

DRONE STRIKE: ANALYZING THE IMPACTS OF TARGETED KILLING

Analyzing the Impacts of Targeted Killing: Lessons for the United States

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It ain't what you don't know that gets you into trouble.
It's what you know for sure that just ain't so.¹

A prominent instrument of U.S. counterterrorism efforts over the past twenty years has been the use of remotely piloted aircraft, or drones, to target members of al Qaeda and groups associated with it (which I will refer to as al Qaeda for the sake of brevity). Operations that have generated the most debate are targeted strikes against al Qaeda leaders outside war zones or what are legally called areas of armed conflict. Most of the latter strikes have been in northwest Pakistan in the Federally Administered Tribal Areas (FATA), in Yemen, and in Somalia (although some strikes in Yemen and Somalia have occurred during armed conflict).

For various reasons, something as basic as determining the number of strikes in these areas is challenging, not least because the United States does not always acknowledge when it conducts a strike. Based on information from major organizations that have local sources and conduct investigations in these areas, the best estimate is that from 2002-2021, the United States conducted roughly between 900 and 1,100 targeted strikes in these countries. Determining the number of deaths is even more challenging, but the best estimates are between 4,000 and 7,900.²

These operations have sparked intense debate about whether strikes are lawful or unethical, whether they are effective in combatting terrorist groups, and how much harm they cause to civilians. One unfortunate feature of this debate is that some parties on both sides tend to make sweeping factual claims. Only rarely, however, do they attempt to provide empirical evidence to support them. When

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1. Most commonly attributed to Mark Twain. *It Ain't What You Don't Know That Gets You Into Trouble. It's What You Know for Sure That Just Ain't So*, QUOTE INVESTIGATOR (Nov. 18, 2018), <https://perma.cc/486Z-4EBC>.

2. MITT REGAN, DRONE STRIKE: ANALYZING THE IMPACTS OF TARGETED KILLING, 261–68 *tb1.9.1* (2022) [hereinafter DRONE STRIKE].

they do, they tend to be selective in pointing to research that supports their view. As Patrick Johnson and Anoop Sarbahi observe:

As the debate over the use of drones for counterterrorism efforts intensifies, participants resort to anecdotal evidence to support their positions. This is unfortunate, as unmanned aerial vehicles (UAVs) and their lethal targeting capabilities will likely remain a critical aspect of current and future counterterrorism efforts.³

In my recent book *Drone Strike: Analyzing the Impacts of Targeted Killing*, I review and evaluate quantitative and qualitative evidence on the effects of U.S. targeted strikes on terrorist groups and civilians outside war zones.⁴ Greater clarity on empirical questions will not by itself resolve a debate that has an important normative dimension. That debate, however, should not occur in an empirical vacuum. Understanding what targeting is able to accomplish, and at what cost to whom, can help ensure that our policy decisions and normative judgments are as fully informed as possible.

The major findings from my research are as follows. First, with respect to impacts on al Qaeda, strikes against al Qaeda leaders have not caused the organization to decline nor to reduce the number of attacks that it conducts worldwide. Second, while the evidence is not unequivocal, it suggests that strikes reduced the number of terrorist attacks in areas where they occurred for a period of up to four weeks. Unless additional ongoing strikes occurred, however, attacks eventually resumed at a roughly similar level. Finally, it is reasonable to conclude that strikes against top al Qaeda leadership known as al Qaeda Core (AQC) in the FATA helped reduce the risk of major attacks on the United States, although stronger counterterrorism defenses likely were the main reason for this reduction.

With respect to impacts on civilians, estimates are that civilians may have constituted more than 20% of persons killed from strikes from 2002-2012.⁵ From 2013-2021, however, estimates are that this percentage dropped to between 3.5% and 4.4%.⁶ At the same time, the United States has struggled to meet its own standard of near certainty of no civilian casualties because of the failure to institutionalize prevention and mitigation of civilian harm.

Finally, while the evidence is not uniform, it generally indicates that drone strikes cause resentment toward the United States in areas where they occur. Evidence does not, however, support the claim that such resentment results in greater sympathy for terrorist causes, or increases in recruitment to terrorist groups.

3. Patrick B. Johnston & Anoop K. Sarbahi, *The Impact of U.S. Drone Strikes on Terrorism in Pakistan*, 60 INT'L STUD. Q. 203, 203 (2016).

4. DRONE STRIKE, *supra* note 2.

5. DRONE STRIKE, *supra* note 2, at 252.

6. DRONE STRIKE, *supra* note 2, at 252.

I do not have space here to discuss in detail all the nuances of these findings. I therefore will discuss them briefly but will focus mainly on two of them because they have been particular sources of controversy. The first of these is the extent to which strikes against al Qaeda leaders helped reduce the risk of major al Qaeda attacks on the United States, while the second is the extent to which drone strikes result in civilian casualties.

IMPACT ON AL QAEDA AS A WHOLE

Some studies that examine the effect of strikes on al Qaeda as a whole use, as their independent variable, strikes against particular al Qaeda leaders.⁷ Many, however, do not. Some use the general category of strikes against all al Qaeda leaders,⁸ while others use strikes in the FATA, which can be used as a rough proxy for strikes against leaders because of the concentration of AQC members there.⁹ Dependent variables generally are the number of attacks conducted by al Qaeda as a whole, with some also using the size of the group as an indication of its strength. Notwithstanding these differences, there is a general consensus that strikes against al Qaeda leaders did not reduce the number of attacks by the group nor cause it to decline.

This should not be surprising in light of both how al Qaeda is structured and the research on targeting leaders of other terrorist organizations. First, al Qaeda is not a hierarchical entity in which operational units rely on instruction from the top leadership in order to conduct attacks. As Daveed Gartenstein-Ross and Nathaniel Barr observe, “From the outset, al-Qaeda adopted a unique organizational design, whereby its senior leadership outlined a strategic course for the organization as a whole, but empowered mid-level commanders to execute this strategy as they saw fit.”¹⁰

This is captured in the principle, “[c]entralization of decision and decentralization of execution.” As Abu Obaida Yusuf al-Anabi, the head of al Qaeda in the Islamic Maghreb (AQIM) described it, al Qaeda “identifies the overall goals and sets the broad headlines of the jihadist strategy, but leaves the details of the operational tactics on the ground to the branches to determine.”¹¹ As long as attacks further the broad strategic objectives of the organization as articulated by AQC, group leaders draw on their knowledge of local conditions to determine when and where to conduct them.

7. See, e.g., Jennifer Varriale Carson, *Assessing the Effectiveness of High-Profile Targeted Killings in the “War on Terror”*, 16 CRIMINOLOGY & PUB. POL’Y, 191, 191 (2017).

8. See, e.g., JENNA JORDAN, LEADERSHIP DECAPITATION: STRATEGIC TARGETING OF TERRORIST ORGANIZATIONS (2019) [hereinafter LEADERSHIP DECAPITATION].

9. See, e.g., Anouk S. Rigterink, *The Wane of Command: Evidence on Drone Strikes and Control Within Terrorist Organizations*, 115 AM. POL. SCI. REV. 31, 31 (2021).

10. Daveed Gartenstein-Ross & Nathaniel Barr, *How Al-Qaeda Works: The Jihadist Group’s Evolving Organizational Design, Current Trends in Islamist Ideology*, HUDSON INST. (June 1, 2018), <https://perma.cc/A2NN-QQDK>.

11. Wassim Nasr, *Exclusive: FRANCE 24 Questions AQIM Jihadist Leader*, FR. 24 (May 30, 2019, 4:24 PM), <https://perma.cc/X2CS-LL9W>.

Once we understand that al Qaeda is a network in which members are not dependent on either permission or resources from AQC to conduct attacks, we can see why strikes weakening AQC would have minimal, if any effect on the goal of reducing attacks by the network as a whole. AQC's role has been to provide strategic guidance to the groups that comprise the network, but there have been several instances in which a group has ignored such guidance and pursued its own agenda.

Broader research on targeting leaders of other terrorist groups provides additional insight into why strikes have had minimal effect on activity by al Qaeda as a whole. Research tends to focus on two outcomes: the survival of a group after suffering a decapitation and the number of attacks it conducts after such an event.¹²

Studies find that leadership targeting in some cases can cause a group to collapse or reduce the number of attacks it conducts. The most notable findings regarding group survival that are relevant to leadership targeting against al Qaeda are that younger and smaller groups are more vulnerable to dissolution from decapitation than other groups, and that religious groups are less vulnerable.¹³ Yasutaka Tominaga suggests that older groups are likely to be more adaptive because of their experience with targeting.¹⁴ In addition, older and larger groups may be more likely to have the kind of quasi-bureaucratic structure and community support that Jenna Jordan argues increases resilience.¹⁵ Al Qaeda was a large and relatively mature organization at the time that the U.S. targeting campaign began, and it is, of course, religiously-based.

It is more difficult to extract lessons on the effect of targeting on terrorist group attacks than its impact on group survival, given the divergent findings on the former.¹⁶ Nonetheless, findings of increases in attacks by Islamist groups, and attack fatalities by religious groups, after a successful targeting seems plausible given findings that religious groups are less likely than other groups to dissolve after suffering a decapitation.

Finally, studies that combine analysis of group survival and attacks as dependent variables suggest that targeting leaders of older and larger religiously-oriented groups is especially unlikely to be effective in reducing attacks by the group as a whole, or in affecting its rate of survival.¹⁷

These findings provide some insight into why targeting al Qaeda leaders did not have an effect on the group as a whole. They help explain why, to the extent that the U.S. believed that a strike campaign would "defeat" al Qaeda, it failed to achieve this goal.

12. DRONE STRIKE, *supra* note 2, at 67–90.

13. DRONE STRIKE, *supra* note 2, at 67–75.

14. Yasutaka Tominaga, *Evaluating the Impact of Repeated Leadership Targeting on Militant Group Durability*, 45 INT'L INTERACTIONS 865, 865 (2019).

15. LEADERSHIP DECAPITATION, *supra* note 8, at 62.

16. DRONE STRIKE, *supra* note 2, at 75–79.

17. DRONE STRIKE, *supra* note 2, at 79–87.

IMPACTS IN STRIKE AREAS

Research on the impacts of strikes in areas where they occurred indicates that they were effective in reducing attacks in those areas for some period of time. Most of these are studies of the impacts of strikes in the FATA and Pakistan, and are among the most methodologically sophisticated work that has been done on targeted strikes. Most, although not all, of these find that strikes are associated with a reduced rate or risk of attacks in the FATA or Pakistan more generally.¹⁸

This effect lasts at most four or perhaps five weeks, however, after which terrorist attacks resume at roughly the same rate. More enduring declines require an ongoing campaign of persistent strikes, which may be difficult to sustain. More ambitiously, the respite from attacks that strikes provide could be used to try to institute governance reforms that might reduce the appeal of violent extremism, although this can be a very difficult task.

Asfandyar Mir and Dylan Moore suggest that these impacts of strikes reflect their potential to reduce militant violence through both kinetic and anticipatory effects. Kinetic effects consist of “damage to insurgent organizations directly caused by drone strikes, such as leadership decapitation, rank-and-file attrition, lost capabilities, and casualties of civilian supporters.”¹⁹ Anticipatory effects are changes in militant behavior based on fear of being targeted in the future.²⁰

With regard to the latter, although any threat of force by state forces may have anticipatory effects, “a drone program’s sustained surveillance and swiftly executed strikes may produce especially high levels of the perceived risk of targeting.”²¹ As a result, “[i]nsurgents may feel compelled to significantly adjust their organizational practices to mitigate the threat posed by a drone program, inducing changes in the way they move, communicate, and interact within their group in a bid to avoid targeting.”²² These changes, Mir and Moore argue, prevented groups like al Qaeda and the Pakistani Taliban (TTP) from successfully adapting to the drone program “because they resulted in “three major changes in insurgent life: restricted movement, constrained communication, and compromised intragroup trust.”²³

Mir and Moore contend that these anticipatory effects can produce more enduring changes than those in the immediate aftermath of individual strikes. They

18. See Asfandyar Mir & Dylan Moore, *Drones, Surveillance, and Violence: Theory and Evidence from a U.S. Drone Program*, 63 INT’L STUD. Q. 846, 846 (2019); David A. Jaeger & Zahra Siddique, *Are Drone Strikes Effective in Afghanistan and Pakistan? On the Dynamics of Violence Between the United States and the Taliban*, 64 CESIFO ECON. STUD. 667, 667 (2018); Patrick B. Johnston & Anoop K. Sarbahi, *The Impact of U.S. Drone Strikes on Terrorism in Pakistan*, 60 INT’L STUD. Q. 203, 203 (2016). But see Rafat Mahmood & Michael Jetter, *Military Intervention via Drone Strikes* (IZA Inst. of Lab. Econ., Discussion Paper No. 12318, 2019) (finding increase in terrorist attacks in Pakistan after strikes in the FATA).

19. Mir & Moore, *supra* note 18, at 2.

20. Mir & Moore, *supra* note 18, at 2.

21. Mir & Moore, *supra* note 18, at 2.

22. Mir & Moore, *supra* note 18, at 2.

23. Mir & Moore, *supra* note 18, at 2.

find that most of the correlation they identify between the strike program and reduced terrorist attacks from 2008 and afterward “cannot be explained as simply the aggregation of the impact of many individual drone strikes,” which would reflect only kinetic effects.²⁴ Rather, it represents anticipatory changes in militant behavior that contributed to fewer attacks. Thus, “kinetic effects interacted with anticipatory effects in first damaging and then constraining the recovery” of al Qaeda and the TTP.²⁵

Mir and Moore note the importance of Pakistan’s assistance in this campaign.²⁶ In a separate article, Mir argues that an effective counterterrorism campaign by a “counterterrorism state” outside its borders (such as the U.S.) is marked by what he calls “legibility” and “speed of exploitation.”²⁷ The first refers to the acquisition of detailed intelligence about the area of operations, which includes information on various characteristics of the population, their activities, and personal, social, economic, and political networks. A state can leverage legibility “to generate information—cues, leads and other details—on an armed group hiding within the population.”²⁸ Because of its limited ground presence, the counterterrorism state must rely on technology and local partner cooperation in order to achieve legibility. Speed of exploitation refers to the rate at which such intelligence can be utilized to conduct operations such as targeted strikes.

Not all campaigns are in a position to create these two conditions for success, but Mir argues that the U.S. campaign in the FATA was. This highlights that the effectiveness of drone strikes depends on a substantial supporting infrastructure, not simply the technological features of the platform itself.

IMPACT ON RISK OF ATTACK IN THE US

While US targeting of al Qaeda leaders had no effect on the threat of al Qaeda attacks overall, a more modest but especially important goal was to reduce the threat of attacks on the United States. Did targeting have any effect on this threat? There is reason to believe that targeting the element of leadership in Pakistan known as al Qaeda Core (AQC) contributed to reducing this threat. Understanding why requires appreciating the priority that AQC places on attacking the United States, and on how strikes weakened its ability to plan and coordinate such attacks.

Al Qaeda Core

AQC has played a distinctive role throughout al Qaeda’s history in persistently focusing on attacks on the “far enemy” in the United States and the West. As Gartenstein-Ross and Barr explain, this has been “motivated by a strategic belief

24. Mir & Moore, *supra* note 18, at 14.

25. Mir & Moore, *supra* note 18, at 15.

26. Mir & Moore, *supra* note 18, at 15.

27. Asfandiyar Mir, *What Explains Counterterrorism Effectiveness? Evidence from the U.S. Drone War in Pakistan*, 43 INT’L SEC. 45, 45 (2018).

28. *Id.* at 52.

that al-Qaeda could only topple local regimes and establish Islamic emirates if it first crippled the West, because Western military and economic support would prevent ‘near enemy’ regimes from falling.”²⁹ Al Qaeda thus historically has grown through the strategy of, as Daniel Byman puts it, “transforming preexisting Salafi-jihadist groups with a local agenda into al Qaeda affiliates with a more global perspective.”³⁰ AQC historically has played this role. Affiliates generally, although not exclusively, tend to focus on local concerns in places like Syria, Iraq, Yemen, and the African Maghreb and Sahel.

Thus, for instance, Bin Laden formulated guidance to al Qaeda affiliates declaring that the organization’s focus should be on the “bigger external enemy before the internal [enemy].”³¹ He told his lieutenants, “The most important activities the [al Qaeda] Organization can carry out are operations that directly affect the security and economy of all of the American people. . . Operations inside America and targeting oil abroad. . .are among the strongest and fastest ways to affect the [American] people. . .”³²

Consistent with this, documents obtained in the mission against bin Laden at Abbottabad indicate that he advised al Qaeda in the Arabian Peninsula (AQAP) not to target the Yemeni army and police force. “The Americans are our desired goal,” he said. He used the metaphor of a tree to make his point. The enemies of Muslims, he said, “are like a malignant tree: it has a 50 cm American trunk and branches that differ in sizes. . . Thus, the sound and effective way to bring the tree down would be to focus our saw on its American root.”³³ Focusing instead on the branches, he said, “would disrupt our efforts and energy.”³⁴

Similarly, he wrote in his appointment letter to AQC member Attiyah Abd-al-Rahman that al Qaeda’s priority should be attacks in the US. “Given that the difference of the impact of attacks against the foes inside or outside of America is substantial,” he said, “we need to confirm to the brothers that every effort that could be spent on attacks in America would not be spent outside of it.”³⁵

AQC used its safe haven in Afghanistan to mount attacks on the United States in 1993 and U.S. persons abroad in 1998 and 2000, culminating in the 9/11 attacks. It operated training camps to instruct and prepare operatives for attacks in the West; provided strategic, operational, and logistical guidance for such attacks; and furnished financial support for them. The invasion of Afghanistan and the overthrow of the Taliban eliminated AQ’s safe haven in that country that enabled it to engage in these activities.

29. Gartenstein-Ross & Barr, *supra* note 10.

30. Daniel Byman, *Buddies or Burdens? Understanding the Al Qaeda Relationship with its Affiliate Organizations*, 23 SEC. STUD. 431, 454 (2014).

31. Letter from Osama bin Laden, al Qaeda Founder, to Letter to Nasir al-Wuhayshi, West Point Combating Terrorism Center, Reference Number:SOCOM-2012-0000016, at 7.

32. *Id.*

33. *Id.*

34. *Id.*

35. Letter from UBL to Atiyatullah Al-Libi, West Point Combating Terrorism Center, Reference Number: SOCOM-2012-0000019, at 8.

A large number of AQC then fled to Northwest Pakistan, with many in the FATA and the Northwestern Frontier Province. The Pakistani government historically devoted only intermittent attention to the remote, mountainous tribal areas, relying mainly on tribal leaders to exert control. Militant groups in the area, especially the Tehrik-e-Taliban Pakistan (TTP), offered protection to AQC. As Gartenstein-Ross and Barr describe:

The tribal areas of Pakistan offered an ideal location to rebuild the organization and reestablish structured decision-making processes. In the immediate post-9/11 period, the Pakistani army was reluctant to intervene in the tribal areas, and proved to be largely ineffective when it conducted military operations there. The ability of the United States to collect and act on intelligence in the tribal areas was also limited.³⁶

While this did not offer as secure a haven as Afghanistan, AQC nonetheless found a permissive environment in which to operate. Its members could conduct in-person meetings, reinitiate training exercises, and plan military operations without attracting the attention of counterterrorism forces.

Asfandyar Mir's report of his interviews in the Afghanistan-Pakistan region quotes one Pakistani official as indicating that AQ used its safe haven to "establish training centers, suicide bomb training, IED [improvised explosive device] production, weapons and explosive handling, material printing, and lodging facilities."³⁷ Mir reports, "By 2006, [Al Qaeda] leadership had begun referring to the Agency as the Islamic State of Waziristan."³⁸ Daniel Byman notes that training camps provide an especially valuable opportunity to further AQC's focus on attacks in the West: "Many individuals who enter the camps without a strong anti-American agenda leave with virulent anti-American views."³⁹ Paul Cruickshank found that of the 32 "serious" jihadist terrorist plots against the West between 2004 and 2011, 53% had operational or training links to Pakistan.⁴⁰

Among the major attacks in the West or on Western targets coordinated by AQC after 9/11 were an October 2002 bombing of sites in Bali frequented by Western tourists that killed 202 people and injured 209; truck bombings in Istanbul in 2003 on synagogues, a bank, and the British consulate, which killed 57 and injured 750;⁴¹ the 2004 bombing of the Atocha train station in Madrid that killed 193 and injured around 2,000;⁴² the series of July 7, 2005 bombings on the

36. Gartenstein-Ross & Barr, *supra* note 10.

37. Mir, *supra* note 27, at 63.

38. Mir, *supra* note 27, at 63.

39. Byman, *supra* note 30, at 450.

40. Paul Cruickshank, *The Militant Pipeline Between the Afghanistan-Pakistan Border Region and the West*, NEW AM. FOUND. 1 (2011).

41. Daniel Byman & Asfandyar Mir, *Assessing al-Qaeda: A Debate*, 45 STUD. IN CONFLICT & TERRORISM 1, 8 (2022).

42. ENCYCLOPEDIA BRITANNICA, MADRID TRAIN BOMBINGS OF 2004.

London public transport system that killed 52 and injured more than 700; and four follow-up bombings in London two weeks later in which only the detonators exploded, causing one minor injury.

In addition, AQC coordinated a 2006 plot to simultaneously detonate liquid explosives in nine commercial airplanes departing Heathrow airport for North America. Operatives in this plot received training from AQC in Pakistan. They also received assistance there from Rashid Rauf and a person believed to be Abu Ubaidah al Masri in determining the best solution to use for explosions, how to construct an explosive device, and testing whether the explosive solution could be detected by airport security. Rauf was in continuous contact with the operatives from Pakistan until the plot was discovered two weeks before the planned attacks.⁴³

By 2007, Mir concludes, al Qaeda leadership in the FATA “became more deeply institutionalized and attracted large numbers of specialized cadres.”⁴⁴ It was actively training and planning attacks against targets inside and outside of Pakistan, and, according to a TTP operative, had “global ambitions.”⁴⁵

U.S. strikes in the FATA began to ramp up in 2008 and continued at a sustained pace through 2014. New America estimates an increase from four attacks in 2007 to 36 in 2008, while the Bureau of Investigative Journalism (BIJ) estimates an increase from five in 2007 to 38 in 2008.⁴⁶ Averaging estimates of the two organizations for 2008 through 2014 results in a figure of about 55 strikes per year over that period, with a high in 2010 of 117 estimated by New America and 128 estimated by BIJ.⁴⁷

Research

Quantitative studies, unfortunately, do not squarely address the impact of strikes on AQC on the risk of attacks on the United States. Studies whose independent variable, to varying degrees, can be regarded as strikes against AQC do not use dependent variables that differentiate terrorist attacks by location. Studies that do use attacks in the West as a dependent variable do not differentiate between strikes against AQC and leaders of other terrorist groups.

Javier Jordan uses independent and dependent variables that are most relevant to the goal of reducing al Qaeda attacks in the West. He argues that the intensification of strikes in Pakistan against AQC beginning in 2008 contributed to the significant decline in such attacks.⁴⁸ He does not, however, attempt to control for other variables that might account for this outcome. Nor does he use a

43. Nic Robertson, Paul Cruickshank & Tim Lister, *Document Shows Origins of 2006 Plot for Liquid Bombs on Planes*, CNN (Apr. 30, 2012, 3:14 PM), <https://perma.cc/X9UC-4ATX>.

44. Mir, *supra* note 27, at 67.

45. Mir, *supra* note 27, at 67.

46. DRONE STRIKE, *supra* note 2, at 261–62.

47. DRONE STRIKE, *supra* note 2, at 261–63.

48. Javier Jordan, *The Effectiveness of the Drone Campaign Against Al Qaeda Central: A Case Study*, 37 J. STRATEGIC STUD. 4 (2014).

methodological approach known as an “identification strategy” that might furnish a counterfactual that indicates what would have occurred had strikes not been conducted. His study thus does not provide robust quantitative evidence of the impact of strikes on AQC.

One finding from Jenna Jordan’s research on targeting top al Qaeda leaders could provide some support for a claim that the drop in attacks in the West is due to the impact of strikes on AQC. Jordan finds that attacks attributable to AQC have substantially declined since 2007, while attacks by local affiliates have significantly increased.⁴⁹ While her intention is to demonstrate that strikes against al Qaeda leaders have been ineffective because they have not reduced the total number of attacks by al Qaeda, one could argue that the decline in attacks in the West reflects the decline in attacks by AQC. Jordan does not, however, control for any variables that might affect the number of attacks, nor does she disaggregate attacks by location. This suggests some caution in interpreting her data in the way I have described.

Evidence from al Qaeda correspondence and other qualitative research, however, indicates that the escalation of strikes in the FATA beginning in 2008 inflicted substantial losses on AQC and disrupted its ability to coordinate attacks. Bryce Loidolt’s study of al Qaeda correspondence seized in the mission against bin Laden in May 2011 finds that in the early years of escalation, AQC had little difficulty finding qualified replacements for most persons killed in strikes.⁵⁰ The exception, however, was its external operations unit responsible for conducting attacks outside the Afghanistan-Pakistan region. A leader who took over these operations in 2008, Saleh al-Somali, was candid in acknowledging his limited experience and competence.⁵¹ In April 2009, al-Somali lamented that he did not have the “required cadres” to fully staff external operations.⁵²

In August 2009, bin Laden requested that al-Somali be reassigned because of poor performance but was informed that “we no longer have an appropriate individual to fill this position.”⁵³ A replacement who took over in March 2010 was subject to considerable criticism of his work. In addition, in August 2010, bin Laden rejected two persons proposed to take over planning an attack on U.S. soil, because of poor performance and lack of experience, respectively.⁵⁴

Strikes eventually led AQC to reduce communication and meetings. In April 2010, Ayman al-Zawahiri ordered a halt to meetings due to “security concerns.”⁵⁵ Two months later, bin Laden accepted Attiyah abd al-Rahman’s proposal to stop much of the group’s activity in the FATA in order to avoid strikes. In the spring

49. LEADERSHIP DECAPITATION, *supra* note 8, at 160.

50. Bryce Loidolt, *Were Drone Strikes Effective? Evaluating the Drone Campaign in Pakistan Through Captured al-Qaeda Documents*, 5 TEX. L. REV. 54, 65 (2022).

51. *Id.*

52. *Id.* at 66.

53. *Id.*

54. *Id.*

55. *Id.* at 71.

of 2010, al Qaeda leader Younis al-Mauritani wrote to bin Laden that “the field here [in Waziristan] has become like a trap, the killing has tormented the cadres and leaders. . .no step will be fruitful so long as this work is here.”⁵⁶ Al-Qaeda leaders eventually told him and his cadres to train in Iran because of the strikes.⁵⁷ Attiyah expressed concern in June over the safety of operatives “due to our security circumstances (the bombings that have exhausted us)!!”⁵⁸

By mid-2010, strikes had killed several middle managers and senior leaders, as well as persons with specialized skills. A person responsible for reviewing replacements for some of them reported that “the middle-level leadership and cadres are tormented by the killing. . .compensating [for the killing] is proceeding slowly. . .and the spy war does not provide a large opportunity.”⁵⁹

Senior leader Attiya Abd al-Rahman complained in summer of 2010 that “spy planes. . .have killed many of the leadership, cadres, and others in the past two years,” and noted AQ’s “incomplete strength and power” in the border region.⁶⁰ In November of that year, he stated, “Our situation is difficult due to a severe deficiency in cadres.”⁶¹ Loidolt concludes, “Put simply, the evidence suggests that U.S. drone strikes outpaced AQ’s organizational processes for managing personnel turnover and mentoring new personnel.”⁶²

In July 2010, bin Laden directed Attiya “to arrange safe places far from the reach of the airplanes’ photography and bombing” for leaders and specialized cadres.⁶³ In describing his response to “bombings,” in October 2010, Attiya described how he had begun relocating operatives to Kunar and Nuristan in Afghanistan, recommending to bin Laden that al-Qaeda operatives could also be sent to “liberated” areas in other provinces.⁶⁴ Bin Laden responded, “I am leaning toward getting most of the brothers out of the area. . . The brothers who can keep a low profile and take the necessary precautions should stay, but move to new houses on a cloudy day. A warning to the brothers: they should not meet on the road and move in their cars because many of them got targeted while they were meeting on the road.”⁶⁵

In a pre-publication draft of his article, Loidolt says that “[b]y the fall of 2010, the fear of U.S. drone strikes led to prohibitions on Attiya and Abu Yahya’s movements, with Attiya only on exceptional occasions allowing disguised cars to come near his location. Some al Qaeda operatives were prohibited from traveling in cars at all.”⁶⁶ In November 2010, al Qaeda leader Sheikh Attiya wrote to bin

56. *Id.* at 76.

57. *Id.*

58. *Id.*

59. *Id.* at 67.

60. *Id.* at 69.

61. *Id.*

62. *Id.* at 70.

63. *Id.* at 77.

64. *Id.*

65. Letter from Osama bin Laden, al-Qaeda Founder, to Attiya (Oct. 21, 2010), at 2.

66. Loidolt, *supra* note 50, at 72.

Laden, “We are facing difficulties due to the grave shortages in personnel in some cadres.”⁶⁷ In October 2010, bin Laden instructed al-Zawahiri to limit his communications within AQ to two persons who would serve as a liaison to the rest of the organization, who should “not come to you frequently, even if that leads to the delay of some of the work during this phase.”⁶⁸ After he narrowly avoided a drone strike in early 2011, Attiya told bin Laden, “Even motorcycles are getting bombed. . . any message and any movement is danger. . . the next correspondence is coming in two months. . . maybe three.”⁶⁹

That same month, bin Laden wrote to Attiya about the need to begin moving people out of the FATA. “As for you,” he said, “if you think that it is dangerous to move by car, then you can stay in the area, but you need to do your work through two brothers, and only one of them should carry your messages to the brothers. . .”⁷⁰ Bin Laden acknowledged that this might cause delays in operations. He said, “The brother should visit you no more than once or twice a week. The other brother comes to you only for necessary issues only, even if this slows down the work. We pray to God for things to change. You should know the locations of the brothers, but they should not know your location, except for the carriers.”⁷¹

By January 2011, bin Laden authorized the complete evacuation of al Qaeda from the FATA. He wrote to Attiyah:

It appears to me that the region has been very heavily revealed and that leaving the region completely is the best solution. . . once we disperse in Pakistan and Afghanistan, the enemy will lose the ability to focus the surveillance on our movements and place us under the photography and monitoring.⁷²

Loidolt concludes that drone strikes in the FATA gradually depleted al Qaeda’s pool of qualified personnel, slowed its ability to operate, and steadily made the FATA a more dangerous location from which to operate. “Nowhere in any of al-Qaeda’s documents,” he says, “does the group reference the counterproductive effects many pessimistic accounts claimed the drone strikes produced.”⁷³ At the same time, Loidolt says:

U.S. drone strikes did not yield an immediate, asymmetric effect on al-Qaeda’s ability to operate; the payoff from U.S. drone strikes generally rose in tandem with their frequency. It took years of sustained pressure for al-Qaeda to begin reflecting on many of the detrimental effects drones were having on its organizational capabilities and processes.⁷⁴

67. Loidolt, *supra* note 50, at 69.

68. Loidolt, *supra* note 50, at 72.

69. Loidolt, *supra* note 50, at 72.

70. Letter from Osama bin Laden, *supra* note 64, at 2.

71. *Id.* at 3.

72. Loidolt, *supra* note 50, at 77.

73. Loidolt, *supra* note 50, at 79.

74. Loidolt, *supra* note 50, at 79.

In their detailed account of al Qaeda's operations from 9/11 until the death of bin Laden in May 2011, Adrian Levy and Catherine Scott-Clark state that "[i]n the face of the omnipresent drones, AQ Central shuttered safe houses, closed down communications, and relocated families in a scramble to regroup. Couriers went into hiding. The network went dark."⁷⁵

Interviews by Asfandyar Mir also indicate the disruptive effect of strikes in the FATA. Mir, who speaks Urdu, conducted sixty-six semi-structured interviews with individuals in Pakistan and the United States in 2016 and 2017.⁷⁶ Interviewees included former Pakistani and U.S. officials active in operations between 2004 and 2014, members of al Qaeda and the TTP, and civilians from regions affected by the U.S. strike campaign. The findings from these interviews are concisely described by a Taliban leader whom Mir quotes: "Drone strikes had a major impact . . . They are the real cause of our downfall. Although jihad can never be eliminated as it will continue till the day of judgment, the drone strikes greatly weakened the Taliban [and al Qaida]."⁷⁷

According to an al Qaeda operative, by 2009, al Qaeda "was struggling to maintain its global and local operational activities."⁷⁸ A TTP operative told Mir that by late 2009 AQ also had withdrawn its master trainers and mid-level commanders who had been helping Taliban forces.⁷⁹ A Pakistani official reported, "I read intercepts of al-Qaida and Taliban for around three years [2008 to 2011]. There was chaos in these groups by 2010 due to drone strikes. I heard al-Qaida's leadership, known for its cool and strong discipline, regularly lose its composure. So much of the chatter was about 'my men have left me!'"⁸⁰ As an al Qaeda member in the FATA from 2009-2010 said, "Drone strikes became a major concern for all jihadi organizations, including al-Qaida. . . the majority of the members were not as committed ideologically. I noticed that many left."⁸¹

One reason for this disruption is that strikes killed several key leaders. Al Qaeda leader Abu Laith al Libi, for instance, was killed in a drone strike in January 2008. One TTP operative said, "Libi . . . was one of the most important persons of al-Qaida . . . His death was a big loss."⁸² This was especially damaging to plans for transnational attacks. One operative told Mir, "During Sheikh Libi's time, al-Qaida had global ambitions."⁸³ By 2009, however, Mir reports that "it was struggling to maintain its global and local operational activities, scrapping

75. CATHY SCOTT-CLARK & ADRIAN LEVY, *THE EXILE: THE STUNNING INSIDE STORY OF OSAMA BIN LADEN AND AL QAEDA IN FLIGHT 312* (2017).

76. Mir, *supra* note 27, at 57.

77. Mir, *supra* note 27, at 81.

78. Mir, *supra* note 27, at 68.

79. Mir, *supra* note 27, at 68.

80. Mir, *supra* note 27, at 69.

81. Mir, *supra* note 27, at 69-70.

82. Mir, *supra* note 27, at 71.

83. Mir, *supra* note 27, at 68.

‘a dozen plans’ for attacks in this period.”⁸⁴ Another former operative said that after Libi’s death, “many plans came to a halt.”⁸⁵

TTP operatives noted that the targeted killing of Qari Hussain Mehsud, set back plans to conduct attacks in Europe. One said, “Qari Hussain was considered the ‘nuclear power’ of TTP. Many great plans remained incomplete due to his killing.”⁸⁶ Another stated:

Under [Qari Hussain’s] leadership, a number of tasks were completed successfully until drones came in our way. I remember one drone attack in Mir Ali, in which seven Germans were killed. They were soon to undertake suicide attacks in Germany and France . . . A few days later Qari sahib was martyred . . . Due to drone strikes, the plan of sending the German suicide bombers to France and Germany was never realized.⁸⁷

Strikes against leaders of groups allied with al Qaeda also weakened the group. One interviewee said of the deaths of leaders of the Islamic Movement of Uzbekistan: “[It was] a great loss, as they were commanding many Uzbek, Turkmen, and other foreign fighters who would fight alongside both al-Qaida and the Pakistan Taliban.”⁸⁸

Mir reports that targeting also deprived al Qaeda of persons with valuable specialized expertise. For example, Sheikh Abu Khabab ran a project for the group in North Waziristan that provided training in the use of explosives for both local and global attacks. As Mir describes, “He produced instruction materials, led lectures, and mentored Pakistan Taliban leaders.”⁸⁹ He was killed in a 2008 drone strike, as were persons in 2009-2011 whom “he had trained to produce dirty bombs, land mines, and shaped charges, as well as instructors and examiners affiliated with his explosives training course.”⁹⁰

A TTP operative said that the explosives project was first transferred to a Pakistani group. This group tried to continue his work by translating Khabab’s manuals from Arabic to Urdu. This was of limited value, however, without knowledgeable trainers to guide students through the material. As a result, “[b]y late 2011, the quantity and quality of al Qaeda’s and the Pakistan Taliban’s explosives expertise had dropped dramatically.”⁹¹

In 2011, an al Qaeda leader writing under the pseudonym Hikmatullah Lodhi described the effects of strikes from 2008-2011 on al Qaeda and the TTP: “We need to do our utmost to recover from the losses due to drone strikes . . . if leaders

84. Mir, *supra* note 27, at 68.

85. Mir, *supra* note 27, at 71.

86. Mir, *supra* note 27, at 72.

87. Mir, *supra* note 27, at 72.

88. Mir, *supra* note 27, at 71.

89. Mir, *supra* note 27, at 71.

90. Mir, *supra* note 27, at 72.

91. Mir, *supra* note 27, at 72.

continue to be killed, the jihadi movement's entire direction and pace can suffer. . . In short, drone strikes can overwhelm the strength of the mujahideen."⁹²

Mir observes that strikes from 2012-2014 also had significant impacts. One interviewee said, for instance:

The senior leaders struggled to contact their subordinate commanders due to frequent flying of drones over the area . . . When [Hakimullah Mehsud] came to Miramshah, he would often quit meetings, avoid contact until drones flew overhead. Like him, other leaders avoided interacting and travelling with drones flying."⁹³

Mir reports that al Qaeda "closed most of its training centers, explosives production facilities, and lodging in and around the town of Mir Ali, which had once powered both global and local operations."⁹⁴ Much of TTP's capability, said an ISI official, also was "a shadow of the past."⁹⁵ Furthermore, Mir reports, "multiple interviewees highlighted challenges to conducting operations, maintaining bases, and finding new recruits."⁹⁶

Mir notes that other operations that accompanied drone strikes contributed to weakening al Qaeda and the TTP by making it difficult for the group to find new safe havens in other areas of the FATA or in Afghanistan. A 2009 Pakistani military operation prevented the TTP from moving operations to South Waziristan. The surge of U.S. forces in Afghanistan prevented al Qaeda from making its desired move to eastern Afghanistan.

Mir nonetheless concludes from his interviews that drone strikes played a key role in "largely enable[ing]" the United States to achieve its goals of "scaling back al-Qaida's capability to execute plots against the U.S. homeland and reducing the threat of al-Qaida and the Pakistan Taliban to a nuclear-armed Pakistani state."⁹⁷

Mir and Daniel Byman note that AQC directed nine of the eleven major attacks in the West or on Western targets from 9/11 through March 2011.⁹⁸ AQC organized six of these attacks itself and coordinated with local groups who conducted the attacks in the other three. Similarly, AQC directed six of the eight major attacks that were plotted but thwarted between 9/11 and April 2013. It did not, however, carry out a single successful attack on the United States and Europe in the 2010s—the last major plot in the United States by AQC was Najibullah Zazi's plan to bomb the New York subway [in 2009]."⁹⁹ Furthermore, there has not been even an attempted but thwarted attack by AQC in the West or against Western targets since April 2013.

92. Mir, *supra* note 27, at 74.

93. Mir, *supra* note 27, at 77.

94. Mir, *supra* note 27, at 77.

95. Mir, *supra* note 27, at 75.

96. Mir, *supra* note 27, at 77.

97. Mir, *supra* note 27, at 82.

98. Byman & Mir, *supra* note 41, at 8.

99. Byman & Mir, *supra* note 41, at 8.

Progressive strengthening of U.S. and Western counterterrorism defenses likely has been the main reason for the lower threat of major Al Qaeda attacks in the United States and the West. It seems reasonable, however, to conclude that the strike campaign against AQC in the FATA helped contribute to this reduction because of the priority that AQC placed on such attacks. Strikes caused the loss of leaders and key operatives, pressured AQC to significantly curtail its training activities in the FATA, and eventually deprived it of a safe haven in which it could provide training for attacks against the far enemy under the supervision of top leaders. All this weakened AQC's ability to plan, coordinate, finance, and provide training for attacks in the United States and the West.

IMPACTS ON CIVILIANS

The extent to which U.S. targeted strikes over the last two decades have caused civilian deaths has been a significant source of contention. The history of U.S. strike operations generally has been marked by government claims of no or few civilian casualties, with human rights organizations challenging these claims based on investigations that identify more casualties than the government acknowledges. It seems fair to observe that in the first decade or so of the strike campaign, the United States was less attentive to the risk of civilian casualties than it has been in the last decade or so. It also seems fair to say that revelations from investigations by human rights organizations have been an important impetus for this increased attention.

The most thorough estimates of civilian casualties are provided by New America and the Bureau of Investigative Journalism (BIJ). For Pakistan, Yemen, and Somalia, New America estimates that from 2002-2012, 11.2% of deaths were of civilians, while BIJ's estimate for this period is 23.3%.¹⁰⁰ For 2013-2020, however, New America's estimate declined to 3.5%, and BIJ's estimate was 4.4%.¹⁰¹

The largest number of civilian deaths from strikes over the past two decades was in Pakistan. New America estimates 274 such deaths, while BIJ's estimate is between 424 and 969.¹⁰² During the most significant period of strikes in Pakistan from 2008-2014, the percentage of casualties that were civilians declined from the estimate of 36% in 2008 by BIJ to an estimate of 1% by BIJ in 2014, with New America reporting no civilian casualties in 2014.¹⁰³ The most significant decline for BIJ did not occur until 2013-2014. New America estimates of the number of civilian casualties are in the single digits from 2012-2020, as are BIJ estimates from 2013-2020.¹⁰⁴

100. DRONE STRIKE, *supra* note 2, at 261-68.

101. DRONE STRIKE, *supra* note 2, at 261-62.

102. DRONE STRIKE, *supra* note 2, at 261-62.

103. DRONE STRIKE, *supra* note 2, at 261-63.

104. DRONE STRIKE, *supra* note 2, at 261, 263.

An important reason for the decline in the rate of civilian casualties was that in 2013, President Obama issued Presidential Policy Guidance (PPG) that said that, as a matter of policy, the U.S. would conduct strikes outside areas of active hostilities under rules much more restrictive than the law of armed conflict.¹⁰⁵ Particularly relevant for civilian casualties, the PPG provided that a strike could be conducted in these areas only if: (1) the target posed an ongoing imminent threat to U.S. persons and (2) there was the near certainty of no civilian casualties.¹⁰⁶ While the Trump administration revised certain provisions in the PPG, it retained the requirement that there be near certainty of no civilian casualties.

Based on interviews with senior officials responsible for implementing the no civilian casualty standard, Shyam Raman, Paul Lushenko, and Sarah Kreps maintain that this standard was in operation beginning in July 2011, almost two years before the formal announcement of the PPG.¹⁰⁷ They find that the mean strike precision in Pakistan up to July 2011 was “0.686 – less than 70 percent of those killed in strikes before the near certainty standard were the intended target.”¹⁰⁸ The mean value of strike precision from July 2011 and after “grows to 0.95 or 95 percent precision in successful targeting.”¹⁰⁹

It is important to keep in mind when considering all these estimates that they are *estimates*. There are many challenges in attempting to gather accurate, detailed information about targeted strikes. First, one must verify the fact that targeted strikes have occurred and that deaths were not the result of other types of operations. This is especially the case for strikes conducted by the CIA, which will virtually never be confirmed by the United States. Second, gaining access to strike sites to gather information may be difficult because many are in remote areas where the government or militants may prevent access.

Third, strikes in Yemen and Somalia sometimes have been used in support of major military offenses on active battlefields, which can make it difficult to know exactly how many strikes in those countries have been targeting operations outside of war zones. Fourth, New America and BIJ sometimes use slightly different categories for their estimates, which can make comparisons difficult.

Finally, getting an accurate count is also challenging because different observers may use different criteria to identify militants and civilians. The United States says that militants are persons who are “part of a non-State armed group,” which “may involve formally joining the group or simply participating sufficiently in its

105. WHITE HOUSE, PROCEDURES FOR APPROVING DIRECT ACTION AGAINST TERRORIST TARGETS LOCATED OUTSIDE THE UNITED STATES AND AREAS OF ACTIVE HOSTILITIES (May 22, 2013), https://www.justice.gov/oip/foia-library/procedures_for_approving_direct_action_against_terrorist_targets/download.

106. *Id.*, at 1.

107. Shyam Raman, Paul Lushenko & Sarah Kreps, *Double Standards: The Implications of “Near” Certainty Drone Strikes in Pakistan* (Dec. 20, 2021), at 11 (on file with author and journal).

108. *Id.* at 15.

109. *Id.*

activities to be deemed part of it.”¹¹⁰ By contrast, the International Committee of the Red Cross (ICRC) takes the position that persons may be attacked as non-state combatants only if they perform a continuous combat function on behalf of a non-state armed group.¹¹¹

A 2012 article in the *New York Times* reported that the United States had adopted a standard that “counts all military-age males in a strike zone as combatants, according to several administration officials, unless there is explicit intelligence posthumously proving them innocent.”¹¹² The description of U.S. targeting criteria accompanying President Obama’s 2013 National Defense University speech, however, stated, “Males of military age may be non-combatants; it is not the case that all military-aged males in the vicinity of a target are deemed to be combatants.”¹¹³

All this means that we should not assume that these figures provide a precise calculation of civilian deaths. It may be more useful instead to focus on their orders of magnitude. Nonetheless, these estimates are the best and most complete information we have about targeted strikes outside war zones over the last two decades.

It is also important to appreciate that, despite the claim that drone strikes are precise, they have several features that can create the risk of harm to civilians. First, a strike relies on a complex system of processing, exploiting, and disseminating information among multiple participants in different locations. A report from the Center for Army Lessons Learned notes that this means that sometimes “important details are known in one part of the air-ground team but are not shared with the rest of that team.”¹¹⁴

Second, video feeds can’t see into buildings, which means that they may not show civilians in them. One report notes, “Observing the outside of a building for minutes or even hours and not seeing activity does not give assurance that there are no civilians inside the building.”¹¹⁵ Next, a post-strike assessment used to verify the number of casualties and to determine if any are civilians often is conducted only from the air. This is because drones often are used against targets in remote areas where the United States has no ground forces and few, if any sources of human intelligence.

110. U.S. DEP’T OF DEF., LAW OF WAR MANUAL, (Dec. 2016), ¶4.18.4.1.<https://perma.cc/PKD3-CYF7>.

111. INT’L COMM. OF THE RED CROSS, INTERPRETIVE GUIDANCE ON THE NOTION OF DIRECT PARTICIPATION IN HOSTILITIES UNDER INTERNATIONAL HUMANITARIAN LAW 33 (May 2009), at 30 <https://perma.cc/5MMF-4YH9>.

112. Joe Becker & Scott Shane, *Secret ‘Kill List’ Tests Obama’s Principles and Will*, N.Y. TIMES (May 29, 2012), <https://perma.cc/RMS8-5R7Y>.

113. WHITE HOUSE, FACT SHEET, U.S. POLICY STANDARDS AND PROCEDURES FOR THE USE OF FORCE IN COUNTERTERRORISM OPERATIONS OUTSIDE THE UNITED STATES AND AREAS OF ACTIVE HOSTILITIES (May 23, 2013), <https://obamawhitehouse.archives.gov/the-press-office/2013/05/23/fact-sheet-us-policy-standards-and-procedures-use-force-counterterrorism>.

114. CENT. FOR ARMY LESSONS LEARNED, AFGHANISTAN CIVILIAN CASUALTY PREVENTION: OBSERVATIONS, INSIGHTS, AND LESSONS 31 (June 2012), <https://perma.cc/CH64-CS2R>.

115. *Id.* at 32.

There are limits, however, to information available from the air. Video of building rubble, for instance, will not necessarily indicate if there are bodies underneath it. Determining if victims are civilians may require local sources of information unavailable from the air, such as from NGOs in the area, family members of victims, witnesses, and local reporters who have access to the site. Amnesty International pointed out in a 2019 report on civilian casualties from air strikes in Somalia:

While Joint US Doctrine says that a battle damage assessment, as a best practice, should include ‘aircraft cockpit video (ACV), weapon system video (WSV), visual/verbal reports from ground spotters or combat troops, controllers and observers, artillery target surveillance reports, SIGINT [signals intelligence], HUMINT [human intelligence], IMINT [imagery intelligence], MASINT [measurement and signals intelligence], and open-source intelligence (OSINT),’ in practice intelligence assets are limited, and often rely on a single source.¹¹⁶

While a collateral damage estimate (CDE) of civilian casualties must be done prior to any strike, it is based not on historical experience with similar operations but on models that include data on population density, weapon and building characteristics, and terrain features. This can limit CDE sensitivity to the social environment. Information on patterns of life in the area can enhance awareness, but compiling such information can be time-consuming and must be continually updated to account for changing conditions. As Larry Lewis and Ryan Goodman note, “The formal collateral damage estimation process, as rigorous as it is, has never been calibrated with real-world data to test its accuracy in predicting operational outcomes. This could be remedied through a study that examines how well estimates match up with actual operational data.”¹¹⁷

While rates of civilian deaths from targeted strikes have declined, the United States has struggled to meet its own standard of near certainty of no civilian casualties. Larry Lewis has conducted several rigorous analyses of civilian casualties for the U.S. government over the past twelve years, beginning with a 2010 study he did with Sarah Sewall on casualties in Afghanistan for U.S. Central Command and the NATO International Security Assistance Force (ISAF).¹¹⁸ He argues that the United States needs to take what he calls a “civilian harm mitigation life-cycle” approach to civilian casualties that “reflects care in civilian protection being taken at all points in the planning and use of military force, and includes

116. AMNESTY INT’L., *THE HIDDEN U.S. WAR IN SOMALIA: CIVILIAN CASUALTIES FROM AIR STRIKES IN LOWER SHABELLE* 28 (2019), <https://perma.cc/9BLD-HH3P>.

117. Larry Lewis & Ryan Goodman, *Civilian Casualties: We Need Better Estimates- Not Just Better Numbers*, JUST SEC. (Mar. 22, 2018), <https://perma.cc/6WH6-FH3V>.

118. Sarah Sewall & Larry Lewis, *Executive Summary* to JOINT CIVILIAN CASUALTY STUDY (2010).

learning loops so that militaries can adapt and improve to overcome challenges.”¹¹⁹ This would require:

- (1) systematically drawing on all sources of information, including from local communities and sources such as human rights organizations;
- (2) aggregating data across all operations and agencies;
- (3) analyzing this data to identify root causes of civilian deaths;
- (4) circulating this information across all agencies; and
- (5) revising operations based on lessons learned.¹²⁰

The importance of this process underscores that strike precision depends not only on the performance of the technology but on the organizational processes that determine how that technology is used. The Pentagon’s recent establishment of a Civilian Harm Mitigation and Response Plan has the potential finally to institutionalize the prevention of civilian harm as a priority in military operations.¹²¹ We will need to see whether its potential can be realized by fostering the internalization of this priority throughout all levels of the military and across all relevant government entities.

IMPACTS ON LOCAL POPULATIONS

There has been increasing attention in recent years on what is called the “reverberating effects” of armed conflict, especially from the use of explosive weapons in urban areas. These are indirect consequences caused by the impact of weapons. As the United Nations has described, these may include effects on “transportation networks, electricity, waste and water management, public health, education, food security, housing and shelter, displacement, culture and identity, economic opportunity, environmental standards, and gender equality.”¹²² Drone strikes potentially may cause fewer of these impacts because of their more limited blast and fragmentation radius, at least when they use Hellfire missiles, and their use in relatively remote areas. Nonetheless, it is reasonable to assume that they produce some reverberating impacts.

Determining the physical damage caused by U.S. strikes is extraordinarily difficult, and there are no reliable estimates of it. Investigations by NGOs, however, provide information about the effects of individual strikes, even if there is no way

119. Larry Lewis, *Protecting Civilians: A Comprehensive Approach 2* (2021) (unpublished manuscript) (on file with author and journal).

120. This is a succinct paraphrase of the ideas set forth in *id.* at 2–3.

121. See generally Eric Schmitt, Charlie Savage & Azmat Khan, *Austin Orders Overhaul to Better Protect Civilians During U.S. Combat Operations*, N.Y. TIMES (Aug. 25, 2022, 7:41 PM), <https://perma.cc/L9DL-G8TW>.

122. CHRISTINA WILLE & ALFREDO M. BALDO, U.N. INST. FOR DISARMAMENT RSCH., *MENU OF INDICATORS TO MEASURE THE REVERBERATING EFFECTS ON CIVILIANS FROM THE USE OF EXPLOSIVE WEAPONS IN POPULATED AREAS 1* (2021), <https://perma.cc/RWW5-QKTU>.

to know if these effects are representative. One form of property damage is the destruction of housing. A study by Stanford and NYU law schools notes that extended families in North Waziristan live together in compounds that often contain several smaller individual buildings. “Many interviews told us,” said the report, “that often strikes not only obliterate the target house, usually made of mud, but also cause significant damage to three or four surrounding houses.”¹²³ Another study by Open Society describes how 19 persons in Yemen lived together in a house struck by a missile that caused two explosions.¹²⁴

Destroying a single house thus can leave several people homeless. A house also “constitutes a massive financial investment, representing years of saving and building, and is often a family’s greatest financial asset.”¹²⁵ Rebuilding it is a major financial burden and, in many cases, may be impossible. Those who lose housing must then turn to family members for shelter, but those relatives may already live in crowded conditions.

A strike may also destroy businesses, shops, crops, livestock, and other property on which residents rely to make a living. As one study observes, “Even the loss of a few cattle can be devastating.”¹²⁶ One resident reported that the bakery he owns with his brother was destroyed in a drone strike, depriving them and their employees of their livelihood. “Four tractors were working all day to clean the debris, all at our own expense,” said one of them.¹²⁷ Such losses and expenses can impose significant hardship in a society in which families have few assets and sources of income.

Some reports find social and psychological impacts of drone strikes, although, as with studies of property damage, there is no way to know if these impacts are representative.¹²⁸ One social impact is displacement after strikes, as some residents move to areas where they feel safer or believe that they are better able to make a living.¹²⁹ Drones strikes may also disrupt informal local governance processes such as the *jirga* in Pashtun communities, which “can allow other political forces than the Taliban to play a stronger role.”¹³⁰

123. JAMES CAVALLERO, STEPHAN SONNENBERG & SARAH KNUCKEY, STANFORD L. SCH. & NYU SCH. OF L., *LIVING UNDER DRONES: DEATH, INJURY AND TRAUMA TO CIVILIANS FROM US DRONE PRACTICES IN PAKISTAN* 77 (2012), <https://perma.cc/5U2R-BYY3>.

124. OPEN SOC’Y JUST. INITIATIVE, *DEATH BY DRONE: CIVILIAN HARM CAUSED BY U.S. TARGETED KILLINGS IN YEMEN*, 73 (2015), <https://perma.cc/4PEA-KUJZ>.

125. CHRISTOPHER ROGERS, CTR. FOR CIVILIANS IN CONFLICT, *CIVILIAN HARM AND CONFLICT IN NORTHWEST PAKISTAN* 46 (2010), <https://perma.cc/ZV9R-VCNK>.

126. *Id.* at 45.

127. AMNESTY INT’L, “WILL I BE NEXT?”: U.S. DRONE STRIKES IN PAKISTAN 39 (2013), <https://perma.cc/VZ7Z-GVUV>.

128. *See, e.g.*, CAVALLERO ET AL., *supra* note 120, at 81; Nasser Hussain, *The Sound of Terror: Phenomenology of a Drone Strike*, BOS. REV. (Oct. 16, 2013), <https://perma.cc/3M28-DQWK>.

129. *See* James Michael Page & John Williams, *Drones, Afghanistan and Beyond: Towards Analysis and Assessment in Context*, 7(3) EUROPEAN J. OF INT’L SEC. 283, 297 (2021), <https://perma.cc/EU9Y-NMND>; Fotini Christia, Paolo Bertolotti, & Ali Jadbabaei, *The Social Network Effects of Drone Strikes* (July 10, 2019) (unpublished manuscript) (on file with the Institute for Data, Systems, and Society, Massachusetts Institute of Technology).

130. Page & Williams, *supra* note 129, at 294.

J.M. Page and John Williams conclude from their fieldwork in eastern Afghanistan, for instance, that strikes have impaired the ability of local leaders known as *maliks* to “obtain, deliver, and distribute moral and material goods; and, to fulfil, maintain and regulate customary roles, influence and governance.”¹³¹ Fewer people are willing to gather in large numbers, which weakens cultural practices by providing fewer opportunities for social interaction.

Page and Williams also report, “*Maliks*’ lack of a relationship with drones and those using them is not lost on the local populace. Consequently, *Maliks*’ influence in moderating behaviours and balancing religious figures in the area has been impacted, weakening customary governance.”¹³² This is problematic for U.S. interests because local customary practices are opposed to radical and extremist jihadist political groups. “Numerous elders and parents stated since drone strikes had begun youth were more open to radical and extreme views. They noted community means of managing these views had been circumscribed by drone activity restricting gatherings.”¹³³

It seems reasonable to attribute fewer social gatherings, including the *jirga*, to drone strikes. The decline of local informal governance, however, likely also reflects the control exercised by the Taliban, which has been enabled in part by killing moderate *maliks*.¹³⁴ The fact that *maliks* are unable to prevent the Taliban from pressuring unwilling families to provide food, shelter, and perhaps other assistance, as well as the Taliban regulation of daily life, also likely contributes to their decline in influence. Nonetheless, assessments of the impact of drone strikes generally fail to consider these types of social impacts on communities where strikes occur.

One resident told NGO investigators of anxiety and psychological distress from living in areas in which drone strikes occur. A resident in the FATA said, “God knows whether they’ll strike us again or not. But they’re always surveying us, they’re always over us, and you never know when they’re going to strike and attack.”¹³⁵ Others say the continuing background buzz from drones can serve as a constant reminder of this risk. Some fear they may be the target of an attack because incorrect information is given to drone operators. Others report that their stress is compounded by the feeling that they have no way to affect when or where a strike might occur. As one report put it, “Interviewees describe the experience of living under constant surveillance as harrowing.”¹³⁶

Some scholars, however, question the report’s conclusion that mental distress is because of drones and not the larger situation in the FATA. Christine Fair, Karl Kaltenthaler, and William Miller argue, for instance, “Although the strikes are

131. Page & Williams, *supra* note 129, at 299.

132. Page & Williams, *supra* note 129, at 300.

133. Page & Williams, *supra* note 129, at 301.

134. Brian Glyn Williams, *The CIA’s Covert Predator Drone War in Pakistan, 2004–2010: The History of an Assassination Campaign*, 33(10) *STUD. IN CONFLICT & TERRORISM* 871, 873 (2010).

135. CAVALLERO ET AL., *supra* note 123, at 81.

136. *Id.*

carried out in areas that are also tormented by enormous terrorist violence, restrictive and violent social regimes enforced by the local Taliban, extensive Pakistani military and paramilitary and intelligence presence, the authors simply assume that any such instances of depression can be attributed to drones alone.”¹³⁷ Marsh and Williams find that distress is attributable to anxiety not only about drones but also because conflict that contributes to “disruption to already marginal subsistence livelihoods based on agriculture and limited trade.”¹³⁸

Investigations such as the Stanford/NYU study can illuminate how living in an area where drone strikes occur can cause psychological distress. It is difficult to know, however, how representative interviewee reactions are and how much this is attributable to drones, as separate from other sources of stress in these areas. As a review of the literature on the psychological dimensions of drone strikes observes, most reports include “fairly small numbers of individuals. . . that over-sampled individuals directly exposed to drone strikes” who suffered some type of injury from them or had family members harmed by them.¹³⁹ Such persons “might naturally be expected to have high levels of anticipatory anxiety and it is difficult to generalize these feelings to communities at large.”¹⁴⁰ What would be helpful are “[l]arger, quantitative, community-based studies.”¹⁴¹

With respect to population attitudes, the evidence is more complex than popular reports suggest, but it generally, although not uniformly, indicates that there is substantial resentment of drone strikes by residents of countries where they occur.¹⁴² Some of this reflects concern about civilian casualties, while some are based on the perception that U.S. strikes in the country are an affront to sovereignty. Fair, Kalthenthaler, and Miller, who have studied Pakistani public sentiment for a considerable period of time, suggest one nuance of these attitudes: “Most Pakistanis were anti-American before the drones became a subject of public discourse. The drone strikes definitely did not help America’s image with most Pakistanis, but they are not the primary cause of anti-Americanism in the

137. C. Christine Fair, Karl Kaltenthaler & William J. Miller, *Pakistani Opposition to American Drone Strikes*, 129(1) POL. SCI. Q. 1, 21 n.63 (2014), <https://perma.cc/N8NA-3NVD>.

138. Page & Williams, *supra* note 129, at 296.

139. Alaa Hijazi, Christopher J. Ferguson, F. Richard Ferraro, Harold Hall, Mark Hovee & Sherrie Wilcox, *Psychological Dimensions of Drone Warfare*, 38(5) CURRENT PSYCH. 1285, 1291 (2017), <https://perma.cc/D5KM-2EWQ>.

140. *Id.*

141. *Id.*

142. For studies finding resentment, see, e.g., Page & Williams, *supra* note 126, at 296; Christopher Swift, *The Boundaries of War? Assessing the Impact of Drone Strikes in Yemen*, in DRONE WARS: TRANSFORMING CONFLICT, LAW, AND POLICY 71, 72 (Peter Bergen & Daniel Rothenberg eds., 2015); Naveed Ahmad Shinwari, *Understanding FATA: 2011: Attitudes Towards Governance, Religion and Society in Pakistan’s Federally Administered Tribal Areas*, 5 CMTY. APPRAISAL & MOTIVATION PROGRAMME (2011), <https://perma.cc/Q46G-QWVT>; NEW AM. FOUND., PUBLIC OPINION IN PAKISTAN’S TRIBAL REGIONS (2010), <https://perma.cc/LF9M-S63R>. For contrary conclusions, see, e.g., Neha Ansari, *Precise and Popular: Why People In Northwest Pakistan Support Drones*, WAR ON THE ROCKS (Aug. 19, 2011), <https://perma.cc/2WAV-PAPW>; Farhat Taj, *A Critical Perspective on a Recent Survey of Opinion in Pakistan’s Tribal Zone*, SMALL WARS & INSURGENCIES 22 (2011), <https://perma.cc/Q5M9-W32D>.

country.”¹⁴³ This suggests that hostility toward drone strikes may be based on hostility to the United States rather than vice versa.

Such hostility nonetheless, can undermine both counterterrorism and counterinsurgency operations by reducing residents’ willingness to provide information, identify militants, and cooperate in other ways. The opposition also poses a particular threat to counterinsurgency because it can alienate local populations from their government, erode confidence in its ability to protect them, and undermine its perceived legitimacy.

Contrary to a common claim, however, the most rigorous research concludes that resentment of strikes does not translate into greater support for or recruitment by terrorist groups. A report by the International Crisis Group on the FATA, for instance, indicates that militant recruitment is a complex process. “FATA residents,” the report observes, “often rely on various militant jihadi and criminal networks for patronage in the absence of a functioning state, civil society, and traditional tribal structures that have been decimated by militants.”¹⁴⁴ Forced recruitment is also common, as households are required to contribute men to terrorist groups in areas they control. The influence of attitudes toward drone strikes, the report says, is “comparatively minimal.”¹⁴⁵

Furthermore, while local residents may resent drone strikes, they also resent the militants in their midst who oppress them in various ways. As an interviewee in a study by Aqil Shah said, “We were trapped between the tanks and the Taliban, between bombardment from [fighter] jets and Taliban terror. The Americans killed the militants for their own interests. But it restored some normalcy to our lives.”¹⁴⁶

CONCLUSION: LESSONS LEARNED

What lessons might the United States learn from the findings I have described for the possible future use of targeted strikes outside war zones against al Qaeda? The United States may once have believed that targeting leaders would cripple the organization and lead to its collapse. Evidence indicates that this is not the case. This suggests that a more reasonable counterterrorism goal for the United States is to contain al Qaeda, not to defeat it, with a focus on preventing attacks on the United States.

Targeting AQC members in the FATA helped reduce the threat of such attacks. Should the United States therefore continue targeting AQC as a means of protecting itself? Probably not. Targeting AQC at this point likely would not have nearly the impacts these earlier strikes had. Those strikes were effective because:

143. Fair, Kalthenthaler & Miller, *supra* note 135, at 18.

144. INT’L CRISIS GRP., ASIA REP. NO. 247, DRONES: MYTHS AND REALITY IN PAKISTAN 23 (2013), <https://perma.cc/X52E-HBUF>.

145. *Id.* at 23.

146. Aqil Shah, *Do U.S. Drone Strikes Cause Blowback? Evidence from Pakistan and Beyond*, 42(4) INT’L SEC. 47, 59 (2018).

- (1) AQC was concentrated in northwest Pakistan, especially the FATA;
- (2) the safe haven in that area enabled AQC to focus on planning and coordinating external attacks and conducting training for them without concern for local threats; and
- (3) AQC's resources at the time gave it more influence over affiliates in encouraging and assisting them conduct such attacks than it has now.

These conditions have changed as AQC has lost resources and its safe haven, and AQC members have become more dispersed. Furthermore, AQC has focused in recent years on helping the larger organization grow by focusing on the local concerns of affiliates. As Byman and Mir describe, “al-Qaeda has intentionally reduced its central node and delegated most operational activities to affiliated organizations. The group’s central leadership has given its regional nodes more strategic autonomy, specialized responsibilities, and decision-making authority.”¹⁴⁷ For these reasons, further strikes against AQC are unlikely to have much impact on the threat of attacks on the United States.

This assessment could change, however, if AQC is able to acquire another safe haven in which it could plan, coordinate, and train people for attacks against the “far enemy.” It is not clear at this point whether this will occur in Afghanistan, but the Taliban’s ascension to power could enable it. Members of the Haqqani network, for instance, play a prominent role in the government, and this network has deep, long-standing ties to al Qaeda. Furthermore, even if the Taliban do not want al Qaeda to establish a haven in Afghanistan, the vast and remote nature of much of the country may make it difficult for them to prevent this.

Conditions for strikes in Afghanistan, however, are different from those in the FATA, where the United States was able to draw on Pakistani intelligence, arrests, and military operations to enhance the effects of targeted strikes. The lack of such cooperation from the Taliban means that the United States would be conducting strikes under far less favorable conditions than in Pakistan. In addition, the existence of fewer U.S. intelligence sources because of the withdrawal of U.S. forces, combined with little if any assistance from the Taliban, could create a significant risk of civilian casualties from strikes. Such risk is reflected in the targeting mistake that killed ten civilians in a drone strike in Kabul in August 2021 based on faulty intelligence.¹⁴⁸ All this means that the United States would have to rely more on other counterterrorism measures to limit the threat of al Qaeda attacks on the United States.

Aside from AQC, one or more groups in the al Qaeda network could come to pose a serious threat of attacks on the United States. Al Qaeda in the Arabian

147. Byman & Mir, *supra* note 41, at 9.

148. *Afghanistan: U.S. Admits Kabul Drone Strike Killed Civilians*, BBC (Sep. 18, 2021), <https://perma.cc/WH53-N9W2>.

Peninsula (AQAP) posed this threat in 2009-2010, and some believe that Somali al Qaeda affiliate al-Shabaab now presents the greatest danger to the United States. As I have described, some research indicates that targeted strikes can temporarily weaken the ability of a group to conduct attacks in areas where strikes occur, if combined with host country assistance. Presumably, weakening a group in this way would also impair its ability to launch attacks on the United States.

Research indicates, however, that the impact of such strikes is temporary. Longer-term effects require a campaign of ongoing persistent strikes, which may not be sustainable for several reasons. Using a respite from terrorist attacks to initiate local political reform that reduces the appeal of extremist groups could achieve enduring effects. For various reasons, this is likely to be a formidable task in many areas in which groups in the al Qaeda network operate.

In the face of these challenges, it is conceivable that the United States might settle for periodically using strikes against groups that intelligence indicates are acquiring the ability to attack the United States. Strikes, in this case, would be used to temporarily weaken a group, with the knowledge that it may be necessary in the future to conduct strikes again. This would reflect the approach that some in Israel call “mowing the grass”—that is, using strikes periodically not to eliminate a group, but to keep it from becoming able to pose a serious threat.¹⁴⁹ As with al Qaeda as a whole, the purpose would be not to defeat an affiliate but to contain it.

A containment strategy could raise challenging questions under international law if the United States eventually concludes that it is no longer in an armed conflict with al Qaeda. In that case, the United States would need to defend strikes as an exercise of self-defense. The United States maintains that an imminent need to act in self-defense against a terrorist group can arise even if it does not know the specific time and location of an impending attack. This may be the case when intelligence indicates that a target is engaged in planning an attack, and there may not be any future opportunity to prevent it.¹⁵⁰

The rationale for this is that the likelihood of an attack depends on both the intention and the capability of an adversary. The intention to attack without the capability to do so, or the capability to attack without the intention to do so, does not warrant using force in self-defense. While intelligence is never perfect, there are clearer and more overt indicia of intent and capability when an adversary is another state as opposed to a clandestine terrorist group. In the latter case, preparation for attack will occur in secret, and there may be no observable indications of the threat, such as the deployment of military assets. With respect to AQC in particular, there is an ongoing intent to attack the United States. The United States may argue that intelligence that indicates that AQC is acquiring the

149. Efraim Inbar & Eitan Shamir, ‘Mowing the Grass’: Israel’s Strategy for Protracted Intractable Conflict, 37(1) JOURNAL OF STRATEGIC STUDIES 65 (2014), <https://perma.cc/A2C6-QGK9>.

150. THE WHITE HOUSE, REPORT ON THE LEGAL AND POLICY FRAMEWORKS GUIDING THE UNITED STATES’ USE OF MILITARY FORCE AND RELATED NATIONAL SECURITY OPERATIONS, at 9–11 (2016).

capability to do creates an imminent need to use force to protect the United States at an earlier stage than is the case with a state adversary.

The United States justified the strike that killed al Qaeda leader Ayman al-Zawahiri in Afghanistan as an operation against an enemy combatant in an armed conflict. This ostensibly enabled it to claim under the *jus ad bellum* that al-Zawahiri posed an imminent threat to the United States as the head of al Qaeda. Had this not been the case, it is not difficult to imagine that the United States would claim that it acted in self-defense because of the imminent need to prevent al Qaeda from establishing a safe haven in Afghanistan, from which it could attack the United States. President Biden stated, for instance, that Zawahiri “will never again allow Afghanistan to become a terrorist safe haven, because he is gone and we’re going to make sure that nothing else happens.”¹⁵¹

It is also not difficult to imagine critics arguing that, outside of armed conflict, this was not an act of self-defense under international law. If, to use a common military phrase, an imminent threat is one step left of “bang,” the strike against al-Zawahiri may be one or more steps left of that. Allowing him to remain in the country, the argument goes, might eventually result in the threat of an al Qaeda attack on the United States, but that was not the case at the time of the strike.

If the U.S. goal is now to contain al Qaeda, much will therefore depend on what the term “containment” means. The United States may claim that containment means preventing al Qaeda from acquiring the capability to attack the United States because it may be too late to act in self-defense once it has this capability. The difficulty in squaring this with traditional self-defense doctrine, however, could lead the United States to continue to contend that it has the legal authority to conduct strikes because it is engaged in an armed conflict with al Qaeda. This position may be difficult to maintain, however, in the face of calls for an end to the “forever war.” This conundrum is one example of how the law continues to grapple with the challenge posed by transnational terrorism.

The putative benefits of any strike must, of course, be weighed against its costs, the most important of which are the lives of innocent civilians. U.S. policy is that strikes outside war zones are permitted only if there is near certainty of no civilian casualties. While the United States has significantly reduced the rate of civilian casualties from strikes, it has struggled to meet this standard. It has not yet fully institutionalized efforts to prevent and minimize civilian casualties, although there are recent efforts in this direction. Strikes may also damage civilian property and have substantial social and psychological impacts. Furthermore, they may cause resentment of the United States, which can impair U.S. counterterrorism efforts by reducing the willingness of the local population to provide assistance and by undermining the perceived legitimacy of local government allies.

151. Kevin Liptak, Kylie Atwood, Natasha Bertrand, Maegan Vazquez, Donald Judd & Nick Paton Walsh, *U.S. Kills al Qaeda Leader Ayman al-Zawahiri in Drone Strike in Afghanistan*, CNN (Aug. 2, 2022, 3:39 PM), <https://perma.cc/4FJ3-Q2SJ>.

All these effects on local populations should be taken into account when assessing the full impact of drone strikes.

With the U.S. withdrawal from Afghanistan, strikes may play a prominent future role in what the United States calls an “over the horizon” counterterrorism strategy.¹⁵² My research indicates that there have been some successes, some failures, and some mixed results from the U.S. drone strike campaign over the past 20 years. Some lessons are clearer than others. The crucial point, however, is that decision-makers must engage in a clear-eyed fashion with these lessons in order to develop a genuine, evidence-based counterterrorism policy. Decisions about life and death are too important to be based on armchair empiricism.

152. President Joseph R. Biden, Jr., Remarks on Afghanistan (Aug. 16, 2021), <https://perma.cc/HK6C-CUCQ>.