Promoting Civilian Protection during Security Assistance: Learning from Yemen

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Abstract

For four years, the United States provided the Saudi-led coalition with military equipment and assistance used in its campaign in Yemen. During that time, the US has wrestled with and debated both the legality and wisdom of its support. After four years of conflict in Yemen, the US should be asking: what lessons can be learned from four years of support to the Saudi-led coalition? In light of the significant civilian protection concerns seen in Yemen, is there a way to get better outcomes from security assistance activities? This report aims to answer those questions. We analyze US support to the Saudi-led coalition and identify two gaps in policy and information, respectively. We also examine the timely issue of better protecting health care in the midst of armed conflict. In this report, we provide a policy framework for including civilian protection considerations as part of security assistance.

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Executive Summary

For four years, the United States provided the Saudi-led coalition with military equipment and assistance used in its campaign in Yemen. During that time, the US has wrestled with and debated both the legality and wisdom of its support. Saudi-led coalition airstrikes have killed thousands of civilians while crippling hospitals and critical infrastructure, contributing to a humanitarian crisis in Yemen of a magnitude not seen since World War II, including widespread famine and a cholera epidemic. Meanwhile, in the midst of this crisis, the terrorist group Al-Qaeda in the Arabian Peninsula (AQAP) has solidified its grasp on territory and resources. With civilian casualties from US-provided bombs generating increasing hostility in Yemen toward the US, the conflict has also increased AQAP's ability to act against the US and its interests.

After four years of conflict in Yemen, the US should be asking: what lessons can be learned from four years of support to the Saudi-led coalition? In light of the significant civilian protection concerns seen in Yemen, is there a way to get better outcomes from security assistance activities?

This report aims to answer those questions. We identify two gaps in policy and information, respectively, and answer the timely issue of better protecting health care in the midst of armed conflict.

A policy gap: the fragmented US approach to assistance

We first examine the nature of US support to the Saudi-led coalition, including arms sales, operational support, and steps taken to positively influence the conduct of the campaign. The latter efforts temporarily reduced the frequency of strikes resulting in civilian casualties, while also improving the understanding of root causes of civilian casualties from those strikes. However, those efforts were not sustained over time. Meanwhile, operational support and arms sales to the Saudi-led coalition continued, with the US struggling to maintain awareness of how its support and weapons were being used.

This fragmented US approach resulted in unmitigated civilian harm (civilians killed, wounded, and damage to infrastructure and civilian objects including hospitals) as well as reputational damage—a common perception that the US was morally, if not legally, complicit in the tragedy

in Yemen, where civilians were harmed by US-provided bombs, aircraft, intelligence, and fuel. This situation continued to be unaddressed because current policies, such as arms transfer policy and the Leahy law, are not sufficient for addressing civilian protection concerns such as were seen in the Yemen conflict. In this report, we provide a policy framework for including civilian protection considerations as part of security assistance.

Our new framework for advancing civilian protection in security assistance includes the following functions:

- **Assessment of partner capabilities and risks.** This includes analysis of the professionalism and operational experience of the force; past concerns regarding IHL violations, civilian casualties, and human rights violations; proficiency in targeting and weaponeering; available capabilities for civilian harm mitigation; and proficiency at the operational level. Some of this is already done within the USG, but it is not brought together comprehensively.

- **Steady state training and education on civilian protection.** Security assistance involving the use of force should be accompanied by training and education in civilian protection, tailored to the particular partner's capabilities and risks as captured in partner assessments. This foundational work is provided in peacetime in the event the partner will be involved in hostilities.

- **Advisory and mentoring support in combat operations.** When partner forces enter into a combat role, in addition to training and education, US advisors should work with them to help with planning, tactics, operational approaches, and strategies for protecting civilians. This should also include tracking civilian casualties and determining patterns of harm to better inform advisory efforts. In the midst of operations, advising and training should be tailored to specific capabilities, risks, and observed patterns of harm, rather than general subjects such as basic targeting doctrine.

This framework could reduce or halt operational assistance in the face of civilian protection concerns, while continuing or increasing mentoring and other assistance to improve the conduct of operations. This is a remediation approach: the expectation is that operational assistance and provision of defense items can be restored once concerns are satisfactorily resolved. This approach avoids the difficulty of determining whether a partner is complying with international humanitarian law (IHL): decisions are reached based on negative operational outcomes, which are easier to assess. We note that this process is to be exercised in addition to current arms sales requirements involving civilian protection: IHL compliance and Leahy vetting; it will serve as an additional layer of protection and does not detract from existing policies.

An information gap: operational end-use monitoring

An information gap regarding the conduct of the Saudi-led campaign also contributed to the uneven US approach to security assistance in Yemen. We discuss how the US attempted to address this gap for a short time through an ad hoc process in the State Department, which was neither resourced nor sustained in the long term. This information gap hindered evidence-based decision making by the Executive Branch and by Congress. We outline steps that the US can take to remedy this shortfall, a process that we refer to as operational end-use monitoring. Specific steps in this process include:

- **Tracking of civilian casualties and other incidents of concern.** Comprehensive tracking of civilian casualty incidents and other actions, such as attacks on health care, is necessary to understand the scope of civilian protection challenges and know whether these challenges are getting better or worse. This tracking should include both the number and rate of civilian casualty incidents.

- **Reconstruction and analysis of incidents of interest.** In addition to tracking, which provides the overall context of civilian protection challenges, analysis of specific incidents can shed light on prevalent risk factors and how to mitigate them. Ideally these assessments would use a combination of internal governmental data and information gleaned from third parties and open source assessments.

The US currently has end use monitoring of weapons and other equipment, but that monitoring does not address operational use. Developing a complimentary, operational end-use-monitoring program would help security assistance efforts to take a more evidence-based approach. While this would require some dedication of resources, the level of resources would be modest and costs could be built in to, and thus subsidized by, foreign military sales. In addition to actions by the US, both the UN and civil society can also take steps to help close this information gap, following best practices in tracking and reconstruction efforts from other conflicts. Collectively, these steps would provide an information infrastructure to better support the promotion of civilian protection by countries providing security assistance, such as the US, as well as complimentary efforts by UN and civil society groups.

Improving protection of health care

We also examine a specific component of civilian protection of particular concern in Yemen: protection of health care. Although to date the primary focus of the international community for promoting protection of health care has been compliance with IHL, we highlight how

practical measures by militaries are equally important. Based on our analysis of specific incidents in Yemen and elsewhere, we provide three practical steps for promoting more effective protection of health care in conflict:

- **Deconfliction measures to improve discrimination.** Specific incidents in Yemen as well as the US airstrike on a MSF hospital in Afghanistan collectively illustrate how deconfliction measures can be strengthened. This includes predetermined battle drills for voice coordination regarding sensitive targets, use of tactical patience, and communicating with NGOs and IOs in the area to ensure their activity is not mistaken as combatant activity.

- **Improving military identification of medical facilities.** Humanitarian law provides some guidelines concerning marking of medical facilities, but these standards are not always compatible with modern aircraft sensor capabilities. Additional identification measures would aid discrimination of health care by tactical forces. Ensuring No Strike List objects could be displayed in the cockpit and exchanged over digital data links are also ways to promote their protection.

- **Best practices for promoting civilian protection.** One way to promote the protection of health care is through the use of existing best practices for civilian harm mitigation, developed over the last decade of US operations. This includes the use of tactical patience, consideration of tactical alternatives, and the use of additional precautions in high-risk situations such as airstrikes on buildings, re-strikes on targets, and dynamic targeting.

These are three areas where the US can provide leadership for the international community with regard to initiatives to better protect health care (e.g., UN Security Council Resolution 2286), as well as working with specific partners to develop improved capabilities to better avoid the immediate and longer-term humanitarian tragedies associated with attacks on health care.

Overall, the fragmented US approach to its support of the Saudi-led coalition contributed to the humanitarian disaster in Yemen, caused reputational damage, and increased strategic risks in the longer term because of increased instability in Yemen and strengthened terrorist groups such as AQAP. As the world's largest provider of military weapons and equipment, and with many partners receiving US training, the challenges discussed here are not unique to Yemen. But the Yemen experience also points to a way forward: when operational assistance was combined with focused mentoring on civilian harm, there were measurable improvements from very modest costs. Institutionalizing this approach for security assistance overall could easily be subsidized in the larger foreign military sales process. This alternative approach can help the US to more effectively manage the risks of security assistance when a partner engages in armed conflict and enable both the US and the international community to better promote

civilian protection from the outside. Our recommendations provide a way to learn crucial lessons from the tragedy of Yemen.

In summary, the inclusion of civilian protection measures in security assistance can help to manage benefits and risks in the context of armed conflict. This is good for the US: it helps to preserve the benefits of working with partners, promotes a stronger relationship with those partners, and guards against humanitarian tragedies that unfold with the benefit of US assistance. It is also good for US partners: addressing civilian protection concerns within security assistance promotes the legitimacy and effectiveness of US partners and can even limit the grievances and causes of instability that tend to fuel conflict. Overall, this new approach would fill the policy gap in security assistance seen so clearly in Yemen.

Recommendations

- Improve the US security assistance process both for the context of Yemen and for all cases where partners use force in an armed conflict. This should include:

  o changes to arms sales policy to introduce civilian protection as a criteria for approval and continuance of support (e.g., included in overall policy and in specific Foreign Military Sales agreements);

  o expanded advising and mentoring on civilian protection during hostilities, mandated as a condition of assistance;

  o analyzing operational outcomes of US assistance through a new process of operational end-use monitoring, and

  o working proactively with partners through training and education to build a foundation for civilian protection before conflict begins.

  Considering its similar role and challenges in Yemen, the UK would also benefit from these changes.

- Countries, the UN, and civil society should commit to monitoring programs for civilian casualties and other humanitarian effects of armed conflict. This monitoring should begin at the start of a conflict when possible.

- States should improve available information on civilian protection challenges with partners, providing data to policy makers and legislators to enable an evidence-based approach. While much of this information will be sensitive for internal government use, transparency regarding efforts and challenges is also valuable.

- The 2019 UN Protection of Civilians (POC) report should stress implementation of its 2018 recommendation for the development of national policy and practice, making this

a priority for states and civil society. The UN and other groups should also convene working groups on specific civilian protection challenges to share lessons and promote military best practices to improve states' ability to protect civilians.

- The UN and NGOs should standardize reporting and evidentiary standards for alleged civilian casualty incidents to improve the ability of militaries, the UN, and NGOs to work together and improve the quality of available information. Likewise, militaries should develop standardized ways to accept such external information. The AIRWARS-Counter-ISIS Coalition experience and Bellingcat's Yemen Hackathon experiment can be starting points for this initiative.

- States, the UN, and NGOs should refine data-mining techniques for harvesting available data sources (e.g., social media) to improve the availability and quality of information on civilian casualty incidents and allegations.

- The US should include health care-specific considerations in overall efforts to promote civilian protection in security assistance. This can include attention to civilian harm mitigation and deconfliction measures in mentoring efforts, prioritizing technical solutions to improve situational awareness and discrimination of health care, and investment in the larger international effort to promote safety of health care under SCR 2286.

- States should act on the UN Security Council Resolution 2286's recommendation to develop effective measures and share challenges and best practices for protecting medical facilities and services. This action could include sponsoring a conference to address challenges seen in Yemen, and similar lessons from other conflicts, with the goal of developing solutions to address them.

Contents

Introduction

The United States provides security assistance to more than half of the countries in the world. This assistance promotes a number of US interests, including the following:

- Managing regional stability. For example, the US provides significant levels of military assistance and aid to Israel and Egypt in order to promote peace in the region and to advance US interests including deterring Iran and countering terrorism.[1]

- Strengthening partnerships and alliances. In an era of renewed great power competition, allies are a significant asymmetric advantage for the US compared to its rivals, including Russia and China. Security assistance promotes common interests, values, and approaches among actual and potential allies.[2]

- Gaining influence and access for DOD with specific military partners, which can be leveraged for promoting foreign policy objectives.[3]

- Promoting US economic interests. The US is the largest arms dealer in the world, accounting for 34 percent of global arms sales.[4] The current administration has stressed the economic benefits of arms sales.[5]

- Addressing security threats indirectly. Security assistance can help address instability and potential threats to the US without requiring direct US military involvement.

In the last 20 years, the indirect approach to security threats has become more prevalent, with the US working with partner forces in armed conflicts in, for example, Iraq, Afghanistan, the

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[1] Nick Thompson, Seventy five percent of US foreign military financing goes to two countries, CNN, November 11 2015 <https://www.cnn.com/2015/11/11/politics/us-foreign-aid-report/index.html>.

[2] Larry Lewis, Insights for the third offset, CNA, September 2017.

[3] Tina S. Kaidanow, Acting Assistant Secretary, Bureau of Political-Military Affairs, "Managing Security Assistance To Support Foreign Policy," Senate Foreign Relations Committee, September 17 2017 <https://www.state.gov/t/pm/rls/rm/2017/274436.htm>.

[4] This data is aggregated from 2013-2017. It comes from SIPRI, an independent international institute dedicated to research into conflict, armaments, arms control and disarmament, and can be found at https://www.sipri.org/sites/default/files/2018-03/fssipri_at2017_0.pdf

[5] Alexander Bolton, Trump defends $110B US arms sale to Saudi Arabia, The Hill, October 13 2018 < https://thehill.com/homenews/administration/411271-trump-defends-110-billion-us-arms-sale-to-saudi-arabia>.

Philippines, Colombia, Somalia, and Nigeria. This approach offers a number of advantages. For example, working with and through partner forces allows the US to pursue its national security interests without large troop deployments, thus extending its range of influence without risking American lives. Also, US military deployments are very costly compared to security assistance—even the significant US investments in Plan Colombia over a decade were only about 1 percent of the cost of US military intervention in Afghanistan.[6] These partnerships offer other advantages. For example, they allow regional actors with significant stakes in a conflict to take ownership of its outcome. This approach can lead to a more permanent resolution that addresses the root causes of a conflict. Because of these benefits, providing security assistance to US partners has become an increasingly vital element of the US national security approach.

However, this approach is not without its problems. The actual outcomes of security assistance frequently fall short of intended goals, ranging from unused and neglected military equipment in many countries to the coup in Mali involving military forces that had received US assistance.[7] These failures reflect a number of shortfalls with the current security assistance process, including a narrow focus on tactical training and equipment, neglecting security sector reform and other institutional factors that help sustain assistance efforts over the longer term.[8] Organizations like the Defense Institution Reform Initiative (DIRI) and the Defense Institute of International Legal Studies (DIILS) were created to help address institutional weaknesses in partner forces, but in practice they are poorly resourced and have very little capacity considering the scope of the problem. Another challenge, which the Leahy law was developed to address, is the situation where partner forces commit gross violations of human rights (such as murder or rape) and fail to hold themselves accountable.[9]

Yemen: security assistance in crisis

The conflict in Yemen has highlighted another strategic concern over security assistance to partner forces—when these forces fail to protect civilians adequately when using force in an armed conflict. The United Nations (UN) has declared the current crisis in Yemen to be the worst humanitarian disaster since World War II. The armed conflict there has cost more than

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[6] Larry Lewis and Diane Vavrichek, Rethinking the Drone War, Marine Corps University Press, 2016.

[7] Larry Lewis and Diane Vavrichek, Rethinking the Drone War, Marine Corps University Press, 2016.

[8] Mara Karlin, Why military assistance programs disappoint, Brookings Institute, November/December 2017 <https://www.brookings.edu/articles/why-military-assistance-programs-disappoint/>; Phillip Carter, Why foreign partners can't fight our fights, Center for a New America Security, October 2 2015 <https://www.cnas.org/publications/commentary/why-foreign-troops-cant-fight-our-fights>.

[9] Leahy Fact Sheet, Department of State, March 9 2018 <https://www.state.gov/j/drl/rls/fs/2018/279141.htm>.

10,000 lives, with more than 40,000 others injured from combat operations. In addition, the conflict has left over 80 percent of the population in need of humanitarian assistance because of widespread food insecurity, decimated the health care system, and left the population vulnerable to outbreaks of Cholera and other diseases.[10] It has also caused billions of dollars in destruction to roads, buildings, schools, and medical facilities, arrested economic activity, and opened more ungoverned space for terrorist groups like AQAP to expand and thrive.

Both sides of the conflict—the Saudi-led coalition and the Houthi rebels, members of a Zaydi Shia sect from northwestern Yemen—have contributed to the dire situation in Yemen. But even as the US declared itself not a party to the conflict per international humanitarian law (IHL), the Saudi-led coalition was often flying US jets, dropping US bombs, refueling with US fuel, and leveraging US intelligence. It was clear both to Yemenis on the ground and the international community that the US had a visible and tangible role in the human tragedies in Yemen.

The US initially supported the Saudi-led coalition in Yemen out of a desire to support its Gulf allies, as well as out of concern that a Houthi-led government in Yemen could empower Iran. Over time, this US assistance created a situation in which the US had many, and at times conflicting, interests in its relationship with Saudi Arabia and other members of the coalition waging war in Yemen. Despite the US pursuing a number of activities to manage these many interests, the overall approach was fragmented and led to a failure to effectively manage interests, costs, and risks associated with its assistance to the coalition. The approach was also inconsistent with existing policy regarding support to partner forces defined in the Leahy law. The US has incurred both reputational and strategic damage as the net result of a fragmented policy towards Yemen.

Besides the reputational and moral hazard of enabling the humanitarian disaster in Yemen, enabling the Saudi coalition's destructive campaign may promote and prolong instability in the longer term: history shows that the poor behavior of US partners can exacerbate the conflict they are trying to resolve.[11] This behavior creates grievances that fuel conflict, creating fear and resentment that alienates local communities and encourages local support of armed opposition groups. The resulting instability and radicalization can contribute to threats to the US: when actors receiving US support harm civilians, hostility toward the US increases as it is seen as enabling and even condoning human suffering. This seems to be in the case in Yemen,

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[10] Nicolas Niarchos, How the U.S. Is Making the War in Yemen Worse, The New Yorker, January 22 2018 <https://www.newyorker.com/magazine/2018/01/22/how-the-us-is-making-the-war-in-yemen-worse>.

[11] Larry Lewis and Diane Vavrichek, Rethinking the Drone War, Marine Corps University Press, 2016.

with AQAP strengthening its hold on territory during the conflict, with more resources and a greater ability to conduct attacks against the US.[12]

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Vignette: Saudi-led coalition strike on school bus, August 2018

On August 9, 2018, a group of students and teachers were on a field trip in Sanaa, Yemen, to celebrate the end of its summer school session. The Saudi-led coalition believed that the bus carried Houthi individuals responsible for a ballistic missile attack a few days earlier. They carried out an air strike on the bus as it drove through a market area, killing dozens of children. The pictures above show students on the school bus (recovered from one child's cell phone) before the strike, and fellow students mourning the children killed. The coalition later admitted there were "mistakes in compliance with the rules of engagement," while still insisting that the bus was a legitimate target. Reconstructions from third party on-the-ground investigations and open source assessments suggest the strike used a US-provided bomb identified as a GBU-12 Paveway II.[13]

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Arguably, the conduct of the campaign in Yemen has also not been in the best interests of Saudi Arabia and its coalition partners. Besides possibly prolonging the conflict, the threat from Iran has grown as they exploited the conflict through increased support to the Houthis. Through the

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[12] Javier E. David, Al-Qaeda in the Arabian Peninsula said to be flush with cash and positioned to launch new attacks, CNBC, July 31 2017 <https://www.cnbc.com/2017/07/31/al-qaeda-in-arabian-peninsula-said-to-be-flush-with-cash-and-positioned-to-launch-new-attacks.html>.

[13] Pictures and information from: Sumaya Bakhsh, Families of Yemen bus strike victims despair at global response, BBC, September 9 2018 <https://www.bbc.com/news/world-middle-east-45449978>; Eric Schmidt, U.S. Commander Urges More Transparency in Yemen Strike on School Bus, New York Times, August 27 2018 <https://www.nytimes.com/2018/08/27/world/middleeast/airstrike-yemen-children.html>.

conflict, Saudi Arabia has also harmed its international reputation and undermined its legitimacy as a modern fighting force and regional leader in the Middle East.[14]

Focus and approach of this report

Focus

Given the humanitarian disaster in Yemen, the reputational damage the US has suffered because of its role in the conflict, and the strategic risks that it may incur in the longer term, it is worthwhile to ask: what can be learned from the results of its four years of support to the Saudi-led coalition? Is there a way to pursue better outcomes from security assistance? This report aims to answer these questions.

We first examine steps taken by the US both to support the Saudi-led coalition and to manage the emerging concerns about civilian protection in the campaign in Yemen. We then discuss different US interests, how they affected the support provided to the coalition, and how these interests could have been managed more cohesively across the US government. Then we discuss a critical enabler of effective management of security assistance—tracking and monitoring operational outcomes—and how civil society and the international community can contribute to a better understanding of the situation on the ground, permitting a more evidence-based approach to security assistance. We also examine one specific area of concern in the campaign in Yemen: attacks on health care. Based on the findings in this report, we provide recommendations to help the US and other countries, and the wider international community, take deliberate steps to intervene with partners to mitigate risks to civilians in an armed conflict.

Analytical approach in this report

This report builds upon several information sources. CNA has pioneered the analysis of civilian casualties in military operations, beginning with early analysis in the Iraq campaign between 2003-2008, then supporting International Security Assistance Force (ISAF) and US special forces in Afghanistan as they worked to reduce civilian casualties in their operations. This work resulted in new insights regarding how civilian casualties occur and how they can be prevented through improved military practice.

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[14] Jamal Khashoggi, Saudi Arabia's crown prince must restore dignity to his country — by ending Yemen's cruel war, Washington Post, September 11 2018 <https://www.washingtonpost.com/news/global-opinions/wp/2018/09/11/saudi-arabias-crown-prince-must-restore-dignity-to-his-country-by-ending-yemens-cruel-war/?utm_term=.3bb6b316f3f5>. Note that the crisis of Saudi Arabia's reputation was further worsened when Saudi Arabia allegedly killed and dismembered the author of this piece.

The author of this report also worked on Yemen policy during the Obama administration as a State Department senior advisor focused on civilian protection. In that capacity, he participated in interagency deliberations and was also sent as a civilian protection expert to advise the Saudi-led coalition regarding their operations in Yemen. In support of those roles, he analyzed specific incidents and worked with the coalition to understand patterns of harm from their air campaign. He also helped the coalition create their team for assessing allegations of civilian casualties. Finally, he helped draft the US national policy on civilian casualties and worked towards implementation of those policy commitments.

This report reflects a combination of these sources: analysis results from multiple military campaigns, personal experience working with governments and militaries to promote their ability to protect civilians, participation in the US interagency process, and first-hand experience working with the Saudi-led coalition in Yemen. The goal of this approach is not to create a comprehensive narrative of the campaign in Yemen or the US support to that campaign. Rather, this report aims to highlight key factors that hindered the US security assistance approach from effectively addressing the significant civilian protection concerns seen in Yemen.

The Saudi-led coalition in Yemen: US support and understanding the destructive campaign

In mid-2014, Houthi rebels in Yemen allied with forces loyal to former President Ali Abdullah Saleh to derail Yemen's peaceful political transition and oppose the government of President Abdrabbuh Hadi. To that end, they took over Sanaa in September 2014, then expanded their control to northern and western Yemen. The Houthi then wrested control of key parts of the Yemeni government, prompting Hadi's government to flee to the Kingdom of Saudi Arabia.[15] President Hadi requested assistance from the Gulf Cooperation Council (GCC) to restore the elected, legitimate government. In March 2015, Saudi Arabia formed a 10-member coalition and began airstrikes on Houthi and Saleh elements.[16] As Saudi Arabia has long been a partner with the US and the largest recipient of military arms sales, the US decided to support Saudi Arabia and its partners in the campaign in Yemen.

US Support to the Saudi-led campaign

As the Saudi-led Yemen campaign began in 2015, the US Department of Defense (DOD) offered several types of support. This included forming the Joint Combined Planning Cell (JCPC) in Riyadh to provide the Saudi-led coalition with operational advice on topics such as intelligence and technical aspects of targeting. Notably, the JCPC mandate did not include civilian casualties as a focus area. The JCPC consisted of about two dozen US military personnel, led by a two-star general. The US military also provided some intelligence and logistical support to Saudi-led coalition operations, including air-to-air refueling of coalition jets.

As the campaign continued through the summer of 2015, the US government grew increasingly concerned by coalition airstrikes that resulted in significant numbers of civilian casualties, damage to civilian buildings such as hospitals and schools, and disabling of infrastructure critical for delivering essential services and humanitarian aid. Questions arose whether

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[15] April Longley Alley, Yemen's Houthi Takeover, International Crisis Group, December 22 2014 <https://www.crisisgroup.org/middle-east-north-africa/gulf-and-arabian-peninsula/yemen/yemen-s-houthi-takeover>.

[16] GCC statement: Gulf countries response to letter from Yemen president, The National, March 26 2015 <https://www.thenational.ae/uae/gcc-statement-gulf-countries-response-to-letter-from-yemen-president-1.4831>.

coalition operations were consistent with international humanitarian law (IHL), and whether US security assistance to Saudi Arabia made the US complicit in potential IHL violations. Congress began questioning arms sale decisions as early as 2015 when facing a sale of precision guided munitions, sold to Saudi Arabia before but now aware of their likely operational use in Yemen. An interagency policy committee, which included members of the National Security Council, the State Department, the DOD, and the US Agency for International Development (USAID), decided on a number of US government actions to address these concerns through diplomatic and military channels. For example, State Department diplomats raised concerns in discussions with the Saudi government in Riyadh and Washington, stressing the need to exercise greater care in the air campaign and avoid civilian targets. DOD sent military lawyers and targeteers from the Joint Staff to Riyadh to give coalition members a review of IHL and doctrine for targeting. The intelligence community also assessed open-source claims of airstrikes that killed civilians, particularly those attributed to US-made munitions. In addition, State Department and DOD lawyers examined the question of intentionality regarding specific strikes on civilians.[17]

The State Department also sent a senior advisor to work with senior Saudi military leaders and their staffs starting in October 2015. This assistance focused initially on sharing lessons and best practices for reducing civilian harm drawn from US experience in Afghanistan. This included sharing US best practices for accountability, communications, and learning from incidents involving civilian harm.[18] The longer-term focus of the advisory assistance was building a capability for the Saudi-led coalition to identify recurring patterns of harm resulting from their air campaign in order to guide the development of focused operational improvements that collectively would improve the operational outcomes in Yemen.

The coalition was receptive to the initial advisory assistance on reducing civilian harm and changed their Rules of Engagement and other guidance to comport better with US best practices. The State Department also established an ad hoc process to track and monitor the Saudi-led coalition's campaign using information from open-source reporting, civil society groups, and the Saudi coalition. This process, developed to assess the efficacy of the advisory process in an evidence-based manner, is described more fully in the section on the information gap. Advising yielded some positive operational outcomes in the following months, including a reduction in strikes on the most problematic target types and a moderate reduction in problematic airstrikes overall. This temporary improvement was observed from the end of 2015 through the cease-fire in April 2016.

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[17] Samuel Oakford, One American's Failed Quest to Protect Civilians in Yemen, The Atlantic, August 17 2018 <https://www.theatlantic.com/international/archive/2018/08/yemen-saudi-airstrike-school-bus/567799/>.

[18] Larry Lewis, Reducing and Mitigating Civilian Casualties: Enduring Lessons, Joint Staff, April 12 2013 <https://apps.dtic.mil/dtic/tr/fulltext/u2/a579024.pdf>.

The coalition also took actions that helped address the longer-term focus. In response to recommendation papers provided by the State Department, and pressure from the UK to improve their accountability and communications regarding civilian casualties and other problematic airstrikes, in February 2016, the coalition announced that it would stand up the Joint Integrated Assessment Team (JIAT), with members from countries represented in the Saudi-led coalition. This body would examine incidents of concern and identify lessons learned, including insight into patterns of civilian harm. This function was modeled after the JIAT teams created by ISAF in Afghanistan. The State Department advisor worked with the Saudi government on the manning and processes for this new body, and in May 2016 the JIAT was launched with a training session provided jointly by State Department and UK military advisors. Although the initial focus of the JIAT was civilian harm, the State Department objectives included expanding the purview to strikes on targets with reverberating effects (those that cause longer-term humanitarian challenges) and formal tracking of civilian harm incidents.[19]

In April 2016, Saudi-led coalition operations were sharply curtailed in a politically negotiated cessation of hostilities. The US military decided to stand down the JCPC in light of the reduced operational tempo for coalition operations, and because the advisory cell had been seen as a short-term measure and was already active longer than anticipated.

The cease fire broke down in August 2016, bringing disappointment and disillusionment. With the coalition increasing its operational tempo following a failed round of negotiations, the level of problematic airstrikes rivalled pre-advisory time periods, with strikes on a hospital, school, and other targets that harmed civilians and had questionable military value (e.g., a potato chip factory) within a matter of weeks. The Saudi government's press summaries of the JIAT's initial investigations, released in August 2016, were less than satisfactory; they tended toward a defensive tone, contained few details, and sometimes blamed the victim (e.g., after the coalition struck a humanitarian convoy, the press report put the blame on the humanitarian organization for not coordinating better with the coalition) rather than taking responsibility for their actions.[20]

In light of continued concerns about problematic strikes and US legal and moral culpability, in September 2016, the State Department decided to discontinue its technical advising to the coalition on civilian harm mitigation. As the State Department shifted its advocacy to a de-escalation of military operations and strongly pushed all sides to return to UN-mediated peace talks, advising efforts were limited to the JIAT, consistent with the coalition's request to the US

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[19] Samuel Oakford, One American's Failed Quest to Protect Civilians in Yemen, The Atlantic, August 17 2018 <https://www.theatlantic.com/international/archive/2018/08/yemen-saudi-airstrike-school-bus/567799/>.

[20] A list of JIAT press releases considered by the author is included in Appendix A.

and UK for periodic mentoring to help their fledgling investigative effort. An advisory visit in September 2016 revealed that the JIAT was doing better than expected; the poorly written press releases had been re-written by others in the Saudi government, and the JIAT's internal findings and recommendations were more detailed and more self-critical. Importantly, these findings and recommendations would help reduce the number of problematic airstrikes if operational adjustments based on them were implemented. At the same time, there was no established process for expediting the Saudi military's implementation of JIAT recommendations once developed. Thus, lessons were being identified but not necessarily learned. [21]

This fact was underscored a month later when the coalition struck a funeral hall in Sanaa, killing about 150 people and wounding several hundred more, including many moderate politicians and local leaders. The deficiencies in that airstrike had been previously observed in other incidents and identified by the JIAT but not been effectively remedied. [22] An ongoing US government policy review, informed by this incident, elected to put on hold several arms sales packages (e.g., cluster munitions and precision guided munitions) to Saudi Arabia until ongoing concerns could be resolved. In addition, a multi-year training support package to Saudi Arabia was revised, which included efforts to improve Saudi Arabia's ability to reduce civilian harm during air-to-ground operations, including more IHL and civilian casualty training. However, these remediation efforts were never conducted, and the new administration decided to go forward with arms sales packages.[23]

In February 2017, the coalition asked the State Department for additional advising for the JIAT's continuing efforts and other Saudi initiatives, such as a national policy on civilian casualties, and engagements with non-governmental organizations (NGOs) and international organizations, such as the International Committee of the Red Cross (ICRC). This support was put on hold until Saudi Arabia could demonstrate that it had made substantive progress on implementing improvements to coalition operations. Rather, the State Department continued to push for a peaceful resolution to the conflict in Yemen and made general statements

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[21] Samuel Oakford, One American's Failed Quest to Protect Civilians in Yemen, The Atlantic, August 17 2018 < https://www.theatlantic.com/international/archive/2018/08/yemen-saudi-airstrike-school-bus/567799/>.

[22] Larry Lewis, Grading the Pompeo Certification on Yemen War and Civilian Protection: Time for Serious Reconsideration, JustSecurity, September 18 2018 <https://www.justsecurity.org/60766/grading-pompeo-certification-yemen-war-civilian-protection-time-reconsideration/>.

[23] Helene Cooper, U.S. Blocks Arms Sale to Saudi Arabia Amid Concerns Over Yemen War, New York Times, December 13 2016 <https://www.nytimes.com/2016/12/13/us/politics/saudi-arabia-arms-sale-yemen-war.html>.

regarding the imperative to avoid civilian casualties.[24] Around the same time, the new US administration decided to go forward with the transfer of precision-guided munitions and other security assistance initiatives to Saudi Arabia to strengthen the bilateral relationship.[25]

US support to the Saudi-led coalition in 2017 and 2018 to improve conduct was reduced in scale compared to previous efforts. In September 2018, the US administration provided a certification to Congress that the coalition was making reasonable efforts to help reduce civilian casualties, which appears inconsistent with the objective facts.[26] The only activity cited in that certification that is not mentioned above is a May 2017 training session on targeting practices that was paid for by Saudi Arabia. This is in addition to IHL training, which is not mentioned in the certification but that the US military provides regularly to its partners.

Understanding the destructive Saudi-led campaign in Yemen

In the past four years, the Saudi-led coalition's air campaign has received wide criticism. With more than 16,000 airstrikes, the civilian toll has been significant: many thousands killed, up to a third of airstrikes affecting civilian areas or entities, more than 200 schools targeted, and commercial factories and infrastructure affected.[27] The net effect has been to exacerbate an already dire situation to create the worst humanitarian disaster since World War II.

To attempt to characterize the conduct of the campaign over time, we examined the Armed Conflict Location and Event Data Project (ACLED), an initiative that collects data about incidents involving the use of force, including dates, locations, the responsible party, and the type and consequences of their actions. ACLED collects data for a number of conflicts; this includes the Yemen conflict since January 2016.[28]

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[24] Samuel Oakford, One American's Failed Quest to Protect Civilians in Yemen, The Atlantic, August 17 2018 < https://www.theatlantic.com/international/archive/2018/08/yemen-saudi-airstrike-school-bus/567799/>.

[25] Javier E. David, US-Saudi Arabia seal weapons deal worth nearly $110 billion immediately, $350 billion over 10 years, CNBC, May 20 2017 <https://www.cnbc.com/2017/05/20/us-saudi-arabia-seal-weapons-deal-worth-nearly-110-billion-as-trump-begins-visit.html>.

[26] Larry Lewis, Grading the Pompeo Certification on Yemen War and Civilian Protection: Time for Serious Reconsideration, JustSecurity, September 18 2018 <https://www.justsecurity.org/60766/grading-pompeo-certification-yemen-war-civilian-protection-time-reconsideration/>.

[27] Death from above: Every Saudi coalition air raid on Yemen, Al Jazeera, 2018 <https://interactive.aljazeera.com/aje/2018/Saudi-Arabia-air-raids-on-Yemen/index.html>.

[28] For more information, see: https://www.acleddata.com/about-acled/.

We used this data to examine some key trends in the Yemen conflict. Focusing on actions by the Saudi-led coalition and their impact on civilians, we first looked at civilian casualties per year for the three year period, 2016-2018 (since data was not available in 2015). Table 1 shows civilian casualties broken up into those killed, those wounded, and totals.

Table 1. Civilian Casualties caused by the Saudi-led coalition

	KILLED	WOUNDED	CIVCAS
2016	1820	1535	3355
2017	1448	700	2148
2018	1383	1205	2588
TOTAL	4651	3440	8091

From the table above, it is notable that the number of civilians killed drops each year. The number of civilian casualties increases in 2018 relative to 2017; this increase is due to a sharp increase in the number of civilians wounded in 2018.[29] Overall, the numbers of civilian casualties appears to have decreased in 2017 and 2018 compared to 2016.

We also examine two other metrics useful for understanding trends in civilian casualties in military operations: the average number of civilian casualties per incident (dividing the total number of civilian casualties by the number of CIVCAS incidents, incidents where civilian casualties were caused) and the civilian casualty rate (the number of CIVCAS incidents divided by the total number of incidents involving the use of force). We include these metrics in Tables 2 and 3, respectively.

Table 2. Average number of civilian casualties per incident

	CIVCAS	CIVCAS INCIDENTS	CIVCAS/INCIDENT
2016	3355	410	8.2
2017	2148	375	5.7
2018	2588	562	4.6
TOTAL	8091	1347	6.0

[29] We have observed in previous studies that, compared to the numbers of civilians killed, the numbers for wounded in open source reporting are less precise. Reflecting this, in a number of ACLED reports, there are no specific numbers given, only a mention that civilians were wounded. In these cases, we conservatively used a value of 1 for civilians wounded. This will lead to an underestimation of these type of casualties.

Table 3. Rate of civilian casualties caused by the Saudi-led coalition

	NUMBER OF OPERATIONS	CIVCAS INCIDENTS	RATE OF CIVCAS
2016	4980	410	8.2%
2017	4458	375	8.4%
2018	3838	562	14.6%
TOTAL	13276	1347	10.1%

These metrics help explain how civilian casualties caused by the Saudi-led coalition changed over time, illustrated in Figure 1 below. For example, on average, when the coalition caused civilian casualties, the average number of casualties decreased over time: mistakes that were made were less impactful to civilians. This is a positive trend. On the other hand, the effect of this positive trend was negated in 2018 by an increase in the rate of civilian casualties: the likelihood of a particular coalition action causing civilian casualties almost doubled compared to previous years. Overall, there is not a clear improvement over time: while civilian casualties have decreased since 2016, and particular incidents impact civilians less on average, 2018 saw a rise in civilian casualties compared to 2017, and the coalition's risk of civilian casualties per operation has in fact increased over time.[30]

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[30] We note that these trends are based on open source reporting, which has inherent limitations. We recommend that the US use all sources of available information to improve the reliability of these trends. We discuss how this can be done in the later section, Information Gap: preventing an evidence-based approach.

Figure 1.   Civilian casualty trends in Yemen, 2016-2018
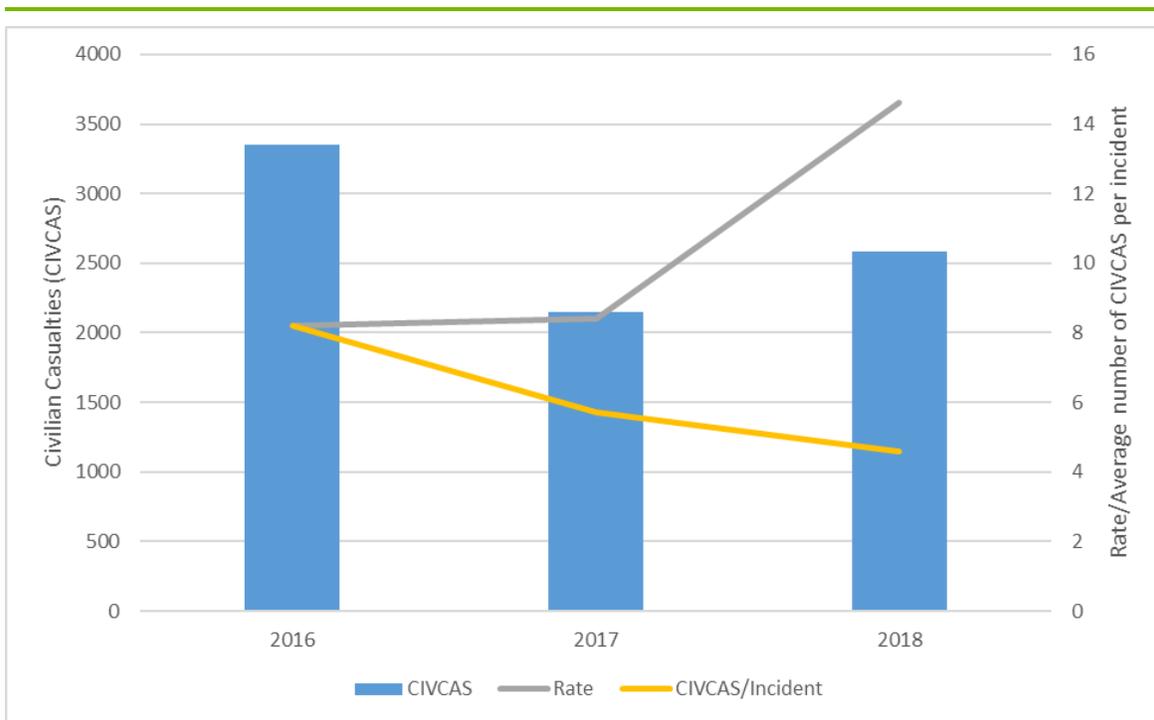
Source: CNA.

A perspective on causes of civilian harm

Many have questioned why the air campaign has been so mistake-prone, and have suggested that it must be deliberate, with the coalition intentionally flouting international humanitarian law. We offer some perspectives on the causes for operational mistakes based on CNA's analysis of civilian casualties in real-world operations and experience working with militaries in a number of campaigns, including the Yemen campaign.[31] For example, work with the JIAT to examine incidents in 2015–2016 suggests that the main cause is operational deficiencies (that may in some cases constitute violations of IHL, such as not exercising obligations of proportionality or discrimination) instead of deliberate flouting of international law that can

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[31] Some of this work is summarized here: Larry Lewis, Reducing and Mitigating Civilian Casualties: Enduring Lessons, Joint Staff, April 12 2013 <https://apps.dtic.mil/dtic/tr/fulltext/u2/a579024.pdf>.

amount to war crimes.[32] With the caveat that these observations are based on a limited set of incidents relatively early in the conflict, those reconstructions can offer observations of patterns of civilian harm in the Yemen conflict.

Patterns of civilian harm in Yemen

Overall, airstrikes in Yemen are acts either of deliberate targeting (pre-planned) or dynamic targeting (coordinated in real time between the pilot and a person on the ground). The airstrikes leading to civilian harm or damaged health care facilities tended to be dynamic targeting incidents. This is consistent with observations from other operations: dynamic targeting has a higher risk of civilian casualties than deliberate targeting. This makes intuitive sense, considering that deliberate targeting has the benefit of deliberate planning, dedicated collateral damage estimation, and deconfliction built into the targeting process. Dynamic targeting, on the other hand, includes collateral damage estimation and deconfliction, but the pilot and the controller generally perform these functions on the fly, without the benefit of tools and resources resident at higher headquarters.[33]

Two general types of incidents were observed in Yemen. In the first type, civilian entities were misidentified, fired upon mistakenly because they were believed to valid military targets. Misidentifications included cases where the coalition failed to maintain identification of a valid military target throughout the engagement, resulting in the coalition mistakenly striking the wrong target. Some of these misidentifications appeared to be a result of personnel on the ground being eager for an airstrike to occur as they coordinated with the pilot, resulting in rushed engagement decisions. In the second type of incident, civilians (or protected entities like hospitals) were collateral damage of a strike on a valid military target.

Some of these incidents involved entities on the No Strike List (NSL), which we describe in detail in the section on protection of health care. Inadequate coordination was a significant factor in those incidents; because these were dynamic targets, coordinated largely between the pilot and a person on the ground, the pilot was not always aware that the targeted location was on the NSL. Because there is no cockpit display of NSL entities in the aircraft used by the Saudi-

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[32] This is not to say definitively that the Saudi-led coalition did not commit war crimes in Yemen. As discussed in the UN Group of Experts on Yemen, a widespread failure to adhere to obligations of IHL can in itself constitute war crimes. The point is rather that militaries can cause civilian casualties and damage protected objects such as medical facilities without that incident necessarily constituting a war crime. See, for example: United Nations Experts point to possible war crimes by parties to the conflict at
<https://www.ohchr.org/EN/HRBodies/HRC/Pages/NewsDetail.aspx?NewsID=23479&LangID=E>.

[33] Challenges of dynamic targeting are described in: Larry Lewis, Reducing and Mitigating Civilian Casualties: Enduring Lessons, Joint Staff, April 12 2013 <https://apps.dtic.mil/dtic/tr/fulltext/u2/a579024.pdf>.

led coalition (this is the case for most modern strike aircraft), the only way to acquire NSL information is to call higher headquarters and deconflict the strike by voice communications. Such deconfliction is not required, and as a result was not always performed.[34] In other cases, valid military targets were targeted that were in proximity to NSL entities. And in some cases, the weapon effects were over a wider area than anticipated or the weapon did not perform as anticipated.

Many of the incidents of concern involved deficiencies of collateral damage estimates. One contributing factor was the targeting of compounds where the pilot and person on the ground were unaware of the full set of occupants in the building. Combatants running into a building, for example, can create risk for unobserved civilians who may have been in the building already. Another cause of poor anticipation of collateral damage was where personnel on the ground urged the pilot to strike the target quickly. This pressure led to hasty engagement decisions that did not consider collateral effects that could have been avoided with a more patient approach. For example, a vehicle targeted in an urban setting created civilian casualties that could have been avoided by waiting 10 minutes for the vehicle to exit the populated area.[35]

Root causes of harm

Keeping in mind these patterns of civilian harm, it is reasonable to ask why these problems were seen and at the frequency they were seen. One contribution is that targeting in an air campaign against an irregular enemy is an inherently difficult problem. The required tasks of IHL, such as discrimination and proportionality, are still requirements in an irregular conflict. At the same time, they are made more difficult when the other party eschews its own IHL requirements, such as wearing uniforms and not using civilian structures for military purposes. That the Houthis flout their own legal obligations is not an excuse for what is seen in the air campaign in Yemen, but it does make the coalition's task more challenging.

This difficult mission—targeting against an irregular combatant has been described as the "graduate level" of targeting—has proven challenging for the US and its allies in settings such as Afghanistan, Iraq, and Syria. It has proven to be even more so for the Saudi-led coalition that was generally inexperienced in this mission; many members of the coalition were prepared for conventional state-on-state conflict. The challenges seen in Yemen require skills that the coalition has had to learn in the midst of operations. This situation is exacerbated by the large proportion of dynamic targeting in the air campaign and the absence of military air-to-ground

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[34] As was the case in several strikes on MSF hospitals in late 2015 and early 2016. See Appendix A.

[35] For example, the coalition cited this as a mistake in the August 2018 school bus strike, since the airstrike was conducted in a crowded urban area. However, the statement does not address proportionality concerns with this strike.

controllers in Yemen. Unlike US operations that leverage highly trained personnel (e.g., Joint Tactical Air Controllers, or JTACs) to control dynamic airstrikes in accordance with highly specialized doctrine and tactics, dynamic airstrikes in Yemen are controlled on the ground by a pickup team of the willing who lack this training and the associated procedural safeguards. Overall, then, it is not surprising that the coalition has struggled with its air campaign in Yemen.

It is also informative that a temporary improvement in early 2016 suggests that this inexperience is not a fatal flaw. The temporary progress illustrates that, in the Saudi case, there are ways to improve the conduct of hostilities by partner forces in the near term, and some of those improvements were able to be implemented in a relatively short period of time. But that effort was temporary and fragile, depending on specific individuals in operational roles to implement changes. When the temporary ceasefire and associated personnel rotations allowed those improvements to go stale, the coalition reverted to the previous baseline of problematic strikes at the resumption of operations in August 2016.[36] As stated above, the formation of the JIAT offered some opportunity for learning and improvement but that opportunity does not seem to have been leveraged in practice. Possible reasons are a lack of political will for change, meaning that there was no forcing function for military forces to make changes, and the lack of a process for translating JIAT observations and lessons into operational improvements. Regardless of the reasons, the continuing tragedies in Yemen suggest that the Saudi-led coalition has failed to improve its conduct of the campaign over time.

Improving influence from the outside

Leaders in the US and UK frequently state that the conduct of the Saudi-led coalition, though problematic, is still better because of US and UK influence than it would be otherwise. This is often used as a rationale for preserving the relationship with the partner, despite concerns about their conduct.[37] The Yemen case is instructive for evaluating the accuracy for this assertion. As described earlier, the US provided assistance to the Saudi-led coalition in terms of operational advisory support through liaison officers, as well as training regarding international humanitarian law and basic targeting procedures. Despite these efforts, there are still widespread concerns about the Saudi-led Yemen campaign, and incidents like the school bus incident in August 2018 suggest that the coalition is not getting better as a result of US presence and influence.

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36 Samuel Oakford, One American's Failed Quest to Protect Civilians in Yemen, The Atlantic, August 17 2018 < https://www.theatlantic.com/international/archive/2018/08/yemen-saudi-airstrike-school-bus/567799/>.

37 See, for example, Phil Stewart and Yara Bayoumy, Mattis signals US to keep up support for Saudi-led coalition in Yemen, Reuters, August 28 2018 <https://uk.reuters.com/article/uk-usa-yemen/mattis-says-u-s-constantly-reviewing-support-for-saudi-led-coalition-in-yemen-idUKKCN1LD1T8>.

This has two implications. First, the assumption that presence is beneficial should not in itself be the rationale for continued presence. There are other reasons for working with partners, of course, and those reasons may be compelling in absence of a virtuous effect on the conduct of partners. But at the least, the experience in Yemen suggests that there is not a benefit from presence by default.

Second, the Yemen example also shows that there can be positive impact from working with partners. However, this impact was not achieved through personal relationships or by general training that has been carried out over the past four years of the campaign. Positive impact was seen only when US training and mentoring was data driven and addressed specific patterns of harm, patterns that were a consequence of deficits in operational and tactical proficiency of the Saudi-led coalition. If US leaders would like to have positive impact on their partners, this is a possible outcome, but it will require a departure from the typical US approach to security assistance.

Policy gap: civilian protection in US security assistance

Many observers have expressed surprise at the US government's lack of action—in either administration (Obama or Trump)—in response to the Saudi coalition's behavior in the Yemen campaign. Although some have seen US inaction in the face of many problematic strikes as a calculated priority of profit (from arms sales to Saudi Arabia) over values, the reality was more complex. During the Obama administration, multiple US interests were at play: supporting an important partner in Saudi Arabia, maintaining a close military-to-military relationship, promoting an effective peace process to end the fighting in Yemen, supporting humanitarian aid to help the Yemeni people, and easing the impact of military operations on civilians. These different objectives were difficult to manage simultaneously, and in practice they tended to be promoted in isolation by different entities within the US government—especially the White House, the State Department, DOD, and USAID—instead of having an overarching approach that balanced and managed different efforts under a comprehensive strategy. At best this meant that the US failed to leverage all elements of national power to promote better outcomes. But with respect to Yemen, the practical result was worse and diametrically opposite of the intent of a similar set of laws regarding military assistance to partners: the Leahy law.

The Leahy law: an example of promoting good partner behavior

In 1997, the US passed legislation restricting assistance to foreign security forces when there is evidence of gross violations of human rights. The law underscores the US commitment to human rights, preventing US taxpayer dollars from financing security forces that do not hold to basic international standards of human rights.[38] As a result of this law, the State Department and DOD vet each recipient of security assistance, seeking to comply with this requirement. For example, the Department of State has an office with staff dedicated to this vetting function.[39]

The Leahy law has its detractors, partly because of its uneven and incomplete implementation over parts of its 20-year history. For example, of the law's two elements—withhold support

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[38] Andrew Leonard, Getting the Leahy Law Right, Foreign Affairs, June 29 2017.

[39] Leahy Fact Sheet, Department of State, March 9 2018 <https://www.state.gov/j/drl/rls/fs/2018/279141.htm>.

when there is evidence of a violation and resume support when conditions have been satisfied showing accountability—the second was implemented only in 2015, almost 20 years after the law was introduced. This led to frustration when partners barred from receiving assistance had no recourse to show accountability and start receiving support again. Other frustrations about the law involved uneven and sometimes incorrect decisions, such as cases where the wrong unit was identified or the evidence for the violation was weak.[40] Military leaders have also expressed frustration that restricting assistance interfered with relationships between the US military and offending units.

However, with the introduction of remediation in 2015, the law became more than just an accountability measure for bad behavior. It became a tool to help restore units and partners to better behavior. US military forces can continue to work with units, preserving that relationship, with the caveat that any assistance must be focused on promoting better behavior (e.g., human rights training). At the same time, pausing assistance such as equipment or operational support can help motivate partners to prioritize remediation requirements. Thus the law can work simultaneously for the interests of the US, its partners, and the civilian population in promoting legitimate and responsible behavior by partner nations.

Filling the policy gap: civilian protection and security assistance

The absence of a comprehensive US strategy in Yemen between 2015–2018 is a symptom of a larger problem: Although the US is the world's largest dealer of military arms, it does not have a policy addressing civilian protection challenges that come when the recipient of military assistance uses force in armed conflict. The only safeguards are the Leahy law and a basic requirement that partner military forces comply with IHL.[41] For example, DOD provides basic training regarding IHL through institutions such as Defense Institute of International Legal Studies (DIILS). Previous analysis shows that these safeguards are necessary but not sufficient for avoiding significant harm to civilians in armed conflict: many civilians can be harmed, and

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[40] Andrew Leonard, Getting the Leahy Law Right, Foreign Affairs, June 29 2017.

[41] White House, National Security Presidential Memorandum Regarding U.S. Conventional Arms Transfer Policy, April 19 2018 < https://www.whitehouse.gov/presidential-actions/national-security-presidential-memorandum-regarding-u-s-conventional-arms-transfer-policy/>; WITH GREAT POWER: Modifying US Arms Sales to Reduce Civilian Harm, Center for Civilians in Conflict, Stimson Center, January 2018 <https://civiliansinconflict.org/wp-content/uploads/2018/01/With-Great-Power.pdf>.

medical facilities and critical infrastructure can be damaged, even when military forces do not violate international law.[42]

Given this policy gap, how can the US manage differing interests and risks with respect to civilian protection? The overall construct in the Leahy law is instructive here; it includes two types of activities:

1. Improving operational effectiveness: general security assistance that can include military equipment and weapons, tactical training, and operational support

2. Promoting responsible behavior: training and education on IHL and human rights law to avoid gross violations of human rights, and working with the partner military and their justice system to promote accountability

When specific concerns arise with a partner, the first (improving operational effectiveness) can be curtailed or paused while the second is continued, or even intensified, with the intent of remediation and restoring the security assistance relationship. This overall approach can also be taken with civilian protection. The specific tools for promoting responsible behavior will differ, but the overall approach helps promote the interest of both the US and the partner force, and the security of civilians. This approach to managing risk in security assistance is shown in Figure 2.

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[42] Larry Lewis, Reducing and Mitigating Civilian Casualties: Enduring Lessons, Joint Staff, April 12 2013 <https://apps.dtic.mil/dtic/tr/fulltext/u2/a579024.pdf>.

Figure 2.   Managing risk in support to partners

SUPPORT TO PARTNERS
LEGAL AND MORAL RISK

PROMOTING RESPECT
FOR IHL, MENTORING
IN CIVILIAN PROTECTION

OPERATIONAL AND
INSTITUTIONAL SUPPORT
*(e.g., arms, intelligence,
training, logistical support)*

Low Risk
Moderate Risk
Considerable Risk
High Risk
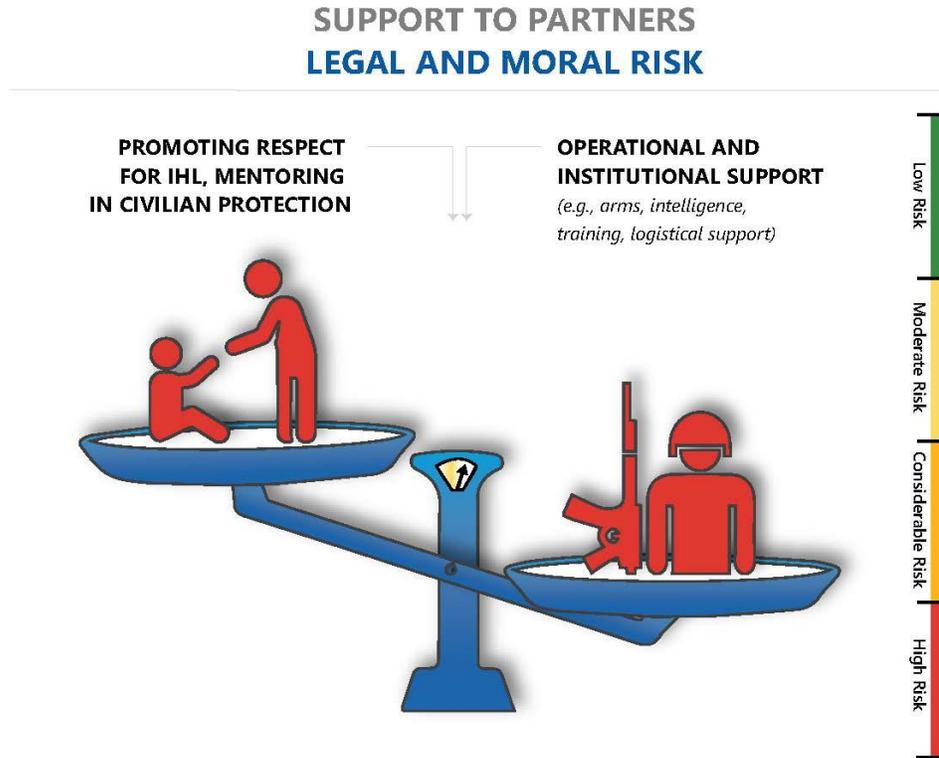
Source: CNA

Promoting civilian protection in practice

What can the US do to promote civilian protection in the context of security assistance? The US currently provides training in IHL, which should continue. But several other functions would also strengthen the ability of the US to better ensure that US assistance is used in a manner that limits civilian harm when possible.

Assessment of partner capabilities and risks

The general capacity and capability of partner forces differ, including their ability to mitigate civilian harm. It will be essential to tailor US support to partner strengths and weaknesses with regard to civilian protection. This would include an understanding of the level of professionalism and operational experience of the force, including any history of heavy-handed operational approaches, civilian casualties, or LOAC violations. This should also include

proficiency in targeting and weaponeering, available capabilities (e.g., weapon systems and munitions, intelligence sources, collateral damage estimation tools and processes), and the ability to perform accurate battle damage estimates. This should also include proficiency at the operational level to manage the use of force to meet mission goals while complying with international law and protecting civilians. Some countries will have greater risk (e.g., Saudi Arabia) than others (e.g., Finland); those relative risks will help determine the resourcing and prioritization of subsequent steps.

Steady state training and education on civilian protection

Where the US provides security assistance that includes the use of force, this assistance should be bundled with training and education in civilian protection. This includes tactical best practices and lessons, support for developing operational and tactical strategies that factor in protection of the population, and assistance with civilian casualty investigations, tracking, and public affairs. This training and education should be tailored to the particular partner's capabilities and risks, as identified in the assessment process described above. In cases of Foreign Military Sales or Foreign Military Financing, such training and education would be a requirement that is subsidized as part of the cost of the total package.

Advisory and mentoring support in combat operations

When a partner security force enters into a combat role, military assistance should include US advisors working closely with partners to help them refine their tactics, operational approaches, and strategies for protecting civilians. This mentoring should also include tracking casualties and determining patterns of civilian harm to inform additional mitigation efforts. Mentoring and training efforts should be tailored to specific patterns of harm, rather than general training such as basic doctrine on targeting. While the latter is helpful, this should be part of the steady-state approach; interventions during combat should be focused on specific deficiencies. Information gained through this mentoring can also be used to inform US policy-making and legislative actions. If specific concerns arise, the US may decide to decrease operational support, but mentoring focused on reducing civilian harm should be sustained, or even increased, to help respond to those concerns. If concerns are adequately addressed, then operational support can be restored.

Enabling a tailored approach

These steps discussed above represent a tailored approach, identifying specific deficiencies unique to the particular partner force and then helping the partner develop and operationalize solutions. That tailored advising approach yielded some improvement in the conduct of the campaign until the advising was discontinued because of the cease-fire in April 2016. The

relative success of that effort stands in contrast to general training provided to the Saudi-led coalition between 2015 and 2017 and did not appear to have an effect on the conduct of the campaign.

Mentoring and legal considerations

A key reason why the tailored advising effort was discontinued was possible legal and reputational risks to the US. Although the US has had no direct involvement with the coalition's target selection, the US still wrestled with potential legal risks arising from its overall support and responsibilities for the coalition's actions. While it ultimately concluded that there were no legal risks, it is significant that the fear of such risks halted the mentoring process.

IHL is instructive on this point. The obligations of the US under IHL are not limited to the question of whether the US is a party to the conflict. IHL in Common Article 1 also notes that states should ensure respect for IHL by other states. This is generally viewed as an obligation of donors to encourage recipient partners to adhere to IHL and to assess the lawfulness of overall assistance based on the recipient's compliance or lack thereof.[43]

The mentoring provided to the Saudi-led coalition in Yemen could easily be seen as meeting that legal obligation: helping the coalition to meet its IHL requirements to protect civilians as required by international law. In fact, in a discussion, IHL experts stated that if the US assistance to the Saudi-led coalition were to be taken to the International Criminal Court accusing them of violating international law, the mentoring efforts promoting civilian protection would likely be the strongest defense against that charge. So, such mentoring should not be seen as a legal liability; indeed, it could be seen as part of a legal defense.

A theory of change

The State Department mentoring ceased entirely after the Sanaa funeral hall strike in October 2016. The White House decided that this strike was evidence that the Saudi-led coalition was not taking civilian protection seriously, so continuing support was not warranted.[44] This

[43] Knut Dörmann and Jose Serralvo, Common Article 1 to the Geneva Conventions and the obligation to prevent international humanitarian law violations, ICRC, September 21 2015 <https://www.icrc.org/en/international-review/article/common-article-1>.

[44] Patrick Wintour, US says support for Saudi Arabia not a 'blank cheque' after Yemen air raid, The Guardian, October 9 2016 < https://www.theguardian.com/world/2016/oct/09/saudi-arabia-investigate-air-raid-on-funeral-in-yemen>.

decision, however, was inconsistent with the fact that these experiences—particularly tragic and high-profile civilian casualty incidents—are in fact opportunities for change. Looking at the US and its progress in civilian protection, the most significant advances were in response to individual, high-profile civilian casualty incidents such as the strike in Bala Balouk, Afghanistan, in 2009, the MSF strike in Kunduz, Afghanistan, in 2015, and an errant strike in Mosul, Iraq, documented in an article titled the Uncounted.[45] These high-profile incidents focused US leadership on civilian casualties and garnered political will for change.

The funeral hall strike appeared to have these same characteristics, as a special investigation was announced, led by Mohammad Bin Salman, crown prince of Saudi Arabia himself, distinct from other incidents which were investigated at lower levels in the Saudi Ministry of Defense or by the JIAT. The Saudi-led coalition was also open to US input at this critical time, requesting that the State Department provide a representative to help the investigation be as effective as possible.[46] The White House decision to decline this request at a moment when political will was particularly high could be considered a missed opportunity for making advances in civilian protection, based on similar US experiences.

The irony was that the US did not change its operational support based on the funeral hall strike. This represents an approach opposite to the philosophy of the Leahy law: continuing support in the face of concerns and discontinuing steps intended to address those concerns. As mentioned above, a more logical approach would have been to curtail operational support and continue efforts to help improve responsible behavior, with the goal of remediation and restoring those elements of operational support when assessments show that progress was being made.

Given the history of improvements in the US demonstrating the imperative of political will for substantive change, this suggests that the political will of the partner is an important component in positively influencing a partner. Thus the mentoring efforts should be tied to the larger diplomatic process, with the common goal of influencing partner behavior. In Saudi Arabia, there was support for mentoring efforts at middle leadership at the Saudi Air Operations Center, but the specific details and challenging of this mentoring were not tied to diplomatic efforts. For example, specifics were understood about significant shortfalls in target deconfliction for dynamic strikes, but efforts to influence MOD to address them at the working level were unsuccessful. Perhaps simultaneous diplomatic engagement on the same issue at the political level, pushing for that specific change, could have resulted in political will to make

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[45] Azmat Khan and Anand Gopal, The Uncounted, New York Times, November 16 2017 <https://www.nytimes.com/interactive/2017/11/16/magazine/uncounted-civilian-casualties-iraq-airstrikes.html>.

[46] Saudis to probe deadly air strikes on Yemen funeral hall, BBC News, October 9 2016 <https://www.bbc.com/news/world-middle-east-37599900 >.

that improvement. And if there was not a satisfactory response, this would also have been relevant in the overall calculus regarding the management of US support.

The War Power Resolution: Congressional Oversight of Hostilities in Partnering

In March 2019, the US Senate passed a joint Resolution regarding US hostilities in Yemen.[47] This legislation aims to withdraw US support from the Saudi-led coalition in Yemen, given the fact that such support (e.g., refueling, intelligence support, and advising) constitutes participation in hostilities and is thereby subject to the requirements of the War Powers Resolution.[48] Per this legislation, Congress has not authorized the US to participate in hostilities in Yemen, and the Houthis are not subject to the 2001 Authorization for Use of Military Force (AUMF), so the War Powers Resolution can be used to direct the President to cease its support to the conflict in Yemen that is defined as constituting hostilities.[49]

We note two important aspects to partnering and civilian protection that this legislation raises. First, Congress has power to both oversee and, if it sees fit, authorize or direct the end of support to partners that involves hostilities. This gives Congress the ability to intervene regarding civilian protection concerns in partnering. Second, the case of Yemen comes up specifically because the Houthis were not subject to the AUMF. There are many cases where the US supplies operational support, including intelligence support to lethal targeting, that is considered authorized under the AUMF. This has created a practice of US support to lethal targeting of partners that lacks detailed Congressional oversight. For example, while civilian casualties from the US military's use of force has seen greater Congressional oversight and reporting requirements over the past few years, there has not been the same kind of oversight regarding partnering and civilian protection concerns.[50] The processes described in this report would support Congressional oversight in this area, if it were developed.

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[47] Joint Resolution, "To direct the removal of United States Armed Forces from hostilities in the Republic of Yemen that have not been authorized by Congress." S.J.Res.7, 116th Congress, March 13 2019.

[48] Joint Resolution, "Concerning the war powers of Congress and the President." Public Law 93–148, 93rd Congress, November 7 1973.

[49] Joint Resolution, "To authorize the use of United States Armed Forces against those responsible for the recent attacks launched against the United States." Public Law 107–40, 107th Congress, September 18 2001.

[50] Daniel R. Mahanty, Alex Moorehead and Rahma A. Hussein, What Questions Should Congress Be Asking DoD About Civilian Casualties?, JustSecurity, May 1 2018 <https://www.justsecurity.org/55545/questions-congress-dod-civilian-casualties/>.

Summary

Even more important than a defense in international courts, inclusion of civilian protection measures in security assistance helps to manage benefits and risks in the context of armed conflict. This process helps to preserve the benefits of working with partners, promotes a stronger relationship with those partners, and guards against humanitarian tragedies that unfold with the benefit of US assistance. Addressing civilian protection concerns within security assistance also promotes the legitimacy and effectiveness of US partners and can even limit the grievances and causes of instability that tend to fuel conflict. This new approach would fill the policy gap in security assistance seen so clearly in Yemen.

Information gap: preventing an evidence-based approach

During the US advisory effort to the coalition in 2015–2016, a key question was: is this assistance having a positive effect? And even more broadly, could the US determine how its support, in terms of bombs, aircraft, intelligence, and refueling, was being used? To what degree was US assistance contributing to the disaster on the ground in Yemen? How accurate were the findings of the JIAT? As the US wrestled with policy decisions, having this information would have enabled more of an evidence-based approach to US strategy in Yemen. However, there is no established assessment process to help answer these questions regarding security assistance to partners.

Operational end use monitoring

It is worthwhile to note that the US has some processes in place to address accountability when defense equipment, including weapons, are sold or transferred to foreign militaries. This process, mandated by the Arms Export Control Act, is called end-use monitoring (EUM).[51] As part of the foreign military sales process, the receiving nation must agree to certain conditions to enable EUM. These conditions include:

- The equipment must only be used for the purpose intended;
- No equipment can be transferred to a third party without the prior approval of the US;
- The receiving nation must protect the equipment to US standards; and
- The receiving nation must allow monitoring processes to verify the conditions above.[52]

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[51] 22 United States Code, Title 22 - Foreign relations and intercourse, Chapter 39 - Arms Export Control, Subchapter III-A Sec. 2785 - End-use monitoring of defense articles and defense services, 2017 <https://www.govinfo.gov/content/pkg/USCODE-2017-title22/html/USCODE-2017-title22-chap39-subchapIII-A-sec2785.htm>.

[52] Thomas D. Little, End-use monitoring is the key to success in foreign military sales, US Army official web site, September 5 2017 <https://www.army.mil/article/192447/end_use_monitoring_is_the_key_to_success_in_foreign_military_sales>.

Several programs conducted under the EUM process include Golden Sentry and Blue Lantern. These US end-use programs focus on verifying equipment presence and security.[53] This matches their intended purpose: they were developed to protect against unauthorized exports and technical espionage involving sensitive military equipment. These programs do not address how US equipment are used operationally. For example, in the Vignette on page 2 where the Saudi-led coalition struck a school bus full of children, the US government had no idea that a US-provided bomb was used until third parties performed open source analysis and disclosed that fact.

While the US has no process for capturing how its equipment and weapons are used operationally – what we refer to as operational end use monitoring – this information is relevant for the US. For example, understanding how partners use US-provided weapons should inform policy and assistance decisions. This information is also relevant for foreign policy and national security, since the theme of US-provided weapons killing civilians is a frequent and powerful subject of messaging and terrorist propaganda, influencing US relations with other countries and contributing to radicalization and support to terrorist groups that can then threaten the US homeland and its interests.[54]

Three sources of information

If a government wanted to conduct operational end-use-monitoring, how can this information be obtained? Governments providing security assistance can leverage three different types of information for operational end use monitoring. They are:

- **Partner forces.** Getting information from partner forces is invaluable for helping to understand the operational effects of assistance. For example, the Saudi-led coalition created a spreadsheet with mission reports documenting basic details on every strike conducted in the campaign, including the type of aircraft and weapon used. It is also helpful to know the rationale and intent for particular strikes. For example, if there are allegations that non-combatants were targeted, what was the intended target? What types of intelligence were used in that strike? And what is the partner force assessment for what happened? While such access is not guaranteed, this information was at times

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[53] Thomas D. Little, End-use monitoring is the key to success in foreign military sales, US Army official web site, September 5 2017
<https://www.army.mil/article/192447/end_use_monitoring_is_the_key_to_success_in_foreign_military_sales>.

[54] Spencer Ackerman, Civilian Casualties Create New Enemies, Study Confirms, Wired, June 6 2010
<https://www.wired.com/2010/07/civilian-casualties-create-new-enemies-study-confirms/>.

made available to the US when it specifically requested it. And greater access could be made a requirement for future assistance in order to strengthen monitoring efforts.

- **Government information.** In Yemen, the US sometimes also had intelligence or other information that could be useful in helping to determine what was happening on the ground. This was not frequent, since the conduct of partnered militaries like the Saudi-led coalition was not an intelligence requirement for the Intelligence Community. It is possible that making this a priority would enhance the value of intelligence in this operational end use monitoring process.

- **Open source information.** Another rich information source for determining the outcome of operations is using open sources. This can range from civil society groups that do on-the-ground investigations to open source investigators leveraging social media. While militaries and governments are often dismissive of these types of sources, considering military data to be more reliable and accurate, the reality is that a complete picture of operational outcomes requires a merging of military and open source data. This is not limited to the Saudi-led coalition: a recent study by the US military determined that external allegations, based on open source data, were the source for the majority of the civilian casualties confirmed by the US-led coalition in Iraq and Syria. Militaries lack the full picture, and open source information can help complete that picture.

With these sources of information, what would this operational end use monitoring aim to determine? For quantifying the impact on civilians and understanding how to tailor US support, such a process should include two elements: tracking of civilian casualties and reconstruction and analysis of specific incidents of interest.

Tracking of civilian casualties

One measure of the conduct of a campaign is the number of civilians killed and wounded by a combatant. The US did not track this directly; however, other sources of information exist regarding civilian protection challenges in Yemen. The UN, for example, keeps and reports data on civilians killed in Yemen. Unfortunately the UN has reported this information only infrequently, so trends over time—to answer whether the challenges of civilian protection in Yemen were getting better or worse—could not be ascertained.

Several NGOs have reported on specific civilian casualty incidents in Yemen over time, which is invaluable for their documentation and details on these allegations. However, they do not aim to provide a comprehensive accounting of civilian casualties. In Yemen, the UN-funded Civilian Impact Monitoring Report (CIMP) has started such comprehensive tracking, which provides a window into understanding operational tempo and possible sources of civilian

casualties, but this effort began years after the conflict started—in some areas of Yemen in January 2018 and across Yemen in August 2018.

The incomplete tracking in Yemen contrasts with the comprehensive tracking of civilian casualties in Iraq, Syria, and Libya by Airwars, an independent organization receiving private and UN funding. Airwars has performed an important service to those conflicts, providing to militaries both independent estimates of the civilian tolls from conflicts and detailed allegations of specific incidents permitting them to assess and improve their own tracking and monitoring of civilian casualties. For example, many confirmed US civilian casualty incidents in Iraq and Syria originated from Airwars-provided information.[55] The service provided by Airwars is a best practice that should be replicated in other conflicts.

Another important measure is the rate of civilian casualties—the percentage of strikes causing civilian casualties divided by the total number of strikes. This measure represents the relative risk of civilian casualties from military operations. This rate is dependent on many factors, such as operating environment, adversary tactics that purposely endanger civilians, and the type of operation (e.g., airstrikes, artillery fire, ground operation). However, monitoring the rate over time allows a better understanding of how the relative risk to civilians is changing, allowing the possibility of focused interventions early on in response to emerging and troubling trends. For example, in 2010 and 2011, the US Joint Staff provided advisory assistance to International Security Assistance Force (ISAF) in Afghanistan related to reducing civilian casualties. One aspect was monitoring trends each month with ISAF-provided data. In January 2011, the Joint Staff noticed worsening trends in the civilian casualty rates for several types of operations. After alerting ISAF to these trends, the headquarters rapidly made operational changes that addressed the causes of those trends, and the rates and numbers of civilian casualties went back down.[56]

For US operations, the US military routinely releases numbers of airstrikes, which in an air-only campaign represents the denominator to the CIVCAS rate. However, the Saudi-led coalition does not regularly share this information. Thus, in Yemen, determining rates and operational trends over the last few years is not possible with information available to the public. Parties to conflicts should be encouraged to share information that, as both a transparency measure and a means to assess civilian protection risks.

Of course, this data could be—should be—tracked and compiled by the Saudi coalition, which has unique information that would be invaluable to determining operational outcomes. Indeed, this tracking process was a longer-term goal of US advising of the JIAT, because it was in a good position to track and monitor civilian casualties during assessments. In the future, the US

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[55] Airwars data can be found at: https://airwars.org/.

[56] Larry Lewis and Diane Vavrichek, Rethinking the Drone War, Marine Corps University Press, 2016.

should make such tracking and monitoring part of its advisory efforts with partners. The US can use this information to inform its own policy decisions.

Reconstruction and analysis of incidents of interest

It is useful to have additional information on specific incidents of interest to understand risk factors and how to mitigate them. Although this is best done with internal military data, to better understand operational processes, decisions, and intelligence sources underpinning those decisions, there is still value in assessments made without internal military data. When the JIAT announces that it investigated an incident and found that an allegation was unfounded, it would be useful to have independent verification of the facts in those allegations. For example, in a JIAT press release regarding a 2018 strike on a medical facility, the JIAT made claims about a lack of markings (a red crescent in this case) on the facility, but open source imagery showed that the facility was indeed marked as required.

Human rights groups such as Human Rights Watch (HRW) and Amnesty International work with partners on the ground to perform such assessments on some incidents, which tend to be rich sources of information. Such groups travel to the locations of specific incidents, where they can document the sites, determine weapon details and effects, and conduct interviews of affected individuals. This type of information is complementary to that normally held by militaries and ideally would be used by the military to strengthen its own assessments. However, because their intent is to provide illustrative examples, not a comprehensive database of incidents, there are many cases that are not reconstructed by these groups. Another approach is open-source investigations conducted by groups such as Bellingcat, using satellite imagery and other information available from sources such as Twitter, as well as officially reported information by the Saudi-led coalition, the JIAT, and groups like HRW.[57] In a proof of concept exercise in January 2019, Bellingcat analysts worked with journalists, human rights lawyers, and other experts to reconstruct a set of incidents of interest in Yemen. This exercise showed both the promise of this approach and the lack of standardized reporting and evidentiary standards for alleged civilian casualty incidents. Such a process would be useful for fully leveraging the efforts being made by different elements of civil society. Considering the richness of new data sets such as social media and satellite imagery, it is also worthwhile to consider the development of new tools that could automate and streamline parts of these reconstructions while also identifying additional potential incidents of concern.

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[57] https://www.bellingcat.com/

This approach, if institutionalized and robustly resourced, would significantly improve the information available on a wide set of incidents of concern. In addition to having this task performed by civil society, the US and other states could also adopt this approach for their internal monitoring, just as the US currently has internal resources devoted to Leahy vetting. While this would require some dedication of resources, the level of resources would be modest and costs could be built in to, and thus subsidized by, foreign military sales.

What was done for Yemen

The preceding sections detail what an operational end-use-monitoring program would look like in practice. This program was not in place over the previous four years of the Yemen campaign. However, limited efforts were done in conjunction with the mentoring efforts in late 2015 and early 2016. This process included analyzing overall operational trends from Saudi coalition mission reports (including target types and weapon usage, such as cluster munition use) and trends in civilian casualties. This process was intended to determine the effectiveness of the advising process and identify areas requiring more focus. However, it was challenged by a lack of resources and information sources: no personnel were dedicated specifically to this effort, so it became an additional duty with limited ability to devote needed time to this complex task. In addition, potential US sources such as intelligence channels were generally not useful, as the Intelligence Community responds to pre-determined priorities within the US government, and monitoring for civilian protection concerns in a partnered operation was not an intelligence collection requirement.[58]

Thus, in practice, this monitoring process involved consulting NGO reports and media reports, then cross-referencing them with coalition mission reports and having US military advisors ask their Saudi counterparts for amplifying information regarding specific allegations. While the coalition was relatively forthcoming during this time, the inability to verify facts independently and the lack of resources for this process reduced the fidelity of the available information. After the April 2016 cease-fire, the ad hoc monitoring function was ceased, as the State Department no longer provided operational advising and dedicated US military advisors were withdrawn. This left US policy makers and legislators, and the larger public, with little means of determining context and hard data to fuel their decisions and policies.

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[58] Samuel Oakford, One American's Failed Quest to Protect Civilians in Yemen, The Atlantic, August 17 2018 < https://www.theatlantic.com/international/archive/2018/08/yemen-saudi-airstrike-school-bus/567799/>.

Summary

Two kinds of analysis regarding civilian protection—tracking of civilian casualties caused in armed conflict and detailed reconstruction of specific incidents of concern—are critical for monitoring civilian protection concerns and evaluating the effectiveness of interventions with partners. At the same time, this information does not need to be generated by the US to be useful. In fact, there are advantages to having independent organizations performing these functions, as illustrated by the examples of AIRWARS, HRW, and Bellingcat. Militaries and governments do not have a monopoly on information, and the best fidelity is obtained through combining all the available information and teasing apart the ground truth to the best extent possible. More work can be done here, including developing standards and tools. To capitalize fully on this opportunity will require the US to be intentional in using information in an evidence-based approach to security assistance, but the international community also investing in this effort provides an information infrastructure that enables better managing of civilian protection efforts and risks.

Protection of health care: learning from Yemen

In Yemen, the Saudi-led coalition damaged or destroyed many medical facilities, exacerbating the humanitarian crisis. Besides the immediate victims, such attacks harm the civilian population in longer-lasting ways by depriving them of vital medical services. These attacks can disproportionately affect women and children, with higher fatality rates for that portion of the population seen in attacks on structures. Protection of medical services and those who need such care is a central goal of IHL. Yemen, with its many incidents involving health care affected by conflict, offers lessons that can strengthen these protection efforts.

Many initiatives are under way to promote the protection of health care in armed conflict. The primary thrust of these initiatives tends to be implementation of IHL. However, in initial work with the coalition and the JIAT in Yemen, in analyzed incidents where medical facilities were damaged or destroyed, they were not struck deliberately with premeditated intent. The US attack on the MSF hospital in Kunduz, Afghanistan, in 2015 also illustrates how militaries can unintentionally attack medical facilities. Rather, these incidents resulted from poor military practice leading to inadvertent strikes on medical facilities. Improving military practice can promote protection of these facilities and improve the coalition's ability to comply with IHL requirements.

The frequency of these incidents in Yemen stresses the importance of UN Security Council Resolution 2286 (UNSCR 2286), Healthcare in Armed Conflict. Particularly relevant is the recommendation for states to develop effective measures to help promote the protection of medical facilities and services, and to share challenges and good practices.[59] From analysis of past attacks on civilian objects, including health care, there are three practical ways militaries can better protect medical facilities from inadvertent attacks: improving deconfliction processes, improving the ability to identify medical facilities, and practicing civilian harm mitigation measures.[60]

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[59] Healthcare in Armed Conflict, UN Security Council Resolution 2286, 2016 <http://unscr.com/en/resolutions/doc/2286>.

[60] The analysis in this section is derived from civilian casualty lessons in Afghanistan, an analysis of IHL-related lessons from the Afghanistan campaign, and analysis of Saudi-led coalition incidents involving health care.

Strengthening deconfliction processes

Military forces can help protect medical facilities by improving deconfliction processes so that the protected status is understood by all elements in the fires approval process, making sure it is afforded all possible precautions. This deconfliction process failed in the US Kunduz incident, and it was also a factor in several Saudi-led coalition airstrikes on hospitals in Yemen.[61]

Medical facilities are afforded legally protected status under IHL. As such, they are generally included in a No Strike List (NSL), defined as "A list of geographic areas, complexes, or installations not planned for capture or destruction. Attacking these may violate the law of armed conflict or interfere with friendly relations with indigenous personnel or governments."[62] Active deconfliction of targeting decisions using this list is a vital part of the responsible use of force. From a legal perspective, protected entities on the NSL can, under certain circumstances, become lawful military targets. Even then, they are still subject to the IHL principle of proportionality, where the military advantage must outweigh the expected harm to civilians.

These targets carry strategic considerations as well. The legal question answers, "Can I shoot?" Targeting decisions should also carry a policy component that aims to answer, "Should I shoot?" The latter question is critical as the benefit of engaging a particular target may not be as significant as the potential negative second-order effects of that engagement. Single tactical actions can have strategic consequences for states using force, including a tarnished reputation and reduced international support.

When a military target is found to be using an entity on the NSL for a military purpose or is found to be in proximity to an entity on the NSL, there are a number of best practices that can help guide targeting decisions and guard against negative strategic effects from harming these entities. These include:

- Provide warnings. Give public warnings with evidence of military use of protected sites, including photographs or video when available, and call for enemy forces to discontinue use of that site. Warnings can also include expressing concern about following international law and promoting humanitarian needs of civilians and calling for opposing combatants to do the same.

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[61] This problem is not limited to medical facilities. In CNA analysis of friendly fire incidents, we observed similar challenges: in the majority of cases where U.S. forces engaged other U.S. forces or their allies, someone in the chain of command knew the intended target was friendly, but that information did not reach the shooter to avert the mistaken engagement.

[62] US Joint Staff, Joint Publication 3-60, Joint Targeting, September 28 2018.

- Show tactical patience. Instead of engaging enemy forces in proximity to protected sites, wait until they move to another location and then strike them.
- Consider tactical alternatives. Instead of an airstrike, are there ground forces that could investigate the military target and determine if there are noncombatants along with combatants? When feasible, if the target is critical to the campaign, history shows that a ground operation can result in fewer casualties and less damage to infrastructure.
- Coordinate. Two-way communication is important. This includes:
    - Proactively communicate with others. For NGOs and international organizations (IOs), call them proactively if they are in the area being targeted and make sure their activity has not been mistaken for that of enemy combatants. Also consider contacting providers of NSLs to get additional information before making the decision to target NSL entities.
    - Be available and receptive to NGOs/IOs. NGOs and IOs operating in an area of armed conflict have concerns about being inadvertently targeted. Some NGOs state they attempted to communicate with combatants but could not reach anyone to discuss their status or make an appeal about losing their protected status.
    - Provide a coalition hotline as a best practice to handle such coordination effectively. It should be manned 24 hours a day by military personnel connected to the operational chain of command and empowered to intervene in targeting decisions.

These options can be more challenging to exercise for dynamic and time-sensitive targets. However, they can be even more critical for those targets as short timelines can reduce situational awareness of the actual conditions on the ground. In Yemen, the majority of incidents affecting health care were dynamic targeting. This is consistent with what was seen in Afghanistan: a significant percentage of civilian casualty incidents resulted from dynamic targeting, where engagements were conducted without extended planning and intelligence preparation of the battlefield. Compressed timelines can also reduce the time for recognizing the possibility of unintended negative strategic effects. One solution to this is rapid coordination regarding these time-sensitive targets by using predetermined battle drills, with pre-established procedures and points of contact. Tactical alternatives should also be carefully considered, weighing several different courses of action and their impacts on both the military objective and the larger humanitarian situation before deciding on the appropriate course of action.

Collectively, these steps can help inform the critical policy decision of whether militaries should strike NSL targets. Properly managed, this process can help avoid humanitarian impacts while also managing negative strategic effects, promoting international support, and exposing unlawful opposition tactics.

Identification of medical facilities

Identifying medical facilities is not always easy for tactical forces. Medical facilities in areas of armed conflict are not always in clearly identifiable structures such as established hospitals. And while IHL is clear about the protected status of medical facilities, the only practical measure provided in IHL is the original Geneva Conventions of 1949 statement that medical facilities should display a sign (traditionally a red cross or crescent) to show they are protected.[63] But advancing technology, sensors, and networking may make this measure less effective. For example, a colored marking will not necessarily be a discriminating feature for an aircraft conducting an air strike using an infrared sensor. Meanwhile, the increased use of networks and distributed targeting stresses the importance of information being at multiple locations and echelons. The frequent strikes on medical facilities in the last few years suggest that additional practical measures for improving awareness regarding medical facility locations would be useful. These measures could include alternative discrimination measures that health care providers could display (for example, a combination of color and IR beacon) and a requirement for militaries to be able to display and exchange NSL information in tactical systems (e.g., displays in an aircraft cockpit or exchange of NSL information over digital datalinks) for improved situational awareness.

Practicing civilian harm mitigation measures

Another way to help improve the protection of medical and other protected facilities is to follow best practices for civilian harm mitigation, representing constant care to spare civilians and civilian objects. When US and international forces in Afghanistan began their focus on avoiding civilian casualties in 2009, they developed a number of best practices for maintaining the effective and responsible use of force and reducing the risk of civilian casualties. Best practices for reducing civilian casualties include:

- Exercising tactical patience when possible. This includes taking additional time to scrutinize the target and intelligence in all situations when there is not an immediate threat to military or civilians. It can also involve delaying engagements when possible, for example, letting a military target drive through a populated area and then striking the target when there are no collateral concerns.

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[63] See, for example: Section 18, Convention (IV) relative to the Protection of Civilian Persons in Time of War. Geneva, 12 August 1949 <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/9861b8c2f0e83ed3c1256403003fb8c5/59ab4daffbf70295c12563cd0051bb01>.

- Improving the use of intelligence for operations using force, such as relying on multiple sources of intelligence, scrutinizing the credibility and reliability of intelligence sources (particularly human intelligence), avoiding use of latent intelligence or information, and leveraging sources to report on the disposition of civilians as well as enemy forces.
- Considering tactical alternatives, such as weapon selection (ordnance size and type, including weapons that are more precise or have narrower areas of effect) and weaponeering measures for reduced effects on civilians, including special tactics for laser-guided bombs.
- Ensuring care is taken when re-striking a target, such as ensuring that positive identification (PID) is maintained, and conducting a new collateral damage estimate (CDE) for the follow-on strike.
- Having pilots ask questions to ground controllers before they conduct a strike on dynamic targets. How did you get PID? Are you sure there are no civilians present?
- Exercising extra care when targeting buildings. Buildings can introduce a higher risk of civilian casualties because civilians may be unobserved but still present. Exercising tactical patience (e.g., waiting for combatants to leave a building instead of striking it), considering tactical alternatives, and seeking additional intelligence for improved pattern of life are best practices for this target type. These considerations are especially urgent for targets in an urban environment.
- Using enhanced precautions for strikes in proximity of protected entities such as schools and hospitals (see next section).
- Reporting and conducting civilian casualty battle damage assessments, including seeking different options for obtaining ground truth after the use of force.

Implementation of these best practices can be aided by overarching policy that supports institutional focus on civilian protection. Consistent with this, the development of national policy and processes for reducing civilian casualties is a key recommendation of the 2018 UN Secretary General's Annual Protection of Civilians report.[64] These policies and processes would strengthen civilian protection measures taken in conflict, including those involving health care.

Summary

Considering that attacks on health care have both immediate and longer-term impacts on the welfare of the population, and given the frequency of these attacks in Yemen, it seems worthwhile for the US to ensure that health care-specific considerations are included in overall

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[64] United Nations Security Council, Protection of civilians in armed conflict, May 14 2018 <https://undocs.org/en/S/2018/462>.

efforts to promote civilian protection in security assistance. This can include attention to civilian harm mitigation and deconfliction measures in mentoring efforts, prioritizing technical solutions to improve situational awareness and discrimination of health care, and investment in the larger international effort to promote safety of health care under SCR 2286. Likewise, international efforts to implement SCR 2286 should include practical military best practices that can help promote protection of health care.

We note that there are other aspects to protecting health care besides preventing attacks. For example, ensuring civilians have unimpeded access to medical services, avoiding militarization of health care facilities, and providing for medical needs of those under a military's direct control. That said, keeping medical facilities and providers from attack is a critical component of a comprehensive approach to the protection of health care in conflict.

Conclusions and recommendations

Conclusions

In this report we examine US security assistance to the Saudi-led coalition in Yemen, an experience that illustrates the challenge of positively influencing a military campaign from the outside, without being a party to the conflict. We find that the overall US approach was fragmented. As a result, the US struggled to manage interests, costs, and risks associated with assistance to the coalition. In response to increased concerns about the conduct of the campaign, the US ceased mentoring efforts designed to improve coalition conduct regarding civilians, while continuing operational support. This approach is the opposite intention of the Leahy law, which promotes partner accountability and good behavior.

Given the negative outcomes seen in Yemen, we present an alternative approach to security assistance that would better manage interests and risks, including risks to civilians, in the context of armed conflict. Because good information is critical for monitoring and making tailored decisions, we describe steps that both the US and the international community can make to improve the information infrastructure for better decision making. In light of the significant toll on health care facilities observed in Yemen, we also analyze challenges and best practices in the protection of medical facilities. The international community has stressed the importance of protecting health care, and Yemen offers key lessons that can strengthen these efforts.

Overall, the fragmented US approach to its support to the Saudi-led coalition contributed to the humanitarian disaster in Yemen, caused reputational damage to the US because of its role in the conflict, and has brought strategic risks in the longer term because of the continuing instability in Yemen and the reduced legitimacy of US strategic partners. As the world's largest provider of military weapons and equipment, and with many partners receiving US training, the US could experience the challenges in Yemen in different conflicts elsewhere. In this report we outline an alternative approach. When operational assistance was combined with focused mentoring on civilian harm, there were measurable improvements from very modest costs. Institutionalizing this approach could easily be subsidized in the larger foreign military sales process. Such an approach can help the US to more effectively manage the risks of security assistance when a partner engages in armed conflict, to enable the US and the international community to better promote civilian protection from the outside, and to promote the interests of partner forces in the longer term. Learning from the lessons from Yemen is good for the US and good for its partners. The following recommendations provide a way that this can be done.

Recommendations

The following are our recommendations for the US and the international community:

- Improve the US security assistance process both for the context of Yemen and for all cases where partners use force in an armed conflict. This should include:

  o changes to arms sales policy to introduce civilian protection as a criteria for approval and continuance of support (e.g., included in overall policy and in specific Foreign Military Sales agreements);

  o expanded advising and mentoring on civilian protection during hostilities, mandated as a condition of assistance;

  o analyzing operational outcomes of US assistance through a new process of operational end-use monitoring, and

  o working proactively with partners through training and education to build a foundation for civilian protection before conflict begins.

  Considering its similar role and challenges in Yemen, the UK would also benefit from these changes.

- Countries, the UN, and civil society should commit to monitoring programs for civilian casualties and other humanitarian effects of armed conflict. This monitoring should begin at the start of a conflict when possible.

- States should improve available information on civilian protection challenges with partners, providing data to policy makers and legislators to enable an evidence-based approach. While much of this information will be sensitive for internal government use, transparency regarding efforts and challenges is also valuable.

- The 2019 UN Protection of Civilians (POC) report should stress implementation of its 2018 recommendation for the development of national policy and practice, making this a priority for states and civil society. The UN and other groups should also convene working groups on specific civilian protection challenges to share lessons and promote military best practices to improve states' ability to protect civilians.

- The UN and NGOs should standardize reporting and evidentiary standards for alleged civilian casualty incidents to improve the ability of militaries, the UN, and NGOs to work together and improve the quality of available information. Likewise, militaries should develop standardized ways to accept such external information. The AIRWARS-Counter-ISIS Coalition experience and Bellingcat's Yemen Hackathon experiment can be starting points for this initiative.

- States, the UN, and NGOs should refine data-mining techniques for harvesting available data sources (e.g., social media) to improve the availability and quality of information on civilian casualty incidents and allegations.

- The US should include health care-specific considerations in overall efforts to promote civilian protection in security assistance. This can include attention to civilian harm mitigation and deconfliction measures in mentoring efforts, prioritizing technical solutions to improve situational awareness and discrimination of health care, and investment in the larger international effort to promote safety of health care under SCR 2286.

- States should act on the UN Security Council Resolution 2286's recommendation to develop effective measures and share challenges and best practices for protecting medical facilities and services. This action could include sponsoring a conference to address challenges seen in Yemen, and similar lessons from other conflicts, with the goal of developing solutions to address them.

Appendix A. List of references for JIAT press releases

The analysis of JIAT results relies in part on information in their press releases. Since there is no single site for finding these releases, the JIAT press releases considered by the author are included here.

Date of incident	target description	SPA announcement date	Link
Apr 11 2015	Ministry of Education (Amran)/house	Jun 6 2018	https://www.spa.gov.sa/viewfullstory.php?lang=en&newsid=1774074
Apr 21 2015	bridge	Mar 5 2018	https://www.spa.gov.sa/1733473
May 05 2015	cultural center (Saada city)	Sep 12 2018	https://www.spa.gov.sa/1812902
May 12 2015	Shajjea market	Sep 12 2018	http://www.arabnews.com/node/1370781/saudi-arabia
Jun 04 2015	residences	Aug 12 2018	https://www.spa.gov.sa/1797114
Jun 06 2015	residences	Mar 5 2018	https://www.spa.gov.sa/1733473
July 6 2015	cattle market	Dec 6 2016	https://www.spa.gov.sa/viewstory.php?lang=en&newsid=1567371
Jul 07 2015	Alwaht mosque	Sep 12 2018	http://www.arabnews.com/node/1370781/saudi-arabia
Jul 07 2015	German hospital	Feb 23 2017	https://www.spa.gov.sa/viewstory.php?lang=en&newsid=1595489
Jul 08 2015	bab Aden reservoir	Jul 15 2018	https://www.spa.gov.sa/1785166
Jul 12 2015	cement factory	March 5 2018	https://www.spa.gov.sa/viewstory.php?lang=en&newsid=1733475
Jul 19 2015	residences	Sep 12 2018	https://www.spa.gov.sa/1812902
Jul 24 2015	residential complex	Aug 4 2016	https://www.spa.gov.sa/1524799
Aug 07 2015	hospital	Mar 5 2018	https://www.spa.gov.sa/1733467
Aug 24 2015	Asmaa school	Dec 6 2016	https://www.spa.gov.sa/viewstory.php?lang=en&newsid=1567351
Aug 30 2015	water factory	Apr 2 2017	https://www.spa.gov.sa/1610999
Sep 19 2015	UNESCO site	Jun 6 2018	https://www.spa.gov.sa/1774226?lang=ar&newsid=1774226
Sep 22 2015	Al Wazir school	Jun 6 2018	https://www.spa.gov.sa/1774226?lang=ar&newsid=1774226
Oct 06 2015	wedding (Dhama? Oct 7?)	Aug 4 2016	https://www.spa.gov.sa/1524799
Oct 13 2015	96 houses	Jun 7 2018	https://www.spa.gov.sa/1774226?lang=ar&newsid=1774226
Nov 09 2015	WFP trucks	Aug 4 2016	https://www.spa.gov.sa/1524799
Dec 02 2015	mobile hospital (MSF, Taiz)	Aug 4 2016	https://www.spa.gov.sa/1524799
Jan 15 2016	Chamber of Commerce building	Jul 15 2018	https://www.spa.gov.sa/1785166
Jan 26 2016	hospital (MSF)	Aug 4 2016	https://www.spa.gov.sa/1524799
Feb 03 2016	cement factory	March 5 2018	https://www.spa.gov.sa/viewstory.php?lang=en&newsid=1733475
Feb 09 2016	home	Aug 1 2018	https://www.spa.gov.sa/viewstory.php?newsid=1792293
Feb 14 2016	castle and homes	Aug 1 2018	https://www.spa.gov.sa/viewstory.php?newsid=1792293
Feb 14 2016	tailoring factory	Sept 26 2018	https://www.spa.gov.sa/1819002
Feb 27 2016	market	Aug 4 2016	https://www.spa.gov.sa/1524799
Mar 15 2016	market	Aug 4 2016	https://www.spa.gov.sa/1524799
May 25 2016	house	Aug 12 2018	https://www.spa.gov.sa/1797114
Aug 9 2016	food factory (Sweden)	Dec 6 2016	https://www.spa.gov.sa/viewstory.php?lang=en&newsid=1567371
Aug 13 2016	Al Fazel school	Dec 6 2016	https://www.spa.gov.sa/viewstory.php?lang=en&newsid=1567371
Aug 15 2016	Abs hospital (MSF)	Dec 6 2016	https://www.spa.gov.sa/viewstory.php?lang=en&newsid=1567351
Aug 20 2016	vehicle	July 31 2018	https://www.spa.gov.sa/1792284
Feb 22 2017	fishing boats	Sep 12 2018	https://www.spa.gov.sa/1812902
Mar 16 2017	ship off port of Hodeidah	Sept 26 2018	https://www.spa.gov.sa/1819002
May 25 2017	house and shop	Jan 16 2019	https://www.spa.gov.sa/1875233
Jun 03 2017	health center (cholera)	Jul 15 2018	https://www.spa.gov.sa/1785166
Jun 17 2017	building and qat market	Mar 5 2018	https://www.spa.gov.sa/1733467
Aug 23 2017	hotel and shops	July 31 2018	https://www.spa.gov.sa/1792284
Sep 16 2017	vehicle	Aug 12 2018	https://www.spa.gov.sa/viewfullstory.php?lang=en&newsid=1797113
Dec 26 2017	market (Alhaima)	Aug 12 2018	https://www.spa.gov.sa/viewfullstory.php?lang=en&newsid=1797113
Jan 08 2018	fish wealth HQ and fishing gear wearhouse	Dec 25 2018	https://www.spa.gov.sa/1857116
Apr 9 2018	welding workshop/medical school	Sep 12 2018	http://www.arabnews.com/node/1370781/saudi-arabia
Apr 22 2018	wedding	Sep 12 2018	http://www.arabnews.com/node/1370781/saudi-arabia
May 27 2018	boats in Hodeidah port	Aug 12 2018	https://www.spa.gov.sa/1797114
Aug 09 2018	school bus	Sept 1 2018 (and others)	https://www.spa.gov.sa/1804423

Abbreviations

AQAP	Al-Qaeda in the Arabian Peninsula
CDE	collateral damage estimate
CIMP	Civilian Impact Monitoring Project
CIVCAS	civilian casualties
DOD	Department of Defense
GCC	Gulf Cooperation Council
HRW	Human Rights Watch
ICRC	International Committee of the Red Cross
IHL	international humanitarian law
ISAF	Inter-Regional Smart Agriculture Forum
JCPC	Joint Combined Planning Cell
JIAT	Joint Integrated Assessment Team
LOAC	law of armed conflict
MSF	Medecins Sans Frontieres
NSL	No Strike List
PID	positive identification
POC	Protection of Civilians
UN	United Nations

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