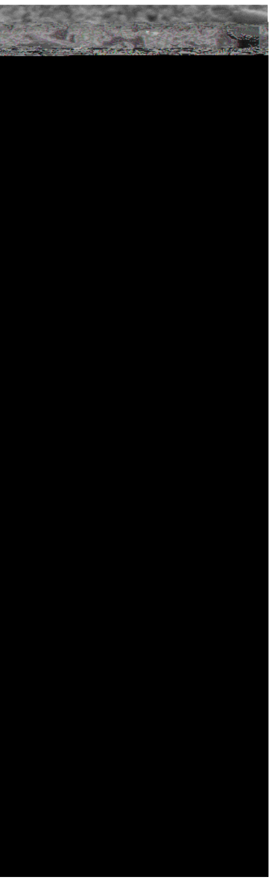

Introduction

Contamination from explosive remnants of war (ERW), unexploded ordnance (UXO), improvised explosive devices (IEDs), and landmines poses an enduring threat to a population long after violence has ended[2]. Remaining contamination from these explosive weapons can continue to kill and injure people for years to come and limit a

While on-the-ground assessments, surveys, and clearance operations remain the most effective ways to mitigate the physical threat of explosive weapons contamination, these efforts can be challenging in the Syrian context because of access and security constraints.

Organizations have turned to desk-based studies to plan future operations that can be carried out when conditions improve, as well as to help prioritize risk-education programs.

The Carter Center aims to contribute to these efforts by analyzing and visualizing its own data on explosive weapons use in Syria between 2013 and 2019. This will provide a minimum representation of the number, type, and distribution of explosive munitions uses in Syria, recorded to the neighborhood level for the whole of Syria using U.N. Office for the Coordination of Humanitarian Affairs (UNOCHA) administrative boundary standards.

This project provides a detailed view of the minimum scale and complexity of explosive weapons use in Syria. This, in turn, can help with identifying and prioritizing areas that are potentially at risk from explosive weapons contamination and require on-the-ground assessments. However, one must keep in mind that a variety of factors contribute to the risk of explosive weapons contamination, including ground type, firing conditions, and munitions used.

Methodology

As the second report in a series exploring explosive weapons use in Syria between July 2013 and May 2019, this focuses specifically on Damascus city and the surrounding Rural Damascus Governorate.

The Center examined 16,147 conflict events in these areas, collected primarily through open-source investigation by the the publicly available Armed Conflict Location & Event Data Project (ACLED). Below is an example of the method used to estimate number of explosive weapons per conflict event:

> One conflict event from the Syrian Observatory for Human Rights that states,
> Forces shelled Duma City on 3 February 2016 using 30 artillery shells, 20 mortars and 5 rockets
> was recorded as 65 individual uses of explosive munitions (30 artillery shells, 20 mortars, 5 rockets, 10 airstrikes).

While much of the data contains specific numbers of munitions used in an event, some does not. In those cases, the number of explosive munitions was estimated by assigning a maximum count of 3 to any mention of plural munitions use. For example:

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[2] For definition of frequently used terms in these reports, please see Appendix 1 in our first report, Explosive Munitions in Syria

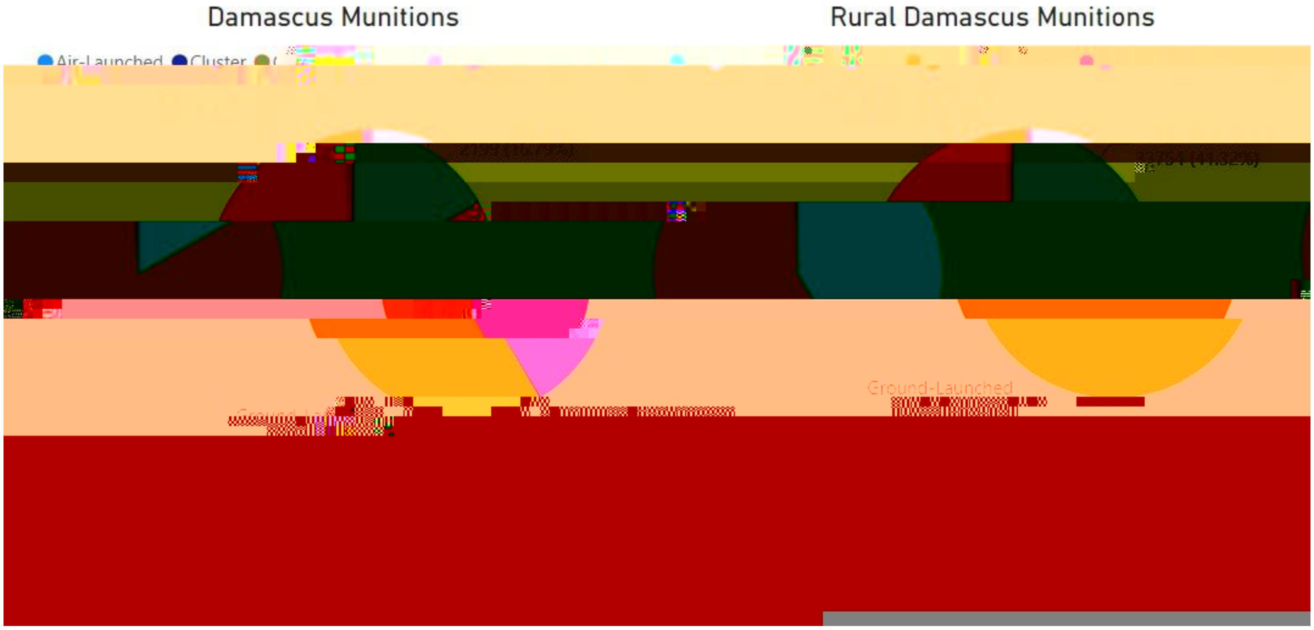

Figure 2: Breakdown of munitions categories by governorate and total number of munitions.

The geographical spread of recorded explosive munitions uses around Damascus city and Rural Damascus Governorate shows impact on at least 273 communities or neighborhoods. Nearly 70% (65,060) occurred within just 19 locations around Damascus city and Rural Damascus Governorate. Of the 65,060 munitions that impacted those 19 locations, 15% targeted Darayya city, which lies southwest of the capital, an area just 3 km by 3 km. The remaining 30% (27,958) of estimated munitions use occurred across 181 communities in Rural Damascus Governorate and 74 communities or neighborhoods around Damascus city. Figure 3 highlights these locations, while Figure 4 plots the locations of munitions use by subdistrict. The next sections will explore community-specific impact around Damascus city and Rural Damascus Governorate, respectively.

Figure 3: Locations that saw nearly 70% of munitions use in Damascus city and Rural Damascus Governorate.

Figure 4: Location of individual munitions uses across Damascus and Rural Damascus governorates, delineated by subdistrict.

Damascus: 1) Eastern Ghouta, 2) areas south of Damascus city, 3) the Wadi Barida Valley to the northwest of the capital, 4) areas between Khan el Shih and Kisweh towns, and 5) the Beit Jan area in the southwest of Rural Damascus Governorate. Over the course of the conflict, government forces sought to regain various towns that had become key hubs for armed groups opposed to the government, with static frontlines often forming for several years.[4]

With the Russian military engagement in the Syrian conflict in late 2015, the government was able to focus on retaking these pockets. These efforts began with the Darayya area in August 2016, moved to areas near Khan El Shih and the Wadi Barida Valley in 2017, followed by the 2018 recapture of Eastern Ghouta, the southern Damascus neighborhoods, and the Beit Jan area. This was achieved through a mixture of military action and political deals, including the well-known reconciliation agreements.

Damascus City

Across the 95 neighborhoods within Damascus city, there were at least 13,094 individual uses of explosive munitions.

Shelling made up the vast majority (82%) of explosive munitions used in the city. Of this, shelling of unknown types was most frequently documented (6,888), as conflict events often described shelling in generic terms. This is followed by rockets of various types (1,911), mortars (1,056), and artillery (852). Air-dropped munitions accounted for 17% of explosive munitions use in the governorate. This activity included primarily airplane-dropped munitions (1,979), followed by helicopter-dropped barrel bombs (220). The remaining 1% of activity consisted of 165 instances of landmines, IEDs, or UXOs, and five other types of ground-launched weapons.

Nearly 70% of munitions use concentrated in the former opposition-held neighborhoods of Jobar, Qaboun, Yarmouk Camp, Barzeh, Tadamon, and Tishreen. Government-controlled areas of the capital also experienced sizable counts of munitions use, especially Qassa , Qadam, Abbasiyeen (Mamouniyah), Adawi, and the Old City, totaling 1,322 munitions uses. The remaining 2,855 munitions used represented 65 other areas of Damascus.

[4] Notable: Duma City served as the headquarters of Jaish al Islam; Khan El Shih, a Palestinian refugee majority city, became the center of Syrian Palestinian resistance to the government (some Palestinian groups also supported the government); Darayya saw some of the first protests in the conflict after Daraa City and, in 2011, after experiencing heavy fighting, became viewed as symbolically important for the opposition movement because of its resistance.

Figure 6: Damascus neighborhoods and location of munitions uses, with point size corresponding to the number of munitions

The spread of munitions use aligns with conflict trends in the capital. Conflict focused predominately in opposition-held areas, including the Jobar, Qaboun, Tishreen, and Barzeh neighorhoods that connected to the opposition stronghold of Eastern Ghouta.[5] The southern neighborhoods of Yarmouk Camp and

Furthermore, the strict security environment in government-held areas of the capital and the capacity of government forces to clear UXOs in the city considerably reduced the risk of remaining contamination. In contrast, in opposition-held areas, the

THE CARTER CENTER SYRIA PROJECTôS CONFLICT MAPPING

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source information related to the Syrian conflict in as much detail as possible, with the goal of assisting mediators and conflict responders with up-to-date, detailed analysis of developments on the ground. Using these publicly available resources, as well as information gleaned from regular consultations with stakeholders, the Center has documented and mapped 155,00 conflict events in Syria, with support from ACLED, as well as the ever-changing relations between armed groups.