The Problem of Landmine Proliferation in Yemen

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Brief Analysis

The United States should take the lead in preventing the spread of landmine use beyond the Arabian Peninsula, thereby upholding decades of norm-building efforts.

In early June 2018, as UAE-led coalition forces were gearing up for anti-Houthi operations in Hodeida, a delegation from Yemen was detailing the challenges it faces from landmines at the Anti-Personnel Mine Ban Convention in Geneva. Since then, the Yemeni government has signed an agreement with a British company to conduct de-mining operations; Saudi Arabia has launched a new project for landmine clearance in Yemen; and the UAE has been conducting mine-awareness seminars in Hodeida. The renewed focus on landmines marks a response to the Houthis' mass production and deployment of their own landmines, thus raising the possibility that landmine clearance—an issue championed in the 1990s and resulting in the 1997 Mine Ban Treaty—will again need to be on the international community's radar.

Origin of Landmines in Yemen

Landmines have plagued Yemen for decades. In the 1960s, they were laid during the civil war in North Yemen and during an uprising in South Yemen. More were planted during conflicts in the 1970s and 1980s, on the border between North and South Yemen before unification in 1990, and again during the 1994 civil war. A de-mining authority in Yemen claims Houthi supporters laid mines in 2010 during the Saada wars, and that al-Qaeda in the Arabian Peninsula (AQAP) used mines in the south in 2011. Mines were also laid north of Sana during the 2011 protests against the government of Ali Abdullah Saleh. To hint at the breadth of the problem, a landmine impact survey conducted in 2000 found 1,078 mine sites in nineteen of Yemen's twenty governorates.

In addition to the sheer number of landmines in Yemen, the country faces the challenge of their disarray.

Conventional forces typically lay mines in a pattern so that they can be collected post-conflict. In Yemen, however, mines have been laid by hand often with no discernible pattern or record. Moreover, cyclones, floods, and other natural disasters can scatter them from their initial locations. As a result, they are found along key roads and battlefields but also in houses, wells, and even toilets. Across the country, tracts of land are made uninhabitable by mines.

Houthi Use of Landmines

The Houthis may not be the first warring party to use landmines in Yemen, but they are using them at an astonishingly high rate. Landmines differ slightly from the more commonly known improvised explosive devices (IEDs). Unlike IEDs, which are defined by how they are made (i.e., “improvised”), landmines are defined by their mode of activation. They are “victim activated,” meaning they are detonated by the presence or contact of a person or vehicle. These definitions can overlap and occasionally do in Yemen, but many of the landmines in Yemen are mass produced, not improvised.

During the course of the current war, the Houthis have laid landmines along the coast, along the border with Saudi Arabia, around key towns, and along transport routes linking back to Sana to create defensive perimeters or set the stage for retreat. Among other examples, Houthi-planted landmines impeded the coalition's progress in Marib in 2015, in Midi and Harad in early 2016, along the border in Saada governorate in 2016, and in Taizz and Hodeida in early 2017. The Houthis also left a trail of landmines as they retreated from Aden, Lahij, al-Bayda, and Marib governorates in 2015 and 2016. Numbers are notoriously difficult to verify in Yemen, but to give a sense of magnitude: a Yemeni de-mining official claims the Houthis have laid 500,000 mines since 2015; de-mining teams have reportedly removed 300,000 landmines; and the Landmine and Cluster Munition Monitor, an initiative that checks compliance with the Mine Ban Treaty, reported about three thousand casualties in 2015-16.

The sheer scale of Houthi landmine use raises questions about their source and supply. Yemen is not supposed to have domestic stockpiles of landmines; after all, in 2002, the Saleh government declared that it had destroyed its stockpiles of four types of antipersonnel mines under its Mine Ban Treaty obligations. Those four types are not generally found in Yemen, but several other types are common, suggesting either the Saleh government kept secret stockpiles of mines or it acquired new ones after 2002. The coalition, for its part, has not laid mines, but it has used cluster munitions.

The Houthis' initial landmine supplies likely originated from these domestic stockpiles. In an April 2017 report, Human Rights Watch refers to the PPM-2, a black, plastic-cased, 5.2-inch-diameter antipersonnel mine made in former East Germany. PPM-2s found in Taizz in October 2015 were marked with manufacturing dates in the early 1980s, suggesting the Saleh government did not destroy them as part of its treaty obligations. Another mine likely from domestic stockpiles is called the TM-57. It is an olive-colored, 12-inch-diameter antivehicle mine made in the former Soviet Union and used frequently by the Houthis, according to Conflict Armament Research (CAR), an independent arms research organization.

Although PPM-2s, TM-57s, and several other mines are common, current rates of replenishment suggest the Houthis may also be mass producing their own mines. According to CAR, the Houthis frequently deploy three mines that are not serialized or otherwise denoted as originating in another country. The first is a mine that resembles the TM-57, although the color and metal type vary from the original and the casing includes a large three-digit Arabic number on the side instead of a proper serial number. These near-replicas are standardized, suggesting they are mass produced in a workshop. Lending further credence to this theory of domestic mass production, the *Yemen Observer* released pictures purportedly showing a top Houthi leader, Saleh al-Sammad, touring a weapons-manufacturing facility in April 2018. (Sammad was killed that same month.) One photo shows dozens of landmine casings that resemble the near-replicas described by CAR.

According to CAR, the two other nonserialized mines frequently deployed by the Houthis are tall and cylindrical in shape. The smaller one is made of PVC pipe and the larger one of metal. Like the TM-57 replicas, these mines are standardized and identical, suggesting mass production, and often marked with the same type of three-digit number. Photos of these mines allegedly collected by the coalition in Hodeida have begun to appear on social media.

(/sites/default/files/imports/PVC-580x252.jpg)

Figure 1: PVC Casings

It is not clear how the Houthis are acquiring the components necessary to make thousands of identical landmines. They may have sourced basic materials, like PVC piping or metal cylinders, from local Yemeni factories. They also may be getting an external supply from a benefactor like Iran. Tracking the origin of the components could help the coalition ultimately cut off the supply.

(/sites/default/files/imports/metal-580x411.jpg)

Figure 2: Metal Casings

Negotiating a Way Forward

Landmines will remain a formidable challenge in the postwar era. As a result, de-mining will be a key issue in peace negotiations, just as it was in Saudi-Houthi talks in 2016. De-mining talks with the Houthis would likely focus on the northern provinces and the Saudi-Yemen border. Separate de-mining talks may also be needed for the south, especially since landmine-removal processes often get tangled up in the controversial politics of landownership there. The United States should encourage these talks.

Although it is a nonsignatory to the Mine Ban Treaty, the United States has led international efforts to disarm mines

in conflict zones since the 1990s and should continue to do so. Ignoring landmine proliferation could seriously weaken decades of norm-building work and encourage copycat efforts in other areas, where the United States has troops deployed. In Yemen, removing landmines could also aid counterterrorism efforts by ensuring groups like AQAP cannot collect them for future use or repurpose them for other types of explosives. Investing in landmine removal—an area where relatively little spending can have a large impact—could also help the United States assert itself as an ally of Yemen with an interest in the well-being and security of civilians in the postwar period. The United States has already given Yemen more than $27 million in de-mining aid over two decades. In the future, Washington should continue to financially support de-mining operations, call for a new landmine impact survey, and help ensure landmine removal continues to be prioritized even as other urgent challenges arise in the war's aftermath.

Elana DeLozier, a Yemen specialist and political analyst, is the founder of the Sage Institute for Foreign Affairs.

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