed or injured by explosive weapons (compared to 30 armed actors).

45 civilians were reported killed on average every day from explosive weapon use in 2017 around the world.

2017 HOTSPOTS
AOAV recorded at least one death or injury from an explosive weapon attack in 59 different countries and territories (see map on page 15),22 a decrease from the 70 recorded in 2016.23

Casualties from explosive weapons were reported in 11 countries and territories in 2017 that had not been impacted in 2016.24

As Figure 2 on page 13 shows, Syria was the country with the most civilian deaths and injuries in 2017, followed by Iraq, Afghanistan, Pakistan and Yemen. Syria

Although there were more recorded attacks in 2017 compared to 2016 (1,750 versus 553 respectively), the casualty count in Syria was comparable to 2016, with 13,062 civilian casualties out of a total number of 15,319 (down from a total count of 15,640 in 2016). The areas in and around Raqqa and Deir al-Zour witnessed the greatest number of civilian casualties (3,805 and 3,006 respectively), followed by Aleppo and Damascus (1,449 and 1,392 respectively).

Deir al-Zour, an ISIS stronghold since 2014, had felt the brunt of repeated attacks by the Russian-supported Syrian army, finally falling to Government forces in November 2017. Some 350,000 civilians in Syria’s Deir al-Zour province were forced to flee their homes during weeks of fighting.

In June 2017, the US-backed Syrian Democratic Forces (SDF) launched the “Wrath of Euphrates” operation to capture Raqqa, the de facto capital of the ISIS. The operation was accompanied by an intensification of the aerial bombardment over Raqqa by the US-led coalition, which in mid-June led Paulo Pinheiro, the chairman of the United Nations Commission of Inquiry on Syria, to say that the operation had resulted in a “staggering loss of civilian life.”26
Iraq

While Iraq saw an overall decrease in the number of casualties recorded in 2017 compared to 2016 (8,896 versus 9,785 respectively), the number of civilian casualties remained constant (6,571 civilian casualties in 2017 compared to 6,359 in 2016). The overall change is due to a decrease in security personnel casualties last year compared to 2016, with less IED attacks targeting security personnel.

Iraqi forces initiated an offensive in October 2016 to retake the city, succeeding in their efforts in late July 2017. US-led Coalition forces had bolstered the attack by providing air support. In June, over 50% of all Iraq’s civilian casualties occurred in and around Mosul.

However, as AOAV reported in June 2017, it is likely that far more casualties occurred than were reported, mainly due to the nature of the conflict and the dangers of reporting from Mosul itself.22

Afghanistan

In 2017, Afghanistan witnessed an increase in the number of attacks compared to 2016 – 300 versus 198 in 2016 – resulting in a 38% increase in total casualties. The increase was most starkly borne by the civilian population, with a 42% jump in the number of civilians killed or injured (from 2,199 in 2016, to 3,119 in 2017).

In December 2017 alone, 96% of civilian casualties were caused by improvised explosive devices. The rising threat posed by IEDs in Afghanistan was demonstrated when Islamic State carried out a suicide attack in the Afghan capital, Kabul, at the Tebyan Cultural Centre, where young men and women were meeting for a social gathering – at least 50 were killed and over 80 were injured. This is part of a trend that extends back over 7 years. IEDs caused, by far, the most harm in Afghanistan between 2011 and 2016, with 81% of civilian deaths and injuries caused by such weapons, and the increase seen in 2017 suggests that peace is far from being a reality in that war-torn nation.

Figure 2: Most affected countries and territories in 2017

<table>
<thead>
<tr>
<th>Position</th>
<th>Country/Territory</th>
<th>Civilian casualties</th>
<th>All casualties</th>
<th>Number of recorded incidents</th>
<th>Average civilian casualties per incident</th>
<th>Percentage of casualties who were civilians</th>
<th>Global ranking in 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Syria</td>
<td>13062</td>
<td>15319</td>
<td>1750</td>
<td>7</td>
<td>85%</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Iraq</td>
<td>6571</td>
<td>8896</td>
<td>640</td>
<td>10</td>
<td>74%</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Afghanistan</td>
<td>3119</td>
<td>5661</td>
<td>300</td>
<td>10</td>
<td>55%</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Pakistan</td>
<td>2255</td>
<td>2581</td>
<td>196</td>
<td>12</td>
<td>87%</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Yemen</td>
<td>1670</td>
<td>2169</td>
<td>203</td>
<td>8</td>
<td>77%</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Somalia</td>
<td>1582</td>
<td>2234</td>
<td>101</td>
<td>16</td>
<td>71%</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>Nigeria</td>
<td>977</td>
<td>1488</td>
<td>49</td>
<td>20</td>
<td>66%</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>Egypt</td>
<td>641</td>
<td>934</td>
<td>33</td>
<td>19</td>
<td>69%</td>
<td>15</td>
</tr>
<tr>
<td>9</td>
<td>India</td>
<td>267</td>
<td>536</td>
<td>139</td>
<td>2</td>
<td>50%</td>
<td>13</td>
</tr>
<tr>
<td>10</td>
<td>UK</td>
<td>252</td>
<td>253</td>
<td>2</td>
<td>126</td>
<td>99%</td>
<td>59</td>
</tr>
<tr>
<td>11</td>
<td>Cameroon</td>
<td>165</td>
<td>178</td>
<td>10</td>
<td>17</td>
<td>93%</td>
<td>9</td>
</tr>
<tr>
<td>12</td>
<td>Libya</td>
<td>163</td>
<td>279</td>
<td>16</td>
<td>10</td>
<td>58%</td>
<td>10</td>
</tr>
<tr>
<td>13</td>
<td>Burundi</td>
<td>130</td>
<td>134</td>
<td>11</td>
<td>12</td>
<td>97%</td>
<td>17</td>
</tr>
<tr>
<td>14</td>
<td>Philippines</td>
<td>129</td>
<td>448</td>
<td>60</td>
<td>2</td>
<td>29%</td>
<td>12</td>
</tr>
<tr>
<td>15</td>
<td>Thailand</td>
<td>110</td>
<td>196</td>
<td>22</td>
<td>5</td>
<td>56%</td>
<td>14</td>
</tr>
</tbody>
</table>
Pakistan
A moderate increase in the total number of casualties in 2017 compared to 2016 (2,198 casualties in 2016; 2,581 in 2017), masks the reality that the number of civilians killed or injured in 2017 jumped by almost 51%, as opposed to Pakistani soldiers and armed actors. 196 incidents recorded by AOAV saw 2,255 civilian casualties in 2017, compared to 1,498 in 2016.

The Taliban in Pakistan, based near Afghan border areas, continues to be a threat to stability in the country, while ISIS (Pakistan) were responsible for at least four attacks that resulted in 569 civilian deaths and casualties alone. In July 2017, at least 26 people were killed in a bombing in Lahore, while more than 50 others were injured in the explosion next to a vegetable market in the south of the city. In Egypt, an increase in overall casualties from explosive violence in Egypt in 2017 reflected a changing dynamics during this time. In 2016, 65 explosive incidents caused 158 civilian casualties and 547 security personnel casualties. In 2017, these figures changed dramatically. Whilst the number of security personnel killed or injured fell from 547 to 293, civilian deaths and injuries jumped by 305% to 641.

Yemen
The number of deaths and injuries caused by explosive violence dropped by almost a half in 2017 (by 47%). Although AOAV recorded more incidents (203 in 2017, compared to 151 in 2016), the number of civilian casualties in the country dropped by 38%, from 2,713 to 1,670. The number of security personnel saw an even larger drop, from 1,382 in 2016, to 499 in 2017. However, given the intensity of the conflict in Yemen, and the continued use of airstrikes by Saudi forces, these figures may not reflect a full picture – one hampered by a paucity of reporters on the ground.

Airstrikes on a market and a farm in southwestern province of Taiz killed at least 68 civilians in a single day in December 2017, including eight children. At least 109 civilians were killed in December 2017, during a conflict that has intensified since the death of the country’s former president. The Saudi-led coalition includes the United Arab Emirates and is backed by the UK, the US and others. Between 2015-2017 Yemen witnessed at least 13,969 deaths and injuries from explosive violence. Of these 76% (10,681) were civilians.

A GLOBAL PROBLEM
Although the top five worst-affected countries in 2017 were located in the near and middle East and on the Arabian peninsula, the results of explosive violence continue to be felt across the globe, from Western Europe to the United States, from Turkey to the Philippines.

Egypt
An increase in overall casualties from explosive violence in Egypt in 2017 reflected a changing dynamics during this time. In 2016, 65 explosive incidents caused 158 civilian casualties and 547 security personnel casualties. In 2017, these figures changed dramatically. Whilst the number of security personnel killed or injured fell from 547 to 293, civilian deaths and injuries jumped by 305% to 641.

Somalia
The number of security personnel killed or injured as a result of explosive violence in Somalia was comparable to figures for 2016 – 652 in 2017, up from 588 in 2016. However, the number of civilians killed or injured almost doubled from 826 to 1,582. Al-Shabaab continued to carry out indiscriminate attacks in the beleaguered country. The group stated in early 2017, after both the Trump administration and Somalia’s recently elected president announced new military efforts against them, that it would increase the number and severity of attacks. On 14 October 2017, a huge blast caused by a truck bombing in Mogadishu saw Al-Shabaab fulfil their promise and add to the continuing tragedy that is the fragmented state of Somalia. The number of dead in the devastating twin bombing in the Somali capital is estimated to be 587 (just one fewer than the total number of those killed or injured in 2016).

United Kingdom
This is the first time that the United Kingdom was listed in the top ten most impact countries from explosive violence in AOAV’s data recording. This was mainly because 22-year-old terrorist Salman Abedi detonated a homemade bomb at a concert in Manchester on 22 May 2017. The bombing resulted in the death of 22 people and more than 200 injured. The casualty count made the bombing the eighth worst in the world in 2017 (in terms of overall casualties). It was one of two incidents that resulted in the United Kingdom suffering 253 casualties from explosive violence, 252 of whom were civilians. The total casualty figure eclipsed that of Libya, Ukraine, Gaza or South Sudan. As of 16th March 2018, the threat level in the United Kingdom is coded as ‘severe’ by the country’s intelligence services.

A Syrian or Russian airstrike hit the town of Bidama in the western Idlib Governorate, 25 September 2017, Qasioun News Agency.
AOAV recorded explosive violence in 59 countries and territories across the world. Explosive violence was particularly intense in several contexts.

Incidents of explosive violence recorded by AOAV in 2017

WHO IS BEHIND THE EXPLOSIVE VIOLENCE?
A significant proportion of explosive violence incidents recorded by AOAV in 2017 went unclaimed and could not be attributed to a specific actor. In 9% of incidents it was unclear from reporting whether a state or non-state actor was responsible. This is a lower percentage than in 2016, when 11% of incidents were coded as unclear.

State actors
The 2,085 incidents that were attributed to a state, rather than a non-state group, caused 23,442 deaths and injuries in 2017. Of these, 16,264 (69%) were civilians. This compares to 18,638 deaths and injuries in 2016, of whom 60% (11,313) were reported to be civilians. The most prolific state users of explosive weapons are listed in Figure 3.

Figure 3 Biggest state users of explosive weapons in 2017

<table>
<thead>
<tr>
<th>States</th>
<th>% of incidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>US-led coalition</td>
<td>14%</td>
</tr>
<tr>
<td>Syria</td>
<td>13%</td>
</tr>
<tr>
<td>Saudi-led coalition</td>
<td>6%</td>
</tr>
<tr>
<td>USA</td>
<td>3%</td>
</tr>
<tr>
<td>Turkey</td>
<td>3%</td>
</tr>
</tbody>
</table>

However, the list may be somewhat misleading. It is likely that far more incidents should be attributed to Syria and Russia but in many of the state perpetrated incidents in Syria the perpetrator name was unknown (in many it was unclear whether they were perpetrated by Syria or Russia). AOAV recorded 45 incidences of Russian attacks, and these resulted in 447 civilian deaths. This contrasts with 133 events recorded by AOAV of attacks attributed to the Saudi-led coalition in 2017, or 302 attacks to the US-led coalition.

AOAV found that, contrary to some government statements, the US-led coalition was reported responsible for at least 2,867 civilian casualties during the 12-month period, or 16% of all civilian casualties from state perpetrated incidents. With 1,414 civilian casualties, Saudi Arabia-led forces were reported responsible for 9% of the total number of civilian casualties.

AOAV recorded 263 attacks reported to be perpetrated by Syrian forces in 2017. Of the casualties recorded, startlingly, 95% were civilians. Fierce fighting in 2017 in and around the Deir al-Zour urban area may account for such figures. Of course, one cannot discount the fact that armed actors might be claimed to be civilians by interested parties on the ground, but video evidence of children and women killed suggests that this is not the norm.

Twenty-five different state forces used explosive weapons in 2017. This is a slight decrease from in 2016, where twenty-six states were recorded. However, many states operate under coalitions with many attacks recorded under the coalition name. The two coalitions responsible for the largest number of civilian deaths and injuries were the Saudi-led coalition in Yemen, and the US-led coalition against al-Qaeda and ISIS-linked elements in Iraq and Syria. Again, the level to which Syria and Russia have cooperated on attacks is difficult to decipher.

Non-State Actors
Collectively, non-state actors caused 17,980 casualties in 2017, of whom 79% were civilians (14,265). This compares to 24,726 casualties in 2016, of whom 77% were civilians (18,999). Although these figures for 2017 point to 4,736 fewer civilian deaths and injuries, this is in a large part due to the significant drop in the number of people killed or injured by ISIS. In 2016, ISIS was responsible for 6,436 civilian casualties. As ISIS lost ground in Iraq and Syria in 2017, the number of civilians killed or injured at its hands in these two countries fell to 2,750.

AOAV recorded 55 different named non-state actors using explosive weapons. The most prolific non-state actors in 2017 are listed in Figure 4. In 2017, ISIS was responsible for 19% of civilian casualties while the Taliban, the reported perpetrators of 49 attacks resulting in death or injury to 911 civilians, represent just over 6% of the total.

Figure 4 Biggest state users of explosive weapons in 2017

<table>
<thead>
<tr>
<th>Non-state</th>
<th>% of incidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISIS</td>
<td>19%</td>
</tr>
<tr>
<td>Taliban</td>
<td>4%</td>
</tr>
<tr>
<td>Ukrainian separatists</td>
<td>3%</td>
</tr>
<tr>
<td>Al Shabaab</td>
<td>3%</td>
</tr>
<tr>
<td>Houthis rebels</td>
<td>3%</td>
</tr>
</tbody>
</table>

Due to AOAV’s methodology, 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 are recorded. 765 incidents committed by non-state actors were not claimed by any group, out of a total of 1,377 incidents.

Countriesthird with between 1,001 and 2,000 incidents
Afghanistan 300, India 139, Iraq 640, Pakistan 196, Somalia 101, Syria 1750, Yemen 203

Countriesthird with between 41 and 100 incidents
Nigeria 49, Philippines 60, Ukraine 89

Countriesthird with between 11 and 40 incidents
Burundi 11, Egypt 33, Gaza 12, Kenya 18, Libya 16, Saudi Arabia 24, Thailand 22, Turkey 32

Countriesthird with between 2 and 10 incidents
Algeria 2, Armenia 2, Azerbaijan 6, Bahrain 4, Bangladesh 6, Burkina Faso 3, Burma 9, Cambodia 2, Cameroon 10, China 2, Colombia 7, Ethiopia 3, Israel 4, Italy 2, Jordan 2, Lebanon 6, Mali 10, Malta 2, Nepal 8, Russia 6, South Sudan 2, UK 2, USA 8, Venezuela 4, West Bank 3

Countriesthird with 1 incident
Canada 1, Central African Republic 1, Chile 1, France 1, Germany 1, Greece 1, Indonesia 1, Jamaica 1, Malaysia 1, Montenegro 1, Niger 1, Papua New Guinea 1, South Africa 1, South Korea 1, Sri Lanka 1, Sudan 1
In 2017, 92% of casualties in populated areas were reported as civilians. This is compared to 20% in other areas.

Civilian deaths and injuries in populated areas, represented 93% of all reported civilian deaths and injuries.

7,196 civilians were killed or injured in homes or in residential areas in 2017 – a rise of 25% from 2016.

In 2017, AOAV recorded 2,601 child deaths and injuries in 851 incidents.

Figure 5  Total casualties by populated area / non-populated area

We just want to live, be safe and secure. There was no Daesh in his house, not even on the roof. And it still got the airstrike.

Mubashar Thanoon, survivor of airstrikes in west Mosul.36

Figure 5  Total casualties by populated area / non-populated area

Civilian deaths and injuries in populated areas, represented 93% of all reported civilian deaths and injuries, demonstrating the disproportionate effect of explosives deployed in populated areas.

The percentages are consistent with the pattern of harm previously recorded by AOAV. In every year of AOAV’s Explosive Weapons Monitoring Project, the use of explosive weapons in populated areas has proven particularly lethal to civilians. In 2011, 84% of deaths and injuries in populated areas were reported as civilians; in 2012, 2013, 2014, 2015, and 2016 this rose to 91%, 93%, 92%, 92% and 92% respectively.

When explosive weapons were used in populated areas in 2017, 92% of casualties (both deaths and injuries) were civilians. In other areas civilians accounted for 20% of casualties. This has been a consistent trend throughout each year of recording. Despite this, the majority of incidents - 68% in 2017 - continue to be perpetrated in populated areas.

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As in previous years, the majority of incidents recorded in residential areas in 2017 were high-casualty attacks in Syria. Last year, the number of civilian casualties recorded in residential areas in Iraq was only slightly behind Syria, after an increase of over 500% compared to the previous year.

Despite the number of casualties in Iraq, 47% of all incidents recorded in residential areas took place in Syria last year (886 incidents).

It was air-launched explosives that accounted for the majority (56%) of the incidents recorded in residential areas in Syria. They also accounted for 72% of the recorded civilian deaths and injuries in residential areas, with ground-launched explosives accounting for a further 18%. It was Raqqa that saw the most explosive violence in urban residential areas, accounting for 29% of civilian casualties from attacks in these areas in Syria. The increase in civilian casualties from explosive violence in residential areas in Iraq is almost wholly accounted for by the violence in Mosul, where 82% of casualties from such violence were recorded. Of these casualties, 79% were caused by air-launched explosives.

As with bombings on places of worship, 26% were recorded in Pakistan, 25% in Egypt, and 22% in Afghanistan.

MARKET BOMBINGS
Like previous years, 2017 saw about 3% of all incidents recorded in markets, with 100 incidents reported. These incidents resulted in 2,345 civilian deaths and injuries.

As with bombings on places of worship, in market bombings, 97% of those killed or injured were civilians.

64% of all civilian deaths and injuries from market bombings were recorded in just two countries: Iraq (38%) and Pakistan (26%).

The majority occurred in Iraq where 892 civilians were killed and injured in 55 market bombings. Of these casualties, 88% were caused by IEDs. In Pakistan, 95% were caused by IEDs.

WOMEN
The majority of media sources did not include reporting of the age or gender of any victims in 2017.

Women were reported among those killed and injured in 788 incidents, including those incidents where no figure was given. Overall, 1,389 women were reported killed or injured. This figure does not include armed actors. Likewise, it does not include, for example, female suicide bombers in Nigeria.

The majority of women who were killed or injured were the victims of attacks in populated areas. When women were specifically reported as killed or injured, it was found that 90% were in incidents in areas recorded as populated.

CHILDREN
In 2017, AOAV recorded 2,601 child deaths and injuries in 851 incidents. Of these, a gender was given for 304 individuals, of whom 151 were girls and 153 were boys.

The rest were reported without specifying gender. In 94 incidents, no figures were given for numbers of children killed or injured but children were reported to be amongst the victims. Of the incidents reported that saw children killed or injured, 90% took place in populated areas.

It must be stressed that the use of explosive weapons that impact a wide area particularly endangers civilians, even if these weapons are directed at a military objective.

RESIDENTIAL
The highest number of civilians killed and injured was from incidents in residential areas or civilian houses. AOAV recorded 815 such incidents in 2017, a rise of 121% from 2016. These incidents resulted in 7,196 civilian deaths and injuries, a rise of 25%.

Of the total casualties recorded in places of worship in 2017 (2,444), 49% were caused by IEDs, with a further 39% caused by three attacks which used multiple types of explosives – all three incidents included the use of suicide bombings and grenades, as well as guns.

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methods are used to deploy explosive weapons. AOAV also records reported casualties of landmines. These are excluded from analysis in the following sections.\(^\text{39}\)

Figure 7: Civilian casualties by weapon type in 2017

<table>
<thead>
<tr>
<th>Weapon type</th>
<th>Civilian casualties</th>
<th>Average civilian casualties per incident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air-launched</td>
<td>14,342</td>
<td>9</td>
</tr>
<tr>
<td>Air Strike</td>
<td>13,891</td>
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</tr>
<tr>
<td>Air-dropped bomb</td>
<td>287</td>
<td>4</td>
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<tr>
<td>Artillery shell</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Missile</td>
<td>96</td>
<td>11</td>
</tr>
<tr>
<td>Multiple explosive weapons</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rocket</td>
<td>65</td>
<td>9</td>
</tr>
<tr>
<td>Ground-launched</td>
<td>3,813</td>
<td>4</td>
</tr>
<tr>
<td>Artillery shell</td>
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<tr>
<td>Grenade</td>
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<tr>
<td>Missile</td>
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<tr>
<td>Mortar</td>
<td>655</td>
<td>5</td>
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<tr>
<td>Multiple explosive weapons</td>
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<td>4</td>
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<tr>
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<td>4</td>
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<tr>
<td>RPG</td>
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<td>Shelling</td>
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<td>Tank shell</td>
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<td>Multiple explosive weapons</td>
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<td>Non-specific IED</td>
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<tr>
<td>Roadside bomb</td>
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<tr>
<td>Mine</td>
<td>228</td>
<td>2</td>
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<tr>
<td>Multiple types</td>
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<td>33</td>
</tr>
<tr>
<td>Naval-launched</td>
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<td>6</td>
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<tr>
<td>Missile</td>
<td>1</td>
<td>1</td>
</tr>
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<td>Rocket</td>
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<tr>
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<td>58</td>
<td>8</td>
</tr>
<tr>
<td>Rocket</td>
<td>12</td>
<td>3</td>
</tr>
</tbody>
</table>
Air-launched explosive weapons killed and injured 14,342 civilians in 2017 (45% of all recorded).

Civilian deaths and injuries from aerial explosive weapons in 2017 rose by 44% from 2016 levels.

For the first year, air-launched weapons caused more civilian casualties than any other weapon type.

17 countries and territories saw deaths and injuries in 2017 from air-launched explosives.

DEATHS AND INJURIES
Air-launched explosive weapons include a wide variety of ordnance, from bombs dropped out of planes or helicopters, to missiles fired by unmanned drones. Consistent with broader trends, AOAV recorded 1,647 incidents of air-launched weapon use in 2017 – a 143% rise from the year before. This increase can probably be attributed to the increased campaigns across Syria, where air-launched incidents increased by 262%.

This increase though was accompanied by a smaller increase in civilian deaths and injuries globally – 44% - compared to 2016. A total of 14,342 civilian deaths and injuries were recorded in incidents involving air-launched weapons. Air-launched weaponry accounted for 45% of all civilian deaths and injuries recorded worldwide.

In total, AOAV recorded 20,799 total deaths and injuries from aerial explosive weapons in 2017. Civilians accounted for 69% of these casualties, a slightly higher share than previous years.43

In 2017, 68% of incidents using air-launched weaponry were recorded in populated areas, demonstrating a marked shift from previous years. In 2016, the percentage was 49% - 43% in 2015, and 47% in 2013. Only 2014 appears to have reached a similar level, with the figure reaching 63%, which was likely accounted for by the intensity of Israel’s Operation ‘Protective Edge’ in Gaza.

COUNTRIES
The majority of civilian casualties from air-launched explosive weapons in 2017 were recorded in Syria (see Figure 9). Yemen and Iraq also saw significant casualty numbers. Notably, in previous years Iraq – similarly to Afghanistan – saw more armed actor deaths and injuries from air-launched explosives. However, this was not the case last year, with civilians accounting for 65% of deaths and injuries from airstrikes in Iraq – almost all of these occurred in Mosul.

The use of air-launched explosives on densely populated cities in Iraq and Syria is responsible for the majority of civilian casualties from such weapons. The civilians killed and injured by air-launched weapons in Syria account for 61% of all civilians killed or injured worldwide by such weapons.

In Yemen, since the Saudi-led coalition began Operation Decisive Storm in March 2015, civilian figures from air-launched weaponry in Yemen remain very high. This intervention has been widely criticised for indiscriminate targeting of civilian areas and the use of internationally-banned cluster bombs. Whilst the number of casualties continue to decrease since 2015, this may be due to lack of access for journalists, reporting fatigue and the huge levels of displacement as people move to less impacted areas.44

USERS
When aerial explosive weapons were used in areas reported as being ‘populated’, 93% of those killed and injured were civilians – a slight decrease from 2016, when the figure was 95%. In areas that were not recorded as populated, that figure dropped to 15%.

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In March to May 2017, alleged Russian incidents fell by 75% - most likely a result of the Syria ceasefire in place. The decrease in casualties per attack may also be due to the reduction in reporting on injuries from each attack, which is generally greater than the number of people killed.

As was the case in 2016, identifying perpetrators in Syria is not clear cut. Russian and Syrian planes launch raids against similar targets, and Russia rarely admits responsibility for attacks. This also explains the reduction in civilian deaths attributed to the Syrian regime. However, this does not mean that the harm from Syrian airstrikes has decreased. Further, where air-launched incidents were attributed to Syria, over 99% of the casualties were civilians.

In contrast, Russian forces are quicker to claim responsibility for attacks on armed actors, with 793 armed-actor deaths and injuries attributed to Russian airstrikes. Due to the lack of attribution in Syria the US-led coalition was the most prolific user of air-launched weaponry globally in 2017, accounting for 18% (301 incidents) of all incidents recorded. Individual member states of the coalition are not typically specified in reporting. Additionally, AOAV recorded a substantial increase in the total air strikes attributed to the US-led coalition resulting in a 257% increase in civilian deaths from such air strikes compared to 2016.

The increased number of attacks, with fewer casualties per attack (8 casualties per incident in 2017, versus 23 per incident in 2016), might be reflective of the increased activity of the US-led coalition in Syria, and of a larger number of ‘precision’ sorties compared to Russia or Syrian attacks, as well as clearer fatality recording mechanisms.

Figure 8 Worst five countries for air launched weapons in 2017

![Figure 8](image_url)

The number of incidents of air-launched weapons used in Syria increased from 274 in 2016, to 991 in 2017, resulting in an increase of civilian deaths and injuries of 37%, from 6,382 in 2016, to 8,789 in 2017.
Ground-launched explosive weapons were responsible for 3,813 civilian deaths and injuries in 2017 (12% of the total recorded). 79% of those killed and injured were civilians. In populated areas this figure rose to 92% – compared to 26% elsewhere.

AOAV recorded casualties from ground-launched explosive weapons in 34 countries and territories in 2017. Almost half (45%) of these deaths and injuries were in Syria.

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, these weapons reportedly killed and injured 4,832 people in 2017: 3,813 of whom were civilians (12% of all recorded civilian deaths and injuries).

This figure is almost half of what it had been in 2016, largely due to a fall in reported civilian casualties in Syria as a result of ground-launched weapons (from 4,447 civilian casualties in 2016, to 1,734 in 2017). In 2017, civilians made up 79% of all those killed or injured by ground-launched weapons.

As in previous years, ground-launched attacks were more likely to be reported in populated areas than other kinds of incident. 77% of all ground-launched incidents recorded were reported as taking place in populated areas, compared to 68% of air-launched incidents and 63% of IED incidents.

COUNTRIES

AOAV recorded casualties from ground-launched explosive weapons in 34 countries and territories in 2017. Almost half (45%) of these deaths and injuries were in Syria. Iraq and Pakistan were also badly affected.

Ground-launched explosive weapons were used almost equally by state and non-state actors in 2017. Non-state actors were recorded as responsible for 38% of incidents and state actors for 37% – the remainder being unattributed or caused by both non-state and state use of ground-launched explosives.

NON-SPECIFIC SHELLING

Non-specific shelling accounted for almost half (48%) of civilian deaths and injuries from ground-launched weaponry – a similar figure to 2016. 63% of all non-specific shelling caused deaths and injuries occurred in Syria. It is likely that the levels of violence and lack of journalistic access has impacted on the nature of reporting, meaning details such as the type of shelling are often missed.

Grenades, mortars and rockets also caused a significant amount of civilian harm, responsible for 671 (18%), 655 (17%) and 218 (6%) civilian casualties respectively, compared to 830 (12%), 888 (13%) and 1,072 (15%) in 2016.
DEATHS AND INJURIES
In 2017, AOAV recorded 14,724 deaths and injuries from IEDs. Civilians continue to bear the brunt of such attacks, accounting for 80% of all casualties (11,791). Overall, this represents a drop from the previous year. In 2016, AOAV recorded 19,246 deaths and injuries as a result of improvised explosive devices, of which 14,301 were civilians (74%).

Although 2016 saw an increase of 1% in recorded deaths and injuries compared to 2015, 2017 again continues a largely unbroken downward trajectory that began in 2013. Additionally, for the first year in AOAV’s recording, IEDs did not cause the majority of civilian casualties.

However, despite this, there was a slight increase in the number of IED incidents recorded compared to the previous year.41

After a rise in armed actor deaths and injuries from IED attacks in 2016, last year the number of such casualties again decreased returning to rates seen in previous years.

As with other kinds of weapon, IEDs caused particularly high levels of civilian harm when used in populated areas, which was the case in 63% of all recorded attacks – totalising some 669 incidents. In these incidents, 90% of reported deaths and injuries were civilians, contrasting with 30% in other areas. On average, IED incidents in populated areas killed or injured 17 civilians per attack.

COUNTRIES
In 2017, IEDs resulted in at least one casualty in 47 different countries and territories, one less than in 2016. Figure 10 shows the seven countries that saw the most civilian casualties from IEDs in 2017.

In 2017, five countries had seen more than 1,000 civilian deaths and injuries from IED attacks: Afghanistan, Iraq, Syria, Somalia, and Pakistan.

For the first year since AOAV’s Monitor began, Afghanistan was the country worst impacted by IEDs, with the most civilian casualties from this weapon type – despite Iraq seeing the most IED incidents. This is largely due to large-scale suicide attacks in Kabul. In fact, 63% of IED casualties in Afghanistan occurred in Kabul. Suicide attacks alone were responsible for 84% of civilian casualties from IEDs in Afghanistan.

Iraq continued to be badly affected by IED incidents, including both suicide and non-suicide IED attacks.

However, the number of civilians killed or injured by IEDs in Iraq decreased by almost 50%. Likely reflecting ISIS’s loss of ground in the country – though Syria saw very little difference in the number of civilian casualties from IEDs last year compared to 2016. Somalia, however, saw the number of civilian casualties from IEDs continue to increase. After the number of civilian casualties from IEDs in Somalia increased 132% in 2016, last year AOAV recorded a further 130% increase. This means that, compared to 2015, the number of civilian casualties from IEDs in Somalia increased 132% in 2016, last year AOAV recorded a further 130% increase. This means that, compared to 2015, the number of civilian casualties from IEDs in Somalia rose by over 400%. The worst incident recorded by AOAV globally in 2017 was a truck bomb attack targeting Mogadishu, which killed or injured over 800 civilians.

Whilst Boko Haram’s violence impacted countries such as Nigeria, Cameroon and Chad, these countries continued to see significant decreases in IED incidents.

Users
IEDs were exclusively used by non-state actors in 2017. AOAV recorded IED usage by 35 non-state entities.

Of the 349 incidents for which responsibility was assigned, 48% were attributed to ISIS groups. The largest numbers of civilian deaths and injuries were caused by ISIS (51%), the Taliban (15%) and Lashkar-e-Jhangvi (8%).

Figure 10 Top seven countries for civilian IED casualties in 2017

CIVILIAN DEATHS AND INJURIES
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For the majority of IED incidents no detonation mechanism was reported. Often the detonation mechanism is not clear after a bomb has exploded, and even if there is a local capacity to investigate a lack of follow-up or security concerns means this information never makes it to publication. Nonetheless, AOAV recorded detonation mechanisms for 45% of reported incidents. AOAV’s findings from previous years.

VICTIM-ACTIVATED IEDS

Victim-activated devices are most commonly detonated when a person or animal stands on them, or when they are driven over.46 IEDs detonated in this fashion are considered as de facto antipersonnel mines under the Mine Ban Treaty and are therefore prohibited under international humanitarian law.47 Their random trigger mechanism means that they cannot distinguish between armed actors and civilians, and as such are inherently indiscriminate.

Figure 11 shows the locations where the most civilian harm resulted from IED attacks. Surprisingly, IED attacks on roads caused the highest number of civilian deaths and injuries in 2017. AOAV recorded 262 incidents of this kind resulting in 2,693 deaths and injuries, of which 73% were civilians. Whilst most IED incidents were recorded as roadside bombs and more general non-specific IEDs, this is to be expected as these areas often have a particularly dense concentration of civilians.

DELIVERY METHOD AND DETONATION SYSTEM

AOAV’s recording distinguishes between car bombs,44 roadside bombs and more general non-specific IEDs. The majority of incidents (58%) reported were recorded as non-specific IEDs. Roadside bombs accounted for a further 25% and car bombs for 16%. As is typically the case given their greater payload capacity, car bombs were again the most fatal kind of IED for civilians, killing and injuring on average 29 civilians per incident.

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AOAV recorded 157 incidents involving victim-activated IEDs in 2017, or 4% of the total number of victims from IEDs and 4% of the total number of explosive violent incidents worldwide. In 2017, victim-activated IEDs resulted in the lowest average civilian deaths and injuries per incident, with an average of 3 civilians being killed or injured in each attack. This is consistent with AOAV’s findings from previous years.

COMMAND-OPERATED IEDS

These are detonated generally by radio signals or command wire. AOAV divides these IEDs between those detonated by remote-control or command, 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 from incidental harm.

AOAV recorded an average of 3 civilian deaths and injuries per remote-detonated IED attack in 2017. Even where they are used to target armed actors, civilians were often killed or injured by these IEDs in 2017, either because of their large blast effects or the deployment of these weapons in populated areas.

In 2017, 41% of remote-detonation incidents recorded took place on roads. Remotely-detonated IEDs are particularly harmful to civilians when used in populated areas. In those attacks 80% of those harmed were civilians (239 in total), compared to 24% in non-populated areas (176 in total).

SUICIDE BOMBINGS

Suicide bombings, including car bombs operated by suicide bombers, are a form of command-operated IEDs. In total AOAV recorded 244 suicide bombings in 2017, killing a reported 8,726 people. 7,262 of those killed and injured were civilians (83%), representing a decrease of 25% compared to 2016.48

On average, 30 civilians were killed and injured by each suicide bombing – 8 fewer than in 2016, when the average was 38.

However, we must be cautious of this figure. In 2017, AOAV also recorded six incidents in which multiples weapons were used including suicide bombs – these account for a further 1,206 civilian casualties. If such multiple attacks were listed as ‘suicide bombs’ the overall figures would be higher.

Although suicide bombings represented only 23% of all IED incidents recorded, they accounted for 62% of all deaths and injuries from IED attacks.

63% (154 incidents) of the suicide bombings reported were recorded as non-specific IEDs, which, in the case of suicide bombings, largely refers to suicide vests. 36% (87 incidents) were recorded as car bombs. Non-specific suicide IED attacks caused an average of 23 civilian deaths and injuries per incident, whilst suicide car bombs caused an average of 39.

AOAV recorded suicide attacks in 20 countries. The countries worst affected by suicide bombings in 2017 were Afghanistan (2,172 civilian deaths and injuries), Iraq (1,294), Somalia (1,111), Syria (746), and Pakistan (617).

After a consistent increase in civilian casualties from suicide attacks since 2013, in 2017 Afghanistan was the country worst impacted by suicide bombings. Afghanistan saw a 64% rise in civilian deaths and

I was only discharged from the hospital two weeks ago and now I cannot drive. Even my name has changed because people call me Jeeri [Lame]. I was planning to marry, so I used to keep some savings. All that money is gone now. My car was burnt. Nothing remains for me. October 14 is the day of the disaster which ruined my future.

Mohamed Abshir Ome, a 35-year-old taxi driver, had his right leg amputated after the Mogadishu truck bomb on October 14th.49
Globally, civilians continue to suffer disproportionately when explosive weapons with wide area effects are used in populated areas.

For the first time since AOAV began the Explosive Weapons Monitor project, air-launched weapons outdid both ground-launched and improvised explosive devices in terms of the numbers of deaths or injuries caused. With increased bombing by US-led Coalition forces in Syria and Iraq, Russian and Syrian forces in Syria, bombing by Saudi Arabia in Yemen, and perpetuated instability and the use of explosive weapons in Afghanistan, Pakistan, Somalia, Nigeria and Egypt, it is tragically unsurprising that AOAV recorded the highest number of civilian deaths seen across the seven years. 2017 saw a 38% increase in the number of civilian deaths from explosive violence compared to the previous year, or a 165% increase compared to 2011.

In some way this reflects how the nature of conflict has changed. Most people now live in cities, and most civilians are killed or injured by the use of explosive weapons in or around built-up areas. When explosive weapons were used in populated areas, 92% of those killed and injured were civilians. This compares to 20% in other areas. Civilian deaths and injuries in populated areas represented 93% of all reported civilian deaths and injuries in 2017.

In such contexts, even when a ‘precision’ weapon is used, and rigorous targeting procedures claimed to be utilised in towns and cities, it’s highly unlikely for civilians not to be killed or injured. In situations where people escape death or injury, the use of explosive weapons may still disrupt lives irrevocably by destroying key infrastructure and depriving communities of water, sanitation, electricity or medical care. Needless to say, such reverberating effects take their toll on livelihoods, economies and a sense of security – they disrupt lives for decades to come.

Although the number of casualties resulting from the use of IEDs fell in 2017, their continued use by non-state actors remains a source of concern, including in countries in Western Europe. IEDs, by their very nature, cause direct and indirect harm – they are a tactical and a strategic weapon, and their effects permeate beyond tragic deaths and injuries. Boko Haram continues to blight security in northern Nigeria where it favours the use of suicide IEDs to kill, maim, spread insecurity and retains power. 49 attacks in 2017 in Nigeria killed or injured 1,488 people. Boko Haram was responsible for at least 12 of these incidents, though the figure is likely to be higher as they rarely claim attacks. While the rise of IED usage in Afghanistan is likely to continue, and to claim more lives in so doing.

Overall, the tragic reality is that numbers of civilians killed or injured by air and ground-launched explosive weapons, as well as by IEDs, is almost certainly higher than the 42,972 that AOAV has recorded.
“During the last two months, military operations turned into a process of systematic targeting of civilians. Most air raids have intentionally targeted civilian residential buildings. Whole families have died under the rubble… There are entire families being targeted. A mother and her three children. Four pregnant women; one died, another is in a critical condition, the third lost her baby, and the fourth is under observation. A young girl lost both eyes, and it’s continuing.”

In this 2017 publication, AOAV has sought to use numbers and statistics to illuminate the suffering caused by explosive weapons. Inevitably, as we sift through information and mark trends and troughs, it becomes easy to see each number as another piece of data, as another chalk mark scratched on a wall, not as another human casualty. The international community must not only take note of the scale of the figures we have included in this report, but be cognisant of the fact that each number represents a life, frequently young, and almost always a civilian.

As a member of the International Network on Explosive Weapons (INEW), AOAV 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.

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.

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 help track, collect, analyse, investigate, and report systematically on violations of international humanitarian law to enhance compliance and accountability.

More research is needed to better understand the long-term harm from explosive weapons, including the impact of these weapons on vital infrastructure and services, public health, economic livelihoods, and environmental contamination. More funding support for NGOs working on data collection, investigations and victim assistance is necessary to advance collective understanding of the impacts of explosive weapons in populated areas.

AOAV has demonstrated over seven years the importance of systematic and continuous monitoring of explosive violence and its impacts in populated areas. This monitoring must continue in order to assess whether recommendations are put into effect.

### Recommendations

- States and other actors should stop using explosive weapons with wide area effects in populated areas.
- Previous AOAV reports have shown the impact that strong, progressive rules of engagement can have in limiting the impact of explosive weapons on civilians. States should review and make available national policies and practices related to the use of explosive weapons in populated areas, and make changes that will strengthen the protection of civilians.
- States should endorse the UN Secretary-General’s and ICRC’s recommendation that states should avoid the use of explosive weapons with wide area effects in populated areas.
- States, international organisations and civil society should work together to further a process to develop an international political commitment to reduce the impact on civilians from the use of explosive weapons, including stopping the use in populated areas of explosive weapons with wide area effects.
- States should also routinely report on every civilian casualty caused by their use of explosive weapons.
- States should be cognisant of the fact that even where civilians have not been killed or injured as a result of explosive violence, the reverberating effects of attacks may have an impact on infrastructure and civilians’ daily lives.
- States and international organisations should publicly condemn the use of explosive weapons with wide-area effects in populated areas.
- 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. This includes measures to address the security of stockpiled ammunition and munitions, coordinated efforts towards the control of source materials, and more systematic data collection and data sharing.
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. 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 weapons; the 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 2017.

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.

RECORDING GUIDELINES

Civilian/armed actor or security personnel:

All casualties are assumed to be civilians unless otherwise stated. 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 was 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:

- It is stated in the source (e.g. a busy street, a crowded market).
- 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 in camps or columns of refugees or evacuees, or groups of nomads.”

User status:

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

- 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 AOAV. There is no systematic base-line for determining what constitutes an injury, and AOAV 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 AOAV always tries to determine the casualties specifically caused by explosive weapons, in these incidents new sources are not always able to clarify
an area as being populated. AOAV’s guidelines for recording

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.14

AOAV is focused on capturing the harm caused by

the use of a weapon at the time of use. Accidental
detonations are recorded but not included in the

overall figures.

Last year, AOAV recorded 82 accidents of incidental
detonation resulting in 408 deaths and injuries, 246

of whom were civilians.

Explosive weapons that fail to explode as intended

can also cause unintended harm to civilians. AOAV

recorded one stockpile explosion in 2017.

Poorly secured or stockpiled explosive weapons

can also cause unintended harm to civilians. AOAV

recorded one stockpile explosion in 2017.

1 Poorly secured or stockpiled explosive weapons can also cause unintended harm to civilians. AOAV recorded one stockpile explosion in 2017.


Notes

References


4 The definition of a populated area used by AOAV is based on Protocol II 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 colonies 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 II),” IATG, Geneva, 10 October 1980, posted by U.S. Department of State, world.state.gov/documents/organization/100679.pdf (accessed 16 May 18). AOAV’s guidelines for recording an area as populated are included in the Methodology.

5 The category of ‘mines’ includes both antipersonnel landmines and antivehicle mines. In many incidents, news sources often report what were likely actually victim-activated IEDs as ‘mines’ or in ambiguous language and it is not clear in many incidents whether these incidents involve manufactured or improvised explosive weapons.

6 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.


8 Rockets, both air and ground-launched, are defined as “munitions consisting of a rocket motor and a payload, which may be an explosive warhead or other device. The term often includes both guided and unguided missiles, although it traditionally referred to unguided missiles.” International Ammunition Technical Guideline, “Glossary of terms, definitions and abbreviations,” United Nations Office for Disarmament Affairs, ATOS 01.42:2015(E) 2nd Edition (2015-02-01) https://unodc-web.s3-accelerate.amazonaws.com/wp-content/uploads/assets/convams/Ammunition/ATOS/docs/ATOS01_42-G.pdf (accessed 16 Mar, 18).


10 A populated area is one that is likely to contain concentra-
tions 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 35.


22 In alphabetical order the 59 countries are: Afghanistan, Albania, Armenia, Azerbaijan, Bahrain, Bangladesh, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, the Central African Republic, Chile, China, Colombia, Croatia, Cyprus, Czech Republic, Denmark, Germany, Greece, India, Indonesia, Iraq, Israel, Italy, Jamaica, Jordan, Kenya, Lebanon, Libya, Malaysia, Mali, Matta, Montenegro, Naiap, Nipal, Nigeria, Pakistan, Papua New Guinea, Philippines, Russia, Saudi Arabia, Somalila, South Africa, South Korea, South Sudan, Sri Lanka, Sudan, Syria, Thailand, Turkey, UK, UAE, Venezuela, West Bank, and Yemen.

23 These only include casualties from an explosive weapon at its time of use. AOAV also records impacts of unexploded ordnance (UXO) and abandoned ordnance (AXO), and from unattended or mismanaged stockpiles. These casualties are excluded from the primary analysis in this report, but are documented on page 37.

24 In alphabetical order these were: Algeria, Burkina Faso, Central African Republic, Chile, Ethiopia, France, Dzaa, Germany, Greece, India, Indonesia, Iraq, Iran, Italy, Jordan, Kyana, Lebanon, Libya, Malawi, Mali, Matta, Montenegro, Naiap, Nipal, Nigeria, Pakistan, Papua New Guinea, Philippines, Russia, Saudi Arabia, Somalila, South Africa, South Korea, South Sudan, Sri Lanka, Sudan, Syria, Thailand, Turkey, UK, Ukraine, USA, Venezuela, West Bank, and Yemen.


Two siblings walk in an area near Mosul’s front line. Areas that were recently retaken from ISIS by the Iraqi government still remain dangerous and in dire need of humanitarian aid. Photo: EU/ECHO/Peter Biro.
36 Barrel bombs, which are improvised makeshift weapons that

34 Abu Sayyaf (Philippines), Al Shabaab (Kenya, Somalia),


27 See here: https://acow.org.uk/2017/explosive-violence-

35

26 Reuters, ‘U.N. says 300 civilians killed in U.S.-led air


33 crimes/u-n-says-300-civilians-killed-in-u-s-led-air-strikes-in-


31 Business Standard, ‘Egypt mosque attack: Toll in firing by

29 number of armed actors killed or injured was not recorded.

28 number of armed actors killed or injured was not recorded.


26 Independent, ‘Manchester attack survivors say they watched


24 Abu Sayyaf (Philippines), Al Shabaab (Kenya, Somalia),

23 Al-Islah (Yemen), Imam Shamil Battalion (Russia), BIFF (Philippines), Boko Haram (Cameroon, Nigeria), CPI: niakal (Ivory), ELN (Colombia), Huthi (Yemen), Houthi rebels (Saudi Arabia, Yemen).

22 In many incidents, news reports describe the possibility that armed actors were among those killed and

21 barrel bombs’ in fact designate improvised weapons or conventional aircraft bombs with similar wide-area effects.

20 The category of ‘mines’ includes both antipersonnel landmines and antivehicle mines. In many incidents, news

19 in 2015 the share was 62%.

18 see International Campaign to Ban Landmines, ‘Landmine Monitor 2017’, types of mine use around the world see International

17 incidents whether these incidents involve manufac-

16 number of armed actors killed or injured was not recorded.

15 barrel bombs’ in fact designate improvised weapons or conventional aircraft bombs with similar wide-area effects.

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2 barrel bombs’ in fact designate improvised weapons or conventional aircraft bombs with similar wide-area effects.

1 barrel bombs’ in fact designate improvised weapons or conventional aircraft bombs with similar wide-area effects.


35 The Sun, ‘Survivors of Manchester Arena bomb terror and

34 those who lost loved ones share stories of joy and tragedy’,

33 December 01 2017, https://www.thesoan.co.uk/news/


30 In 2016, 903 incidents were recorded, whilst in 2015, 932 IED incidents were recorded, and in 2014, 1,131 were recorded.

29 ‘Car bombs’ 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.

28 33 percent of IED attacks with a reported mode of detonation in 2017 were triggered by victim-activation

27 Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their

26rial bombings.

23 barrel bombs’ in fact designate improvised weapons or conventional aircraft bombs with similar wide-area effects.

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