

MICHAEL VASSEUR, CHAD C. SERENA, COLIN P. CLARKE, IRINA A. CHINDEA, ERIK E. MUELLER,
NATHAN VEST

Understanding and Reducing the Ability of Violent Nonstate Actors to Adapt to Change

Violent nonstate actors (VNSAs)—including the Islamic State of Iraq and Syria (ISIS); the Afghan Taliban (the Taliban); al-Qa’ida; various drug trafficking organizations or cartels; and manifold other criminal, terrorist, or insurgent organizations—are increasingly part of the environment in which the Army and other government forces operate. Such VNSAs pose durable and direct threats to U.S. security interests and to the forces charged with protecting these interests. The capacity of VNSAs to wage war, inflict violence, and engage in vast

KEY FINDINGS

- **Most violent nonstate actor (VNSA) adaptations occur within the first five years of a VNSA’s existence.** The VNSAs examined adapted to their environments quickly and then retained an adaptive capacity through their life cycles. This suggests that there is an opportunity to limit a VNSA’s ability to adapt in the period shortly after it emerges and the possibility of reducing its ability to remain operationally effective.
- **Not all VNSAs adapt with the same frequency.** The pressures (or strategies) exerted on a VNSA by counter-VNSA forces, coupled with changes in the operational environment, may lead to different levels of adaptation.
- **Of the 46 VNSA adaptations we examined, 12 occurred in roughly one-half of the periods and two-thirds of the cases examined.** The 12 VNSA adaptations occur frequently. Knowing that these adaptations are the most likely to occur can inform how resources are focused, the development of indicators for their detection, and the creation of means for mitigating their occurrence or the effects of their occurrence.
- **To reduce VNSA capacity to adapt, strategies and efforts should focus on limiting VNSAs’ access to military, technological, and warfighting materiel and on VNSAs’ ability to seize and hold terrain.**

transnational criminal activity make them a persistent danger. Countering these organizations is difficult because they are generally flexible and structured in ways that facilitate their ability to adapt to changes occurring within their operational environments and, in some cases, beyond.

Two VNSAs—ISIS (and its predecessors) and the Taliban—stand out for their durability in the face of continued U.S. and coalition pressure. Despite various setbacks—some severe—both VNSAs continue to adapt, evolve, and survive even though significant resources have been applied to ensure these groups’ demise over the course of many years. While the United States is now shifting its focus from counterinsurgency and counterterrorism operations to the threats that near-peer competitors pose, it continues to recognize the threat of VNSAs. A key part of being able to counter this threat is understanding how these groups adapt to changes in their operational environments and over time. An awareness of the variables (e.g., changes in the operational environment) associated with VNSA adaptations and the frequency of these adaptations is critical to understanding how and when a VNSA is likely to adapt and, accordingly, to formulating a strategy to counter these groups.

Objectives and Approach

This report identifies how VNSAs adapt to changes in their operational environments and provides recommendations on how the Army might anticipate VNSA adaptation and mitigate it before it occurs. Knowing which VNSA adaptations are most likely to occur and the associated operational environment and organizational variables would allow the Army and other organizations to proactively focus their resources and develop indicators for detecting VNSA adaptations. This knowledge would also allow the Army to develop techniques or procedures designed to mitigate these adaptations, either prior to their occurrence or after they have been observed.

Our overall approach involved conducting a series of historical case studies of VNSAs and assessing how these organizations adapted. We describe our case-selection process in the next section, but in

general, we chose to focus on ISIS and the Taliban because these two organizations have been the primary drivers of Army counter-VNSA operations over the past two decades, and both have proven remarkably adaptive in the face of coalition efforts. Some factors of similarity we considered when selecting cases included group size, ideology, duration of conflict, group military capacity, and VNSA funding strategy. The cases we selected thus offer a broad set of lessons and findings for the Army to draw on as it considers future counter-VNSA operations. We also discuss our VNSA adaptation selection process.

Definitions

Two terms—and their definitions—are of principal import in this report: *VNSA* and *adaptation*. We define VNSA to distinguish it from licit organizations because these differences affect the types of adaptations VNSAs can make. These distinctions are important insofar as they can influence VNSA behavior and adaptation and the possible mitigation strategies that can be used to constrain these behaviors or limit a VNSA’s ability to make adaptations. We define and discuss adaptation—in particular, VNSA organizational adaptation—to distinguish VNSA adaptation (where applicable) from licit organizational adaptation and to note the adaptive freedoms that VNSAs enjoy and the constraints and limitations under which VNSAs operate.

Violent Nonstate Actor

VNSA refers explicitly to an organization that engages in unsanctioned violence and neither directly nor officially represents a recognized state or country. Implicitly, VNSA refers to an organization that has some degree of prominence (globally, regionally, or within a state or locality) but that also engages in operations that are objectively considered to be illicit (violent, criminal, corrupt, or otherwise objectionable and, in most cases or circumstances, illegal). Based on these broad features, the term is inclusive of variously motivated insurgencies, terrorist organizations, transnational organized crime groups, large national or transnational gangs, militias, drug

trafficking organizations, and other types of violent and criminal syndicates.

Adaptation

Adaptation, as we use the term, refers in the main to the organizational-level changes a VNSA consciously makes in response to changes occurring in its operational environment (or the pressures resulting from these changes). A substantial amount of scholarly literature addresses the process of organizational change and adaptation, but most of this literature refers to the actions and behaviors of licit organizations (e.g., corporations or governmental bureaucracies). In this report, we examine the behaviors and actions of organizations that operate almost exclusively outside the confines of the law, frequently must act covertly, and often engage in behaviors that have no corollary in legal enterprises. While this does not have substantial bearing on the broader processes and phenomena examined in this report, these differences do affect a VNSA's capacity to adapt—both positively and negatively, depending on circumstances—as compared to traditional or licit organizations.

Although adaptation and learning are related, they are not the same thing, even though some level of learning (and sensing) is needed for organizational adaptation. Organizational learning involves the “development of insights, knowledge, and associations between past actions, the effectiveness of those actions, and future actions,” but organizational adaptation is the implementation of newly gained insights to make procedural adjustments in response to environmental, mission, structural, or other changes (Fiol and Lyles, 1985, p. 811). Furthermore, “an organization can learn, but if it fails to correctly implement changes,” adaptations will not occur (Serena, 2011, p. 10).

Fiol and Lyles, 1985, p. 805, highlights the role of deliberateness usually ascribed to the process of organizational adaptation and defines organizational adaptation as an “organizational adjustment that . . . involve[s] some understanding of action/outcome causal links.” Hrebiniak and Joyce, 1985, p. 347, discusses the dynamic interplay between an organization and its environment and defines adaptation as

a dynamic process that is the result of the relative strength and type of power or dependency between organization and environment. . . . Actions by organizations and environmental elements that underlie the different strategic contexts are potentially important for the creation or alteration of dependencies or relative vulnerabilities that will affect future actions and decisions.

Research also refers to the deliberate and dynamic process of organizational adaptation and defines the phenomenon as

a complex process of learning and change. To be adaptive, an organization must take an action to support a particular organizational goal or mission, assess the performance of this action, and then adjust organizational inputs and outputs to better match the goals or mission of the organization based on this prior assessment. (Serena, 2011, p. 17)

Although we did not delve into the processes supporting or associated with organizational adaptation (e.g., inputs to the process, a VNSA's capacity for learning, and so forth) in this report, our approach assumed a certain level of organizational learning and deliberateness on the part of each VNSA we examined and that the adaptations we identified and assessed were influenced by changes occurring in a VNSA's operational environment. Certainly, an organization can sometimes make a change either to create or improve processes independent of its operational environment, but for the sake of simplicity in our analyses, we included adaptations that at least appeared to have been made deliberately and in response to changes in a VNSA's operational environment.

Our primary measure of a VNSA's overall level of adaptation is the sum of all adaptations made in a given five-year period. This ranges in theory from zero (if a group did not adapt at all in a five-year period) to 46 (if a group undertook all 46 of the types of adaptations for which we collected data). The 46 adaptations are discussed in the next section.

Approach to Selecting Cases and VNSA Adaptations

Case Selection

In selecting cases, we started by consulting the extant literature on VNSAs and VNSA adaptation, including previous RAND reports on the termination of insurgencies and terrorist group activities.¹ Reports such as *How Insurgencies End* (Connable and Libicki, 2010) and *How Terrorist Groups End* (Jones and Libicki, 2008) provided us with both a comprehensive list of terrorist and insurgent organizations and group characteristics and valuable insights on the lifespan of the respective groups and whether they had been successful in accomplishing their goals and objectives.

To begin our case-selection process, we examined *How Insurgencies End* and *How Terrorist Groups End* and the scholarly literature on organized criminal organizations (Abadinsky, 2010; Roth, 2010). One of our primary concerns when developing the initial list of cases was ensuring that we captured principally the groups whose behavior bore some similarities to the Taliban and ISIS, with further preference given to groups active after September 11, 2001. Given these criteria, our initial list included 135 cases, many of which share or shared the characteristics and behaviors common to insurgent, terrorist, or criminal groups. In conjunction with our sponsor, we determined that World War II was a reasonable cutoff point for including cases. This is not to say that cases occurring prior to World War II would not provide some level of insight but rather that the organizational adaptations we planned to examine here were increasingly less likely as we moved further into the past. We excluded cases of individual militias, gangs, warlord-led organizations, and other marginal criminal groups that typically act as adjuncts to insurgencies, terrorist organizations, or violent drug trafficking organizations and were therefore too unlike the principal cases we examined.

Given that we intended to employ cross-case assessments based on extensive qualitative data derived from the case histories in our research, we further reduced the initial list into a more focused group of cases. Among the many variables we

considered here, we focused on the lifespan of each VNSA. In practice, the cases we selected lasted for at least ten years. This allowed us to exploit a substantial body of secondary sources for our assessments and to focus on more mature VNSAs, which, in turn, are more likely to be able to threaten U.S. national security interests and warrant potential U.S. Army intervention.

We also focused our analysis on VNSAs with a duration of at least ten years because (1) this comprises the universe of VNSAs most relevant to recent and ongoing Army operations; (2) these VNSAs have proven to be adaptive and difficult to defeat; and (3) cases of this duration provide additional observation periods (i.e., more adaptations and variation). The cases selected likely offer the Army the most valuable lessons on VNSA adaptation, which can be used as the Army considers future interventions and whether to retain or modify doctrine, training, and operations designed to counter VNSA activity.

Finally, we focused on the availability of secondary source data for each case. The scope of the project—with its focus on general trends in adaptations across VNSAs rather than the details of adaptations associated with any specific VNSA—precluded us from investigating each individual case in depth and from engaging in field research for the cases selected. Early in our selection process—and because we were using quantitative assessments derived from case histories as a means of investigation and had a substantial number of factors to evaluate—we assessed the availability of sources for the VNSAs included in our initial list. If we were not confident that we would be able to find enough sources of substantial quality and depth for a particular case, we eliminated the case from consideration.

This allowed us to reduce our initial list from 135 to 37 cases: four terrorist groups, four insurgent-terrorist groups, 22 insurgencies, one criminal-terrorist group, and six criminal groups. Because of the extensive availability of in-depth case studies on insurgencies—or cases that other researchers have historically characterized as insurgencies—our case selection process was necessarily tilted in favor of this type of VNSA. However, this is a feature, not a drawback, of the assessment of VNSA adaptation. Because insurgencies tend to

have more complex organizations and operations, at times employ terrorist tactics or engage in criminal behaviors to achieve their goals, and often provide services while establishing parallel governance structures, they must also adapt frequently and in manifold ways. The contrast is particularly notable in comparison with VNSAs that are primarily terrorist or criminal in nature; such groups tend to have more limited goals or objectives and, thus, less need or incentive to adapt.

The final step in our case-selection process was to focus our research even further while still ensuring the representativeness of the cases selected. This required us to make selections based on organization type (the various categorizations and combinations of VNSAs possible: insurgent, terrorist, criminal, and combinations thereof), active periods (different eras in the post–World War II period: post–World War II, post–Cold War, and post-9/11), and geographic bases of operations (different regions). Making these choices was difficult and meant eliminating some groups from our analysis that would have otherwise likely provided useful but overlapping or redundant data points. For instance, given the overrepresentation of Latin American VNSAs in our second list of cases—because of the concentration of criminal groups and Cold War–era insurgencies in this region—we used our subject-matter expertise to identify the most representative cases for this region. As a result, we included Los Zetas and the Sinaloa cartel but exclude the Tijuana cartel—which, although an important drug trafficking organization in Mexico, is not as prominent or as operationally capable as either Los Zetas or the Sinaloa cartel. VNSA longevity also played a role in our final case selection: We retained the groups that had longer lifespans (longer than ten years) because these cases were more likely to yield insights into VNSA adaptation than those that were or have been in operation for shorter periods. This choice limits the generalizability of the results. We therefore suggest caution when applying the results to newly formed groups because they may demonstrate different patterns of adaptation from those of VNSAs in existence for longer periods.

Table 1 lists the final 15 cases included in our analyses and, for each, the organization type, period and duration of the organization’s operations, and

principal geographic location of operations. Not all the operations of these VNSAs are restricted to either national or regional boundaries. For instance, ISIS operates internationally, while its principal base of operations—as of the time of this research (2018–2019)—is in Syria, with adjunct or affiliate operations in several other countries. Hezbollah and other groups are known to conduct finance and other operations outside their primary areas of operation (i.e., Lebanon). All told, our selection process yielded ten insurgencies, three terrorist groups, and two criminal groups operating during the Cold War, post–Cold War, and post-9/11 periods for between ten and 55 years.

Because the durations of the VNSAs we ultimately selected differed, we decided to group each VNSA’s activities into roughly five-year periods, except for its initial period of emergence and/or its activities ended (Table 2). These exceptions allowed us to examine the adaptations associated with each VNSA’s operationalization and termination more closely. As Table 2 shows, not all these periods were five years long. Cutoffs were made to make each period shorter or longer than five years to maximize the number of five-year periods possible for examination for each group. While we recognized that using five-year periods would limit the specificity of our analyses and would not always follow the precise evolution of the various groups, our objective was not necessarily to obtain precision but rather to note correlations and trends in factor changes and associated VNSA adaptations across periods that were roughly uniform across cases. Also, because of the evolutionary nature of VNSA operations and adaptations and the ways in which data were recorded for many of the factors examined, particularly those substantiated by secondary sources, we were willing to sacrifice a certain amount of precision for breadth and depth. This is not to say that we overlooked important details—indeed, we further analyzed factors of note and recorded and accounted for prominent VNSA adaptations in the individual case narratives.

VNSA Adaptations

We drew from an extensive range of sources and our own subject-matter expertise to develop and select

TABLE 1

Final 15 Cases Selected, Period of Operations, and Geographic Location as of 2019

Primary Organization Type	Case	Period	Duration (Years)	Location
Criminal	Los Zetas (Mexico)	1999–ongoing	20	Latin America
	Sinaloa Cartel (Mexico)	1989–ongoing	30	Latin America
Insurgency	Al-Qa'ida in Iraq (AQI)/ISIS (Iraq/Syria)	2003–ongoing	16	Middle East
	Al-Qa'ida in the Arabian Peninsula (AQAP, Yemen)	2009–ongoing	10	Middle East
	Boko Haram (Nigeria)	2009–ongoing	10	Africa
	Chechen Separatists (Chechnya)	1994–ongoing	25	Europe
	Fuerzas Armadas Revolucionarias de Colombia (FARC, Colombia)	1963–2017	55	Latin America
	Armed Islamic Group (GIA, Algeria)	1992–2004	13	Africa/Middle East
	Liberation Tigers of Tamil Eelam (LTTE, Sri Lanka)	1976–2009	34	South Asia
	Provisional Irish Republican Army (PIRA, Northern Ireland)	1969–1998	30	Europe
	Partiya Karkeren Kurdistan (PKK, Turkey)	1984–1999 2000–present	35	Middle East
	Quetta Shura Taliban (post–1992) (Afghanistan)	1992–ongoing	27	South Asia
Terrorist	Abu Sayyaf (Philippines)	1991–ongoing	28	Southeast Asia
	Hamas (Palestinian Territories)	1987–ongoing	32	Middle East
	Hezbollah (Lebanon)	1982–ongoing	37	Middle East

the adaptations for analysis. This included examining literature covering many of the cases listed in this report, variables affecting VNSA adaptation (including environmental and organizational ones), and organizational adaptation in general (including commonly employed counter-VNSA strategies).

Table 3 lists 46 VNSA adaptations across outcome variable groups covering alliances formed, motivation, organizational structure, operational reach, materiel adoption, tactics, and violent versus nonviolent means.² Our objective for including these variables was to be able assess the changes a VNSA made. We did not assess how these adaptations affected group success or failure or whether they would be beneficial or deleterious in general.

Adaptation Findings

We analyzed the 15 cases shown in Tables 1 and 2 in terms of the 46 adaptations shown in Table 3. Our

findings focus on the frequency of VNSA adaptation and on mitigating key VNSA adaptations.

Frequency of VNSA Adaptation

After gathering data on all 15 cases, we assessed the relative distribution of VNSA adaptations across all 106 periods examined (Table 2) and determined the relative levels of adaptation among the VNSAs. Overall, we found that, **on emerging, VNSAs adapt quickly and then continue to retain an adaptive capacity.** Figure 1 depicts how the average number of VNSA adaptations per period climbs from five to 15 following a VNSA's period of emergence (the black line). The gray line depicts the number of VNSAs counted in each period; this generally decreases because only some of our cases lasted longer than eight periods, with FARC lasting for 12 periods (Table 2). After the emergence period (period 0 in the figure), the VNSAs we examined averaged between 15 and 19 adaptations for the remainder of the

TABLE 2
Cases Selected and Periods Examined

Case	Number of Periods Per Case	Periods Examined
Los Zetas (Mexico)	5	Emergence (pre-1999), 1999–2005, 2006–2010, 2011–2015, 2016–2017
Sinaloa Cartel (Mexico)	7	Emergence (pre-1989), 1989–1995, 1996–2000, 2001–2005, 2006–2010, 2011–2015, 2016–2017
AQI/ISIS (Iraq/Syria)	4	Emergence (pre-2003), 2003–2007, 2008–2012, 2013–2017
AQAP (Yemen)	3	Emergence (pre-2009), 2009–2013, 2014–2017
Boko Haram (Nigeria)	3	Emergence (pre-2009), 2009–2013, 2014–2017
Chechen Separatists (Chechnya)	8	Emergence (pre-1994), 1994–1996, 1996 (end), 1997–2000, 2001–2005, 2006–2010, 2011–2015, 2016–2017
FARC (Colombia)	12	Emergence (pre-1964), 1964–1970, 1971–1975, 1976–1980, 1981–1985, 1986–1990, 1991–1995, 1996–2000, 2001–2005, 2006–2010, 2011–2016, 2017 (end)
GIA (Algeria)	5	Emergence (pre-1992), 1992–1996, 1997–2001, 2002–2003, 2004 (end)
LTTE (Sri Lanka)	9	Emergence (pre-1976), 1976–1980, 1981–1990, 1991–1995, 1996–2000, 2001–2005, 2006–2008, 2009 (end)
PIRA (Northern Ireland)	9	Emergence (pre-1968), 1968–1970, 1971–1975, 1976–1980, 1981–1985, 1986–1990, 1991–1995, 1996–1997, 1998 (end)
PKK (Turkey)	9	Emergence (pre-1984), 1984–1989, 1990–1994, 1995–1998, 1999 (end), 2000–2004, 2005–2009, 2010–2014, 2015–2017
Taliban (post-1992)	7	Emergence (pre-1992), 1992–1995, 1996–2000, 2001–2005, 2006–2010, 2011–2015, 2016–2017
Abu Sayyaf (Philippines)	7	Emergence (pre-1991), 1991–1995, 1996–2000, 2001–2005, 2006–2010, 2011–2015, 2016–2017
Hamas (Palestinian Territories)	8	Emergence (pre-1987), 1987–1990, 1991–1995, 1996–2000, 2001–2005, 2006–2010, 2011–2015, 2015–2017
Hezbollah (Lebanon)	9	Emergence (pre-1982), 1982–1985, 1986–1990, 1991–1995, 1996–2000, 2001–2005, 2006–2010, 2011–2015, 2016–2017
Total periods for all cases	106	

NOTE: End refers either to the termination of the VNSA and its activities (e.g., FARC, 2017) or to the end of a period in which the VNSA fundamentally transformed (e.g., Chechen Separatists, 1996).

periods observed (the black line). This suggests that VNSAs—to the extent that they do adapt—adapt to their environments relatively quickly and then continue to adapt throughout their life cycles.

We also found considerable variation among VNSAs with respect to the frequency of adaptations made in the postemergence periods. Specifically, **not all VNSAs adapt with the same frequency**. For instance, Boko Haram adapted 31 times per period on average, while FARC averaged approximately 9.5 adaptations per period. This suggests that, while there are operational environment and organizational variables that influence the likelihood of

VNSA adaptation, the frequency with which VNSA adaptation occurs is largely idiosyncratic to its operational context and organizational structure. Figure 2 shows the average number of postemergence adaptations by VNSA.

In addition to average period and group differences in adaptation, we also wanted to determine which of the 46 adaptations being assessed (Table 3) occurred most frequently. We found that **12 of the 46 VNSA adaptations examined occurred in roughly one-half of the periods and two-thirds of the cases examined**. Specifically, of the 46 VNSA adaptations we assessed, the most frequently occurring

TABLE 3

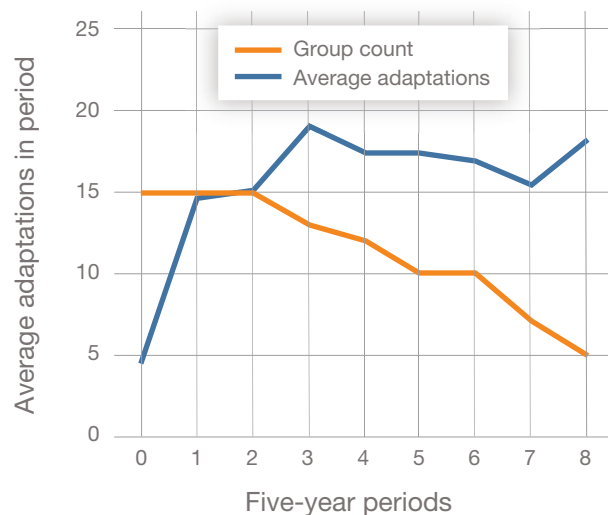
VNSA Adaptation Outcome Variables

Variable Group	Outcome Variable
Alliance formation	Partnering with other VNSAs
	Merger with other VNSAs
	Partnering with other regional state powers
	Partnering with other state powers
	Partnering with state actors (corruption)
Motivation	New ideological, political, and ethnic talking points emphasized in group discourse
	Change in goals and motivation
	Group abandons ideology
	Group strengthens ideology
	Group embraces new ideology or cause (ethnic, religious, political)
Structure	Deliberate change in organizational leadership
	Splintering of VNSA
	Substantial change in organizational structure
	Group survives/continues to exist after losing its leader
Location and reach	Change in geographical concentration/dispersion
	Deliberate increase in territorial control
	Change in geographical reach of attacks
	VNSA develops diversified finances and resource streams
	VNSA develops significant finance/resource streams outside of its primary area of operation
	Change in safe-haven
Materiel adoption	Creation of additional safe-haven (physical or virtual)
	Adoption of new military materiel or technology into organization
Tactics	Novel use of materiel or technology
	Change in primary target types
	Change in methods of attack
	Change in timing of attack
	Change in scale of attack
	Change in frequency of attack
	Change in tactics (urban terrorism, kidnapping, political assassination, decapitation)
	Change in perpetrator of attack (women, children, foreign recruits)
	Adoption of new tactics (urban terrorism, kidnapping, political assassination, decapitation)
	Adoption of indiscriminate attacks
	Change in recruitment tactics
	Change in the profile of recruits

Table 3—Continued

Variable Group	Outcome Variable
Violent versus nonviolent means	Adoption of new means of communication
	Change in means of communication with supporters and the public
	Change in means of communication of the group
	Development of new information gathering capabilities
	Change in the governance activities the group provides to the local population
	Group engages in (violent) territorial expansion
	Group retreats from territory it occupies
	Group alternates between propaganda and physical violence
	Change in manner of financing operations
	Change in narrative, message, or propaganda
	Change in treatment of civilians
	Development of political wing and involvement in politics

FIGURE 1
Average of VNSA Adaptations Across Periods



adaptation was *Partnering with other VNSAs* (which occurred in 77 of 99 periods in which VNSA adaptations were recorded in 14 of the 15 case studies examined). In this instance, if a VNSA partnered with VNSA X in one period, we would count it as having adapted. However, to be counted as adapting again in a later period, the VNSA would need to ally with a third VNSA—VNSA Y, for example. Similarly, for other adaptations, VNSAs can and

do conduct multiple instances of the same general adaptation over time. Table 4 highlights the top 12 most frequently occurring of these adaptations. We made this distinction to focus our analyses on the adaptations that we expect to occur most frequently in future cases. Knowing that these adaptations are the ones most likely to occur can inform the focusing of resources, the development of indicators for their detection, and the creation of means of mitigating their occurrence or the effects of their occurrence. We did not judge the consequentiality of these adaptations or whether they were beneficial or deleterious but instead focused on the frequency of their occurrence across cases.

Mitigating Key VNSA Adaptations

After identifying the 12 most common VNSA adaptations, we conducted additional research to better understand categories of adaptation (e.g., the formation of alliances or partnerships, changes in tactics) and to identify the means of mitigating these adaptations either prior to (as possible) or after they have been made. To facilitate this research, we grouped the 12 most common VNSA adaptations (listed in Table 4) into six more general groups: alliances, materiel and technology, geographic changes, finance, tactics, and leadership decapitation (Table 5).

FIGURE 2

Average of Postemergence VNSA Adaptations, by Group

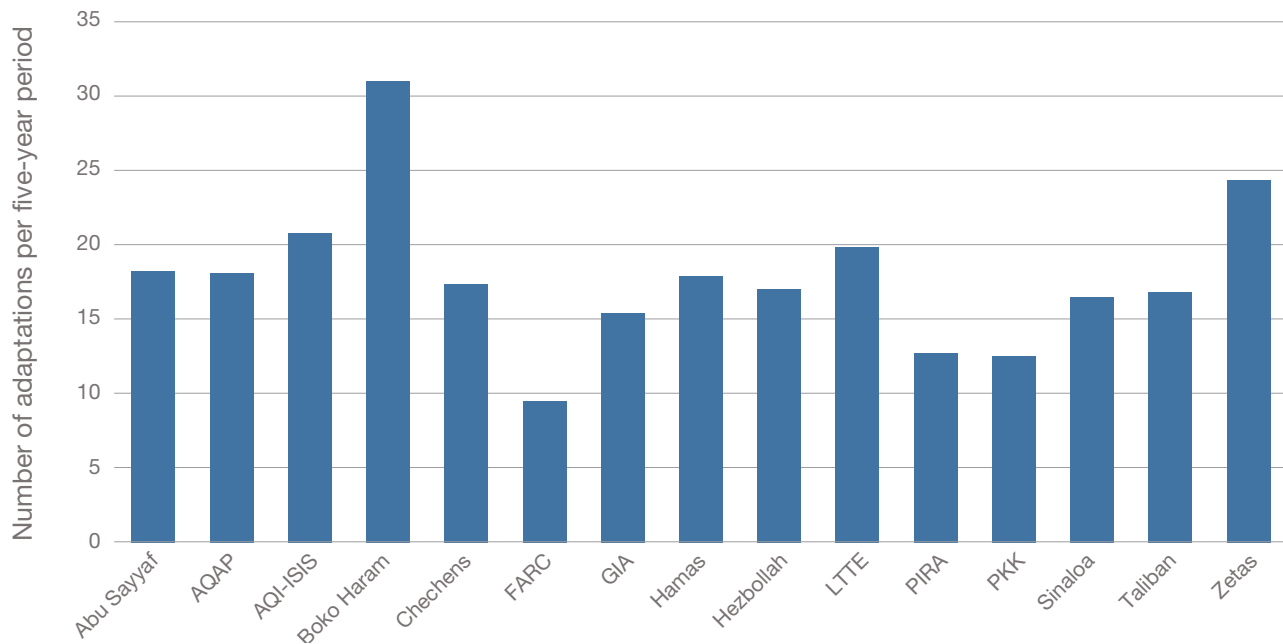


TABLE 4

Frequency of 12 of the 46 Most Frequent VNSA Adaptations, by Period and Group

VNSA Adaptation	Number of Periods Recorded	Number of Groups Making Adaptation
Total	99	15
Partnering with other VNSAs	77	14
Adoption of new military materiel or technology into organization ^a	60	15
Change in geographical reach of attacks	57	15
VNSA develops diversified finance and resource streams	59	14
Change in tactics (urban terrorism, kidnapping, political assassination, decapitation)	54	15
Adoption of new tactics (urban terrorism, kidnapping, political assassination, decapitation)	51	15
Group survives and continues to exist after losing its leader	58	13
Adoption of indiscriminate attacks	51	14
VNSA develops significant finance and resource streams outside its primary area of operation	61	11
Group engages in (violent) territorial expansion ^a	49	13
Change in methods of attack	42	15
Novel use of materiel or technology ^a	47	13

^a Indicates adaptations that are likely to occur regardless of counter-VNSA strategy employed.

TABLE 5

Groupings of 12 Most Common VNSA Adaptations

Grouping for Literature Review and Mitigation	VNSA Adaptation
Alliances	Partnering with other VNSAs
Materiel and Technology	Adoption of new military materiel or technology into organization Novel use of materiel or technology
Geographic Changes	Change in geographical reach of attacks Group engages in (violent) territorial expansion
Finance	VNSA develops diversified finance/resource streams VNSA develops significant finance/resource streams outside of its primary area of operation
Tactics	Change in tactics (e.g., urban terrorism, kidnapping, political assassination, decapitation) Adoption of new tactics (e.g., urban terrorism, kidnapping, political assassination, decapitation) Adoption of indiscriminate attacks Change in methods of attack
Leadership decapitation ^a	Group survives or continues to exist after losing its leader

^a Leadership decapitation is not itself an adaptation. We use this shorthand term to refer to the adaptations that VNSAs made in reaction to the decapitation of organizational leadership. In our definition of *leadership decapitation*, we included the long-term imprisonment, removal, battlefield or accidental death, or targeted killing of a VNSA's leadership.

In the following subsections, we provide a general description of each group of adaptations, means of detection, and possible methods for mitigation. Appendix A lists the key literature that underlies the discussions of each of the six groups of adaptations; the list of references provides full citations for that literature.

Alliances

This group contains only one of the 12 VNSA adaptations shown in Table 5, but that adaptation is the one most common in our research: *Partnering with other VNSAs* (which occurred in 77 of 99 periods with recorded VNSA adaptations and in 14 of the 15 case studies examined). VNSAs enter into alliances with other groups for many reasons. Although alliances are often formed between VNSAs with ideological similarities, this is not always the case. Alliances between and among VNSAs are often fleeting and may involve substantial changes in allegiance throughout a conflict. While most alliances are formed at the local or regional level, VNSAs have allied despite being separated by significant distances. VNSAs form alliances with other armed groups to secure both groups' survival (alliances make it more difficult to eliminate either group) or when the groups have "complementary organizational needs" that can be met by working together,

including "knowledge, skills, and resource mobilization" (Bacon, 2018). The types of alliances can also vary widely, and most, appropriately, exist along a spectrum with low-end cooperation at one end and more frequent and sustained high-end cooperation at the other.

Detecting VNSA alliances might only be possible after a partnership has been attempted or formed. VNSAs might indicate or announce their alliances through public statements affirming their support for other groups or through the proliferation of their own propaganda declaring support to a group or cause. Alliances may also be detected when the partnered VNSAs undertake joint offensive operations; exchange tactics, materiel, and technology; create umbrella organizations; or engage in other forms of intergroup cooperation.

Because VNSAs are primarily in control of deciding which groups they choose to partner with, it is inherently difficult to prevent them from forming alliances. However, generally, alliance formation can be deterred by

- sanctioning groups that cooperate with specific targeted VNSAs, which could possibly prevent the future co-optation of the sanctioned groups

- co-opting potential VNSA allies through enticements, through demobilization programs, or through disarmament.

Materiel Technology

This group contains two of the 12 VNSA adaptations in Table 5: *Adoption of new military materiel or technology into organization* and *Novel use of materiel or technology*. VNSAs may incorporate materiel and technology into their organizations and operations over time as each fits organizational needs or becomes available. Materiel and technology can come in many forms and can be used or modified for many purposes, including increasing the lethality of attacks, enhancing or expanding communications, and improving intelligence gathering. These advances can be achieved by innovation, by cooperation with other groups, by using available sources (e.g., internet sources, published manuals), by using commercial tools or applications, by the capture of military materiel, by the arms trade, or by acquisition from state sponsors. A VNSA adopts new technology or materiel if the group believes that it will solve a current problem or problems, or when the adoption of either is perceived to have potential benefits.

Detecting whether a VNSA is planning to or has obtained materiel or technology may often only be possible after a VNSA has used the materiel or technology in question. This places importance on tracking, reporting, analyzing, and sharing information on VNSA uses of, or publications about, weapons or technology employed in planning or operations. Also of importance is noting how weapons and technology are manipulated or adapted for operations, because one can expect that, if effective, these modifications will be shared with affiliates or diffused more broadly and, ultimately, be adopted by other VNSAs.

Because of the wide and continuing proliferation of materiel and technology that is useful in conflict, it has become increasingly difficult to inhibit their adoption by VNSAs. For instance, the diffusion of commercial technology and the existence of manuals and instructions (either in print or online) on how to create weapons, bombs, and technology cannot feasibly be substantially curtailed. However, steps can

be taken to slow future proliferation of materiel and technology to VNSAs:

- Hold states that supply VNSAs with arms accountable using existing laws or sanctions.
- Monitor and target arms trafficking networks generally but especially those that traffic materiel and technology to VNSAs.
- Monitor, defend, or destroy government caches of materiel as necessary when they are in danger of being seized by VNSAs.
- Consider implementing usability controls or other means of tracing devices that would allow a better understanding of which nation manufactured or supplied a weapon that ended up being used by a VNSA.
- Continue steps to identify and disrupt VNSA websites and forums to prevent tools that are being shared from being used for radicalization and recruitment. In addition, consider ways of prosecuting authors, creators, and hosts of radicalizing material.
- Strengthen legal controls on arms sales.

Geographic Changes

This group contains two of the 12 VNSA adaptations in Table 5: *Change in geographical reach of attacks* and *Group engages in (violent) territorial expansion*. VNSAs change their geographic disposition in pursuit of finances, resources, safe havens, and recruits and to expand areas of control or operations. These geographic shifts can occur within or across borders. Groups pursue finances and resources largely to maintain or expand their capacity to conduct operations but also to solidify organizational features. VNSA parasitism having exhausted the resources—be it recruits or lootable resources—in a local area may be a driver of such moves. Safe havens are often sought out as areas where the VNSA can find respite (rest and recuperate), plan operations, or evade counter-VNSA forces. Safe havens can take the form of inaccessible areas with small populations or of larger, more populated areas where it is easier for members of a VNSA to blend in and evade discovery. VNSAs that seek safe havens or sanctuaries abroad often do so to evade the repressive capabilities of their host states (or to evade counter-VNSA forces

operating in these states) or to establish training camps.

While not all VNSAs are quite as public as ISIS was with its videos and publications when it seized control of territory, efforts to gain territorial control are often quite visible. The movement of VNSA forces, ensuing conflict, and the displacement of civilians from populated areas are all likely indications of VNSAs taking control of territory. Encroachment in new areas by members of a VNSA—either as a vanguard or reconnaissance force—should, by and large, be detectable from standard methods of reconnaissance, and surveillance can indicate the likely future movement of a larger force.

Preventing a VNSA's geographic expansion or territorial control generally requires that a state or other force opposed to the VNSA retain effective governance and control of the contested territory. While VNSAs may still operate relatively freely in these areas even when the areas are controlled by the state or opposing forces, the VNSAs will not be able to enjoy the benefits that overt operations would provide. However, in many instances in which VNSAs have emerged and operate, these conditions do not apply, and imposing (and maintaining) control over ungoverned or alternatively governed areas can take a long time and could require the application of significant resources. In general,

- Denial strategies limiting a VNSA's movement or ability to wage attacks under some circumstances can prove more effective than other approaches.
- When VNSAs have acquired a safe haven because of a state's indifference or inability to control its territory, programs directed at improving the host-nation's capacity to counter the VNSA might prove effective. These efforts must account for the conditions prevailing in the state or area in which the VNSA is operating.

Finance

This group contains two of the 12 VNSA adaptations shown in Table 5: *VNSA develops diversified finance/resource streams* and *VNSA develops significant*

finance/resource streams outside of its primary area of operation. VNSAs commonly generate finances in one of two ways. First, they can engage in activities within their primary area of operation that are designed to explicitly or indirectly generate funds. This can include producing and selling narcotics; trafficking arms; smuggling various materiel and goods; kidnapping for ransom; taxing local services, transactions, and goods; extracting resources; looting and selling antiquities; looting banks; and engaging in various criminal enterprises, including armed robbery, protection rackets, black market distribution, theft, and extortion. Second, VNSAs can generate or raise finances external to their areas of operation through smuggling, kidnapping for ransom, contributions from diaspora populations or ideological supporters, international charities or nongovernmental organizations, the sale of natural resources, antiquities looting and sales, extortion, arms trafficking, drug trafficking, and contributions made from state-based supporters.

VNSAs do not tend to openly publicize their revenue streams, thus making efforts to monitor and detect them difficult. Mechanisms for tracking, reporting, analyzing, and sharing information on VNSA financial streams are thus important. Detecting means VNSAs use to raise and collect funds will likely require cooperation among many international agencies with equities in monitoring the international financial system. Public-private partnerships could also be critical in this regard.

VNSAs have proven remarkably creative in developing ways to generate finances, both inside and outside their areas of operation. However, research shows that there are various ways to disrupt or destroy VNSAs' control of, or access to, revenue streams:

- Monitor and prevent the ability of VNSAs to extract resources to disrupt their ability to extract and sell these resources.
- Undertake operations to capture or destroy known VNSA cash on hand if its location is also known.
- Disrupt national and international illicit markets for goods, antiques, and resources.

- Designate select groups as foreign terrorist organizations; doing so appears to limit VNSA funding sources and has a significant effect on these groups' ability to gather finances and carry out attacks.
- Employ sanctions to limit the ability of groups to fundraise both in the United States and abroad. Possible donors or sources of finance become more hesitant to support groups financially when the penalties for doing so are high. Sanctions can also force a VNSA to carry large stores of cash or resources, which can then be intercepted and seized.
- Employ strategies designed to disrupt VNSA territorial control as a means of indirectly attenuating taxation, extortion, and other criminal enterprises whose existence and effectiveness are tied to a VNSA's predominance in an area.

Tactics

This group contains four of the 12 VNSA adaptations in Table 5: *Change in tactics* (e.g., *urban terrorism, kidnapping, political assassination, decapitation*), *Adoption of new tactics* (e.g., *urban terrorism, kidnapping, political assassination, decapitation*), *Adoption of indiscriminate attacks*, and *Change in methods of attack*. VNSAs can adopt a range of different tactics, including changing the timing of attacks, using beheadings or other forms of mutilation, engaging in urban terrorism, kidnapping, political assassination, suicide attacks, the deliberate targeting of civilians, and the use of indiscriminate attacks. VNSAs employ these tactics either in response to changes in adversary or target behavior or to achieve other organizational goals (e.g., sowing fear in the population or opponents). These adaptations can be driven by changes among adversary or target populations; groups seeking to instill fear must increase terror levels over time as populations adapt to prior tactics.

The adoption of the use of beheadings appears to be driven by a desire to gain international attention; intimidate potential enemies and show strength; serve as a consequence of a person, organization, state, or opposing forces not meeting the VNSA's demands; serve as propaganda and for recruitment

purposes; define group identity; serve as criminal punishment during periods of VNSA governance; and be part of an effort to drive a conflict's narrative. VNSAs may adopt urban terrorism as a means of intimidation or to affirm glory to or otherwise rally or motivate supporters of the cause, as a means of target selection, or because of a desire to inflict significant numbers of casualties. VNSAs tend to adopt kidnapping as a means of extracting concessions from civilian or state actors as vengeance; as a source of income through kidnapping for ransom; or in an effort to raise the organization's public profile and, accordingly, boost morale. VNSA adoption of political assassination appears to be driven by a desire to silence the voices of opposition, to preemptively kill a potential enemy, to punish and eliminate individuals who have applied "too much" pressure on the VNSA, to kill traitors, to gain popular support by eliminating those perceived as oppressors, and to eliminate powerful allies of rivals. When in conflict with a superior fighting force, VNSAs may adopt suicide attacks in an effort to carry out performative violence, which is designed to instigate fear in an audience and inspire perceived glory for believers in the cause, to draw opponents into delivering political concessions after other tactics fail, to sabotage negotiations, to escalate the conflict, to appear as the dominant organization fighting the enemy, to retaliate for losses, or to provoke an adversary into what would be perceived as an overreaction. VNSAs appear to target civilians to acquire resources and prevent collaboration with the government. VNSAs will employ indiscriminate attacks to target those who live in areas under opposition control and to shape civilian behavior.

Tactical changes are relatively easy to discover because they are revealed on employment. While responsibility, motivations, and some of the details of how an attack was carried out may be difficult to discern, the change in methods tends to be quite visible.

Counter-VNSA forces can employ strategies, infrastructure changes, and policies that mitigate the effectiveness of changes in VNSA tactics:

- Use barriers and other semipermanent features, which have the effect of limiting VNSA access to areas requiring protection. Barriers

and other blast-reducing infrastructure can also limit the damage caused by an attack when it occurs.

- Have targets change their routines and maintain lower profiles (e.g., having officials and other targets remain indoors), which can reduce the possibility and effectiveness of assassination attempts.

Leadership Decapitation

This group contains one of the 12 VNSA adaptations in Table 5: *Group survives and continues to exist after losing its leader*. We note that leadership decapitation itself is not an adaptation. We use this shorthand term to refer to the adaptations that VNSAs made in reaction to the loss of organizational leadership. The effects of leadership decapitation in VNSAs varies and can depend on the value of the leader to the organization's goals, mission, or other variables. However, studies examining the subject of VNSA leadership decapitation tend to agree that, when losing their leaders, most VNSAs will survive. Where scholars generally differ is on whether leadership decapitation is an effective counter-VNSA strategy. Jenna Jordan found that "decapitated groups have a lower rate of decline than groups that have not had their leaders removed" (Jordan, 2009, p. 753). Patrick Johnston estimated that leadership decapitation is successful in driving insurgent defeat "around 25 to 30 percent" of the time (Johnston, 2012). Bryan Price similarly found that leadership decapitation increases the odds of insurgent elimination (Price, 2012; Price, 2019). While some studies have found higher success rates for leader decapitation strategies, Johnston argued that variables other than leadership decapitation likely play a role in these cases and that "decapitation is not a silver bullet," a finding widely supported by available evidence (Johnston, 2012).

A VNSA's longevity seems to play some role in its ability to survive leader decapitation; that is, the longer a VNSA has been in existence, the more resilient it appears to be to the loss of a leader. Also, organization type (e.g., ideological, religious, criminal) and structure (large or small) also play roles in the effects of leadership decapitation strategies. In addition, a VNSA's relationships with other VNSAs can also

influence its ability to survive leadership decapitation. For example, religious, criminal, and larger VNSAs are more resilient to leadership decapitation.

Determining the effects of leadership decapitation can take years, depending on how much is known about an organization and on available tools for gaining this information. However, changes in tactics, public pronouncements, or other similarly visible changes should signal how the organization has adapted to the loss of a leader, even when changes to organizational structure or patterns of control might not be apparent.

When leadership decapitation strategies are employed, the effects of these strategies should be monitored closely, especially when considering the likelihood of increased violence as a response. In general,

- Use leadership decapitation strategies earlier in a VNSA's life cycle because this is when it appears to have the most negative effects on the ability of these groups to adapt.

Findings and Recommendations

This research sought to identify how VNSAs adapt to changes in the operational environment and provide recommendations on how the Army and other organizations might anticipate VNSA adaptation and mitigate it before it occurs. To meet these objectives, we first identified historical VNSA cases that shared characteristics of contemporary VNSAs—such as ISIS and the Taliban—whose examination we felt would yield important and generalizable insights into how VNSAs adapt as organizations. Second, we performed historical case analyses on the 15 selected cases. Third, we conducted analyses to determine patterns, trends, and the frequency of various VNSA adaptations. Finally, we provided a detailed discussion of the most frequently occurring VNSA adaptations and means of detecting and mitigating each.

Findings

In this section, we summarize the key findings on the frequency of VNSA adaptations overall and on

how the 12 most commonly seen adaptations can be detected and mitigated.

The Frequency of VNSA Adaptation

The greatest rate of VNSA adaptations occur within the first five years of a VNSA's existence.

The VNSAs we examined adapted to their environments quickly and then retained an adaptive capacity throughout their life cycles. This suggests that there is an opportunity to limit a VNSA's ability to adapt in the period shortly after it emerges and the possibility of reducing its ability to remain operationally effective.

Not all VNSAs adapt with the same frequency.

The pressures (or strategies) that counter-VNSA forces exert on a VNSA, coupled with changes in the operational environment, may lead to different levels of adaptation.

Of the 46 VNSA adaptations examined, 12 occurred in roughly one-half of the periods and two-thirds of the cases examined. The 12 VNSA adaptations occur frequently. Knowing that these adaptations are the most likely to occur can inform the allocation and focusing of resources, the development of indicators for their detection, and the creation of means for mitigating their occurrence or the effects of their occurrence. As noted earlier, we did not judge the consequences of these adaptations or whether they were beneficial or deleterious but instead focused on the frequency of their occurrence across cases.

Detecting and Mitigating the 12 Most Common VNSA Adaptations

The six groupings of the 12 adaptations examined—alliances, materiel and technology, geographic changes, finance, tactics, and leadership decapitation—are those VNSAs are most likely to employ in conflict environments. While the methods for and means of monitoring, detecting, and mitigating these adaptations vary depending on the type of adaptation being addressed, the Army can take steps—in the form of preventative measures, strategies, and tactics—to prevent (prior to occurrence) or respond (after their occurrence) to these adaptations

that should either reduce their likelihood of occurrence or attenuate their effects.

Recommendations

Our findings suggest that efforts to combat or control VNSA adaptation should focus on a VNSA's emergence and early evolution, access to military materiel and technology, and capacity to seize and hold terrain. The U.S. government (through sanctions, disrupting VNSA supply chains, and other efforts) and the Army (through its operational variables: political, military, economic, social, information, infrastructure, physical environment, and time [PMESII-PT]; see Headquarters, Department of the Army, 2014) analysis and efforts designed to limit VNSA access to military materiel and technology are already undertaking many of these suggestions in some form and to some degree. Our suggestions are thus meant to highlight areas of focus for future conflicts involving VNSAs, while primarily focusing on ways of *limiting a VNSA's capacity to adapt*. With a shift from counterterrorism to a focus on strategic competition, there is a need for parsimony and targeting discrete resources toward their most effective ends. Our findings led us to make the following broad recommendations for limiting a VNSA's ability to adapt:

- Identify, monitor, and take proactive steps to limit VNSAs' evolution in the first few years following their emergence.
- Incorporate operational environment and organizational variables related to higher levels of VNSA adaptation into operational assessment frameworks, such as PMESII-PT.
- Focus strategies and efforts on limiting VNSAs' access to military, technological, and warfighting materiel and on VNSAs' ability to seize and hold terrain.

It is also worth noting that, from the perspective of security forces, some forms of VNSA adaptation might be preferable to others. That is, the strategy to control, weaken, contain or defeat VNSAs might deliberately involve trying to channel them into whatever are considered to be less dangerous or less effective forms of adaptation. Accordingly, *preventing* adaptation might be impossible but

directing it might be. Hence, the counter-VNSA strategy could be selected from a range of potential options—preventing, limiting, or redirecting adaptation—based on the capabilities of the VNSA and the perceived trajectory of the group.

In several cases we examined in this research, counter-VNSA strategies included leadership decapitation (discussed in the previous section). However, there is a paradox in eliminating VNSA leadership. While dangerous leaders may be removed from power, the next individual who assumes leadership of the group could very well be even more radical, dangerous, and capable than his predecessor. Moreover, counter-VNSA strategies need to include understanding and preparing for the likelihood that they will likely have even less intelligence on younger generations of leaders, an issue that Israel faced in its targeted assassination campaign against Hamas and that Great Britain faced as it sought to arrest various leaders in the Provisional Irish Republican Army's hierarchy. By carefully considering which leaders may be killed or captured, counter-VNSA strategies can work to shape their adversaries in a way favorable to the former and detrimental to the latter, including by allowing less than inspirational or ineffective leaders to remain in place while working to eliminate those considered the most capable.

The continuing proliferation of military materiel and technology (commercial and governmental) and the difficulty of containing the movement of VNSAs will make efforts to mitigate VNSA adaptation onerous. However, several suggestions we drew from the literature (and discussed in the previous section), if adopted, could help limit VNSA adaptation.

With respect to VNSA's **access to military materiel and technology**, the following mitigation strategies may be effective against VNSA adaptation:

- Hold states that supply VNSAs with arms accountable, by using either existing laws or targeted sanctions.
- Monitor and move to actively disrupt arms trafficking networks generally but especially those that traffic materiel and technology to VNSAs.

- Monitor, defend, or destroy government caches of materiel as necessary when they are in danger of being seized by VNSAs.
- Consider the implementation of controls on weapon usability or other means of tracing devices that would allow a better understanding of which nation manufactured or supplied a weapon that ended up being used by a VNSA.³
- Continue steps to identify and disrupt VNSA websites and forums to prevent these tools from being used for radicalization and recruitment. In addition, consider means of prosecuting authors, creators, and hosts of radicalizing material.⁴
- Strengthen legal controls on arms sales.

With respect to **VNSA's ability to seize and hold terrain**, our analysis suggests that the following strategies (again, drawn from the previous section) may be effective:

- Employ strategies that disrupt VNSA safe havens or reduce their capacity to hold terrain.
- Employ strategies to contain or limit a VNSA's ability to move into new territories where resources might be exploited.
- When VNSAs have acquired safe havens because of a state's indifference or inability to control its territory, design programs to improve the host-nation's capacity to counter the VNSA. These efforts must account for the conditions prevailing in the state or area where the VNSA is operating.⁵

Appendix. Literature Supporting Mitigation Findings

This appendix lists the sources that support the adaptation mitigation groupings listed in Table 5.

Alliances

- Abu Zayd, 2009
- Asal et al., 2016
- Bacon, 2018
- Bloom, 2003
- Box and McCormack, 2004
- Debos and Brown, 2016
- Eelam Revolutionary Organisation of Students, n.d., circa 1985
- Fotini, 2012
- Hoole et al., 1990
- Horowitz and Potter, 2014
- Joshi, 1996
- Kearney, 1986
- Lebovich, 2013
- Levett, 2007
- Mahoney, 2017
- Phillips, 2014
- Phillips, 2018
- Shekau, 2016
- Staniland, 2014
- Swamy, 2002
- Toft and Zhukov, 2015
- al Zarqawi, 2004

Materiel and Technology

- Behera, 2017
- Bonomo et al., 2007
- Boyle, 2015
- Butt, 2017
- Castner, 2017
- Clover and Feng, 2017
- Corera, 2016
- Cragin et al., 2007
- Dunn, 2013
- Firik, 2014
- Horton, 2017
- Jones and Johnston, 2013
- Karp, 2009

- Marsh, 2016
- Nesser, Stenersen, and Oftedal, 2016
- Neumann, 2012
- Rossiter, 2018
- Smith, 2003
- Stohl, 2005
- Zelin, 2015

Geographic Changes

- Arsenault and Bacon, 2015
- Byman, 2013
- de la Calle and Sánchez-Cuenca, 2012
- Holtermann, 2014
- Kent, 1993
- Maclean, 2008
- McColl, 1969
- Salehyan, 2008,
- Salehyan, 2009
- Toft and Zhukov, 2015

Finance

- Abuza, 2003
- Behera, 2017
- Bøås and Torheim, 2013
- Boeke, 2016,
- Byman et al., 2001
- Clarke et al., 2017
- Collier, 2009
- Dion-Schwarz, Manheim, and Johnston, 2019
- Forest, 2012b
- Green, 2010
- Hansen-Lewis and Shapiro, 2015
- Johnston et al., 2016
- Malaquias, 2001
- Ocakli and Scotch, 2017
- Peters, 2009
- Phillips, 2019
- Rose-Greenland, 2016
- Sarkar and Sarkar, 2017
- Sawyer, Cunningham, and Reed, 2015
- Terrill, 2017
- Winer and Roule, 2002

Tactics

- Belew, 2018
- Bloom, 2005
- Blume, 2017
- Boeke, 2016
- Coaffee, O'Hare, and Hawkesworth, 2009
- Elster, 2006, pp. 233–258
- Fishman, 2016
- Flanigan, 2008
- Flanigan, 2012
- Forest, 2012a
- Friis, 2015
- Jones, 2005
- Juergensmeyer, 2017
- Kalyvas, 2006
- Knights and Levitt, 2018
- Lentini and Bakashmar, 2007
- Mandala and Freilich, 2017
- Marks, 2017
- Pape, 2006
- Roberts, 2009
- Sarkar and Sarkar, 2017
- Savitch and Ardashev, 2001
- Turbiville, 2010
- Wood, 2010
- Zech and Kelly, 2015

Leadership Decapitation

- Arsenault and Bacon, 2015
- Bonomo et al., 2007
- Johnston, 2012
- Jordan, 2009
- Neumann, 2012
- Price, 2012
- Price, 2019

Notes

¹ A selection of the sources consulted includes Beitler, 1995; Paul, Clarke, and Grill, 2010; Paul et al., 2013; Paul, Clarke, and Grill, 2012; Jackson et al., 2005a; and Jackson et al., 2005b.

² We took several steps to ensure consistency in our data-coding process. First, we developed and discussed each of the variables and measures as a team and had secondary discussions regarding how to interpret each variable and measure. Second, we structured our measures to limit the need for interpretation (most are binary in construct). Third, we used only two coders—who interacted frequently during the data collection and coding process—to minimize variations in interpretation as much as possible.

³ See discussion in Bonomo et al., 2007, pp. 108–109.

⁴ See discussion in Neumann, 2012, pp. 23–29.

⁵ See Arsenault and Bacon, 2015, p. 102.

References

- Abadinsky, Howard, *Organized Crime*, 9th ed., Belmont, Calif.: Wadsworth/Cengage Learning, 2010.
- Abu Zayd, Abdallah, "Letter from 'Abdallah Abu Zayd 'Abd-Al-Hamid to 'Our Shaykh and Emir, Abu Mus'ab 'Abd-Al-Wadud,'" Office of the Director of National Intelligence, 2009. As of June 17, 2019: <https://www.dni.gov/files/documents/ubl2017/english/Letter%20from%20Abdallah%20Abu%20Zayd%20Abd-al-Hamid%20to%20Abu%20Mus%20ab%20Abd-al-Wadud.pdf>
- Abuza, Zachary, "Funding Terrorism in Southeast Asia: The Financial Network of Al Qaeda and Jemaah Islamiya," *Contemporary Southeast Asia: A Journal of International and Strategic Affairs*, Vol. 25, No. 2, August 2003, pp. 169–199.
- Arsenault, Elizabeth Grimm, and Tricia Bacon, "Disaggregating and Defeating Terrorist Safe Havens," *Studies in Conflict and Terrorism*, Vol. 38, No. 2, 2015, pp. 85–112.
- Asal, Victor H., Hyun Hee Park, R. Karl Rethemeyer, and Gary Ackerman, "With Friends Like These . . . Why Terrorist Organizations Ally," *International Public Management Journal*, Vol. 19, No. 1, 2016, pp. 1–30.
- Bacon, Tricia, "Is the Enemy of My Enemy My Friend?" *Security Studies*, Vol. 27, No. 3, 2018, pp. 345–378.
- Behera, Anshuman, "Insurgency, Drugs and Small Arms in Myanmar," *Strategic Analysis*, Vol. 41, No. 1, 2017, pp. 34–48.
- Beitler, Ruth Margolies, "The Intifada: Palestinian Adaptation to Israeli Counterinsurgency Tactics," *Terrorism and Political Violence*, Vol. 7, No. 2, 1995, pp. 49–73.
- Belew, Kathleen, *Bring the War Home: The White Power Movement and Paramilitary America*, Cambridge, Mass.: Harvard University Press, 2018.
- Bloom, Mia M., "Ethnic Conflict, State Terror and Suicide Bombing in Sri Lanka," *Civil Wars*, Vol. 6, No. 1, 2003, pp. 54–84.
- , *Dying to Kill: The Allure of Suicide Terror*, New York: Columbia University Press, 2005.
- Blume, Laura Ross, "The Old Rules No Longer Apply: Explaining Narco-Assassinations of Mexican Politicians," *Journal of Politics in Latin America*, Vol. 9, No. 1, 2017, pp. 59–90.
- Bøås, Morten, and Liv Elin Torheim, "The Trouble in Mali—Corruption, Collusion, Resistance," *Third World Quarterly*, Vol. 34, No. 7, 2013, pp. 1279–1292.
- Boeke, Sergei, "Al Qaeda in the Islamic Maghreb: Terrorism, Insurgency, or Organized Crime?" *Small Wars and Insurgencies*, Vol. 27, No. 5, 2016, pp. 914–936.
- Bonomo, James, Giacomo Bergamo, David R. Frelinger, John Gordon IV, and Brian A. Jackson, *Stealing the Sword: Limiting Terrorist Use of Advanced Conventional Weapons*, Santa Monica, Calif.: RAND Corporation, MG-510-DHS, 2007. As of June 18, 2020: <https://www.rand.org/pubs/monographs/MG510.html>
- Box, Meredith, and Gavin McCormack, "Terror in Japan: The Red Army (1969–2001) and Aum Supreme Trush (1987–2000)," *Critical Asian Studies*, Vol. 36, No. 1, 2004, pp. 91–112.
- Boyle, Michael, J., "The Race for Drones," *Orbis*, Vol. 59, No. 1, 2015, pp. 76–94.
- Butt, Ahsan I., *Secession and Security: Explaining State Strategy Against Separatists*, Ithaca: Cornell University Press, 2017.
- Byman, Daniel, "Outside Support for Insurgent Movements," *Studies in Conflict and Terrorism*, Vol. 36, No. 12, 2013, pp. 981–982.
- Byman, Daniel, Peter Chalk, Bruce Hoffman, William Rosenau, and David Brannan, *Trends in Outside Support for Insurgent Movements*, Santa Monica, Calif.: RAND Corporation, MR-1405-OTI, 2001. As of June 19, 2020: https://www.rand.org/pubs/monograph_reports/MR1405.html
- Castner, Brian, "Exclusive: Tracing ISIS' Weapons Supply Chain—Back to the US," *Wired*, December 12, 2017. As of June 17, 2019: <https://www.wired.com/story/terror-industrial-complex-isis-munitions-supply-chain/>
- Clarke, Colin P., Kimberly Jackson, Patrick B. Johnston, Eric Robinson, and Howard J. Shatz, *Financial Futures of the Islamic State of Iraq and the Levant: Findings from a RAND Corporation Workshop*, Santa Monica, Calif.: RAND Corporation, CF-361, 2017. As of June 18, 2020: https://www.rand.org/pubs/conf_proceedings/CF361.html
- Clover, Charles, and Emily Feng, "Isis Use of Hobby Drones as Weapons Tests Chinese Makers," *Financial Times*, December 10, 2017. As of June 17, 2019: <https://www.ft.com/content/82a29f96-c9e7-11e7-ab18-7a9fb7d6163e>
- Coaffee, Jon, Paul O'Hare, and Marian Hawkesworth, "The Visibility of (In)security: The Aesthetics of Planning Urban Defences Against Terrorism," *Security Dialogue*, Vol. 40, No. 5, 2009, pp. 489–511.
- Collier, Paul, "The Market for Civil War," *Foreign Policy*, November 2, 2009. As of June 18, 2019: <https://foreignpolicy.com/2009/11/02/the-market-for-civil-war/>
- Connable, Ben, and Martin C. Libicki, *How Insurgencies End*, Santa Monica, Calif.: RAND Corporation, MG-965-MCIA, 2010. As of June 18, 2020: <https://www.rand.org/pubs/monographs/MG965.html>
- Corera, Gordon, "IS Conflict: How Is It Getting Hold of Weapons from the West?" *BBC News*, November 21, 2016. As of June 17, 2019: <https://www.bbc.com/news/world-middle-east-38048482>
- Cragin, Kim, Peter Chalk, Sara A. Daly, and Brian A. Jackson, *Sharing the Dragon's Teeth: Terrorist Groups and the Exchange of New Technologies*, Santa Monica, Calif.: RAND Corporation, MG-485-DHS, 2007. As of June 18, 2020: <https://www.rand.org/pubs/monographs/MG485.html>
- de la Calle, Luis, and Ignacio Sánchez-Cuenca, "Rebels Without a Territory: An Analysis of Nonterritorial Conflicts in the World, 1970–1997," *Journal of Conflict Resolution*, Vol. 56, No. 4, 2012, pp. 580–603.
- Debos, Marielle and Andrew Brown, *Living by the Gun in Chad: Combatants, Impunity and State Formation*, London: Zed Books, 2016.
- Dion-Schwarz, Cynthia, David Manheim, and Patrick B. Johnston, *Terrorist Use of Cryptocurrencies: Technical and Organizational Barriers and Future Threats*, Santa Monica, Calif.: RAND Corporation, RR-3026, 2019. As of June 18, 2020: https://www.rand.org/pubs/research_reports/RR3026.html
- Dunn, David Hastings, "Drones: Disembodied Aerial Warfare and the Unarticulated Threat," *International Affairs*, Vol. 89, No. 5, 2013, pp. 1237–1246.

Eelam Revolutionary Organisation of Students, "Victory to Palestine—Victory to Eelam," The Palestine Poster Project Archives, n.d., circa 1985. As of June 13, 2019: <https://www.palestineposterproject.org/poster/victory-to-palestine-victory-to-eelam>

Elster, Jon, "Motivations and Beliefs in Suicide Missions," in Diego Gambetta, ed., *Making Sense of Suicide Missions*, Oxford: Oxford University Press, 2006.

Fiol, C. Marlene, and Marjorie A. Lyles, "Organizational Learning," *Academy of Management Review*, Vol. 10, No. 4, October 1985.

Firik, Mehmet Kemal, "ISIS's Weapon Inventory Grows," *Daily Sabah*, July 3, 2014. As of June 17, 2019: <https://www.dailysabah.com/mideast/2014/07/03/isis-weapon-inventory-grows>

Fishman, Brian, *The Master Plan: ISIS, Al-Qaeda, and the Jihadi Strategy for Final Victory*. New Haven: Yale University Press, 2016.

Flanigan, Shawn Teresa, "Nonprofit Service Provision by Insurgent Organizations: The Cases of Hizballah and the Tamil Tigers," *Studies in Conflict and Terrorism*, Vol. 31, No. 6, 2008, pp. 499–519.

———, "Terrorists Next Door? A Comparison of Mexican Drug Cartels and Middle Eastern Terrorist Organizations," *Terrorism and Political Violence*, Vol. 24, No. 2, 2012, pp. 279–294.

Forest, James J. F., "Global Trends in Kidnapping by Terrorist Groups," *Global Change, Peace and Security*, Vol. 24, No. 3, October 2012a, pp. 311–330.

———, "Kidnapping by Terrorist Groups, 1970–2010: Is Ideological Orientation Relevant?" *Crime and Delinquency*, Vol. 58, No. 5, October 2012b, pp. 769–797.

Fotini, Christia, *Alliance Formation in Civil Wars*. New York: Cambridge University Press, 2012.

Friis, Simone Molin, "Beyond Anything We Have Ever Seen: Beheading Videos and the Visibility of Violence in the War Against ISIS," *International Affairs*, Vol. 91, No. 4, 2015, pp. 725–746.

Green, Daniel R., "The Fallujah Awakening: A Case Study in Counter-Insurgency," *Small Wars and Insurgencies*, Vol. 21, No. 4, 2010, pp. 591–609.

Hansen-Lewis, Jamie, and Jacob N. Shapiro, "Understanding the Daesh Economy," *Perspectives on Terrorism*, Vol. 9, No. 4, August 2015, pp. 142–155.

Headquarters, Department of the Army, *Operational Environment and Army Learning*, Washington, D.C., Training Circular 7-102, November 2014. As of June 23, 2020: https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/tc7_102.pdf

Holtermann, Helge, "Relative Capacity and the Spread of Rebellion: Insights from Nepal," *Journal of Conflict Resolution*, Vol. 60, No. 3, 2014, pp. 501–529.

Hoole, Rajan, Daya Somasundaram, K. A. Sritharan, and Rajani Thiraganama, *The Broken Palmyra: The Tamil Crisis in Sri Lanka: An Inside Account*, Claremont, Calif.: Sri Lanka Studies Institute, 1990.

Horowitz, Michael C. and Philip B. K. Potter, "Allying to Kill: Terrorist Intergroup Cooperation and the Consequences for Lethality," *Journal of Conflict Resolution*, Vol. 58, No. 2, 2014, pp. 199–225.

Horton, Alex, "ISIS Stole U.S.-Supplied Rockets Weeks After They Arrived in Syria, Report Says," *Washington Post*, December 14, 2017. As of June 17, 2019: https://www.washingtonpost.com/news/checkpoint/wp/2017/12/14/how-u-s-weapons-helped-isis-fuel-the-industrial-revolution-of-terrorism/?utm_term=.1d570a52a88f

Hrebiniak, Lawrence G., and William F. Joyce, "Organizational Adaptation: Strategic Choice and Environmental Determinism," *Administrative Science Quarterly*, Vol. 30, No. 3, September 1985.

Jackson, Brian A., John C. Baker, Kim Cragin, John Parachini, Horacio R. Trujillo, and Peter Chalk, *Aptitude for Destruction*, Vol. 1: *Organizational Learning in Terrorist Groups and Its Implications for Combating Terrorism*, Santa Monica, Calif.: RAND Corporation, MG-331-NIJ, 2005a. As of June 18, 2020: <https://www.rand.org/pubs/monographs/MG331.html>

———, *Aptitude for Destruction*, Vol. 2: *Case Studies of Organizational Learning in Five Terrorist Groups*, Santa Monica, Calif.: RAND Corporation, MG-332-NIJ, 2005b. As of June 18, 2020: <https://www.rand.org/pubs/monographs/MG332.html>

Johnston, Patrick B., "Does Decapitation Work? Assessing the Effectiveness of Leadership Targeting in Counterinsurgency Campaigns," *International Security*, Vol. 36, No. 4, Spring 2012, pp. 47–79.

Johnston, Patrick B., Jacob N. Shapiro, Howard J. Shatz, Benjamin Bahney, Danielle F. Jung, Patrick K. Ryan, and Jonathan Wallace, *Foundations of the Islamic State: Management, Money, and Terror in Iraq, 2005–2010*, Santa Monica, Calif.: RAND Corporation, RR-1192-DARPA, 2016. As of June 18, 2020: https://www.rand.org/pubs/research_reports/RR1192.html

Jones, Ronald H., "Terrorist Beheadings: Cultural and Strategic Implications," Carlisle Papers in Security Strategy, Carlisle, Pa.: U.S. Army War College, 2005.

Jones, Seth G., and Patrick B. Johnston, "The Future of Insurgency," *Studies in Conflict and Terrorism*, Vol. 36, No. 1, 2013, pp. 1–25.

Jones, Seth G., and Martin C. Libicki, *How Terrorist Groups End: Lessons for Countering al Qa'ida*, Santa Monica, Calif.: RAND Corporation, MG-741-1-RC, 2008. As of July 1, 2020: <https://www.rand.org/pubs/monographs/MG741-1.html>

Jordan, Jenna, "When Heads Roll: Assessing the Effectiveness of Leadership Decapitation," *Security Studies*, Vol. 18, No. 4, 2009, pp. 719–755.

Joshi, Manoj, "On the Razor's Edge: The Liberation Tigers of Tamil Eelam," *Studies in Conflict and Terrorism*, Vol. 19, No. 1, 1996, pp. 19–42. As of July 1, 2020: <https://www.tandfonline.com/doi/abs/10.1080/10576109608435994>

Juergensmeyer, Mark, *Terror in the Mind of God: The Global Rise of Religious Violence*, 4th ed., Oakland, Calif.: University of California Press, 2017.

Kalyvas, Stathis N., *The Logic of Violence in Civil War*, New York: Cambridge University Press, 2006.

Karp, Aaron, "The Changing Ownership of War: States, Insurgencies and Technology," *Contemporary Security Policy*, Vol. 30, No. 2, 2009, pp. 375–394.

Kearney, Robert N., "Sri Lanka in 1985: The Persistence of Conflict," *Asian Survey*, Vol. 26, No. 2, 1986, pp. 219–223.

- Kent, Robert B., "Geographical Dimensions of the Shining Path Insurgency in Peru," *Geographical Review*, Vol. 83, No. 4, October 1993, pp. 441–454.
- Knights, Michael, and Matthew Levitt, "The Evolution of Shi'a Insurgency in Bahrain," *CTC Sentinel*, Vol. 11, No. 1, January 2018.
- Lebovich, Andrew, "AQIM and Its Allies in Mali," Washington Institute for Near East Policy, February 5, 2013. As of June 17, 2019:
<https://www.washingtoninstitute.org/policy-analysis/view/aqim-and-its-allies-in-mali>
- Lentini, Pete, and Muhammad Bakashmar, "Jihadist Beheading: A Convergence of Technology, Theology, and Teleology?" *Studies in Conflict and Terrorism*, Vol. 30, No. 4, 2007, pp. 303–325.
- Levett, Connie, "Tamil Children Swept Up as War Creates a New Monster," *Sydney Morning Herald*, March 17, 2007. As of June 17, 2019:
<https://www.smh.com.au/world/tamil-children-swept-up-as-war-creates-a-new-monster-20070317-gdpp1m.html>
- Maclean, William, "Qaeda's Sahara Kidnap Shows Maghreb Threat," Reuters, March 12, 2008. As of June 18, 2019:
<https://www.reuters.com/article/us-qaeda-hostages-kidnapping-analysis/qaedas-sahara-kidnap-shows-maghreb-threat-idUSL1126967920080312>
- Mahoney, Charles W., "Splinters and Schisms: Rebel Group Fragmentation and the Durability of Insurgencies," *Terrorism and Political Violence*, November 2017. As of June 17, 2019:
<https://www.tandfonline.com/doi/full/10.1080/09546553.2017.1374254>
- Malaquias, Assis, "Diamonds Are a Guerrilla's Best Friend: The Impact of Illicit Wealth on Insurgency Strategy," *Third World Quarterly*, Vol. 22, No. 3, June 2001. As of June 19, 2020:
<https://www.tandfonline.com/doi/abs/10.1080/01436590120061624>
- Mandala, Marissa, and Joshua D. Freilich, "Disrupting Terrorist Assassinations Through Situational Crime Prevention," *Crime and Delinquency*, Vol. 62, No. 12, July 2017, pp. 1515–1537.
- Marks, Thomas A., "FARC, 1982–2002: Criminal Foundation for Insurgent Defeat," *Small Wars and Insurgencies*, Vol. 28, No. 3, 2017, pp. 488–523.
- Marsh, Nicholas, "Brothers Came Back with Weapons: The Effects of Arms Proliferation from Libya," *PRISM*, Vol. 6, No. 4, 2016, pp. 79–96.
- McColl, Robert W., "The Insurgent State: Territorial Bases of Revolution," *Annals of the Association of American Geographers*, Vol. 59, No. 4, December 1969, pp. 613–631.
- Nesser, Petter, Anne Stenersen, and Emilie Oftedal, "Jihadi Terrorism in Europe: The IS-Effect," *Perspectives on Terrorism*, Vol. 10, No. 6, 2016. As of June 18, 2019:
<http://www.terrorismanalysts.com/pt/index.php/pot/article/view/553/html>
- Neumann, Peter, "Countering Online Radicalization in America," Bipartisan Policy Center, 2012. As of June 16, 2019:
<https://bipartisanpolicy.org/wp-content/uploads/sites/default/files/BPC%20Online%20Radicalization%20Report.pdf>
- Ocakli, Feryaz, and Matthew Scotch, "Oil-Fueled Insurgencies: Lootable Wealth and Political Order in Syria, Iraq, and Nigeria," *Journal of Global Security Studies*, Vol. 2, No. 1, January 2017, pp. 74–88.
- Pape, Robert A., *Dying to Win: The Strategic Logic of Suicide Terrorism*, Random House Trade Paperback edition, New York: Random House Trade Paperbacks, 2006.
- Paul, Christopher, Colin P. Clarke, Beth Grill, and Molly Dunigan, *Paths to Victory: Detailed Insurgency Case Studies*, Santa Monica, Calif.: RAND Corporation, RR-291/2-OSD, 2013. As of June 18, 2020:
https://www.rand.org/pubs/research_reports/RR291z2.html
- Paul, Christopher, Colin P. Clarke, and Beth Grill, *Victory Has a Thousand Fathers: Sources of Success in Counterinsurgency*, Santa Monica, Calif.: RAND Corporation, MG-964-OSD, 2010. As of June 18, 2020:
<https://www.rand.org/pubs/monographs/MG964.html>
- , "Qualitative Comparative Analysis of 30 Insurgencies, 1978–2008," *Military Operations Research*, Vol. 17, No. 2, 2012, pp. 19–40.
- Peters, Gretchen, "How Opium Profits the Taliban," Washington, D.C.: United States Institute of Peace, 2009.
- Phillips, Brian J., "Terrorist Group Cooperation and Longevity," *International Studies Quarterly*, Vol. 58, No. 2, 2014, pp. 336–347.
- , "Terrorist Group Rivalries and Alliances: Testing Competing Explanations," *Studies in Conflict and Terrorism*, 2018. As of July 2, 2020:
<https://www.tandfonline.com/doi/full/10.1080/1057610X.2018.1431365>
- , "Foreign Terrorist Organization Designation, International Cooperation, and Terrorism," *International Interactions*, Vol. 45, No. 2, 2019.
- Price, Bryan C., "Targeting Top Terrorists: How Leadership Decapitation Contributes to Counterterrorism," *International Security*, Vol. 36, No. 4, Spring 2012, pp. 9–46. As of June 29, 2020:
<https://www.belfercenter.org/sites/default/files/files/publication/Price.pdf>
- , *Targeting Top Terrorists: Understanding Leadership Removal in Counterterrorism Strategy*, New York: Columbia University Press, 2019.
- Roberts, Michael, "Killing Rajiv Gandhi: Dhanu's Sacrificial Metamorphosis in Death," *South Asian History and Culture*, Vol. 1, No. 1, 2009, pp. 25–41.
- Rose-Greenland, Fiona, "How Much Money Has ISIS Made Selling Antiquities? More than Enough to Fund Its Attacks," *Washington Post*, June 3, 2016. As of June 18, 2019:
https://www.washingtonpost.com/posteverything/wp/2016/06/03/how-much-money-has-isis-made-selling-antiquities-more-than-enough-to-fund-its-attacks/?utm_term=.ba531c744964
- Rossiter, Ash, "Drone Usage by Militant Groups: Exploring Variation in Adoption," *Defense and Security Analysis*, Vol. 34, No. 2, 2018, pp. 113–126.
- Roth, Mitchel P., *Organized Crime*, Upper Saddle River, N.J.: Prentice Hall, 2010.
- Salehyan, Idean, "No Shelter Here: Rebel Sanctuaries and International Conflict," *Journal of Politics*, Vol. 70, No. 1, January 2008.
- , *Rebels Without Borders: Transnational Insurgencies in World Politics*, Ithaca, N.Y.: Cornell University Press, 2009.

Sarkar, Radha, and Amar Sarkar, "The Rebels' Resource Curse: A Theory of Insurgent-Civilian Dynamics," *Studies in Conflict and Terrorism*, Vol. 40, No. 10, 2017, pp. 870–898.

Savitch, H. V., and Grigoriy Ardashev, "Does Terror Have an Urban Future?" *Urban Studies*, Vol. 38, No. 13, 2001, pp. 2515–2533.

Sawyer, Katherine, Kathleen Gallagher Cunningham, and William Reed, "The Role of External Support in Civil War Termination," *Journal of Conflict Resolution*, Vol. 61, No. 1, September 2015, pp. 1174–1202. As of June 19, 2020: <https://journals.sagepub.com/doi/full/10.1177/0022002715600761>

Serena, Chad C., *A Revolution in Military Adaptation: The US Army in the Iraq War*, Washington, D.C.: Georgetown University Press, 2011.

Shekau, Abubakar, "Letter from Abubakar Shekau to Al-Qaeda," Office of the Director of National Intelligence, 2016. As of June 17, 2019: <https://www.dni.gov/files/documents/ubl2016/english/Praise%20be%20to%20God%20the%20Lord%20of%20all%20worlds.pdf>

Smith, Chris, "In the Shadow of a Cease-Fire: The Impacts of Small Arms Availability and Misuse in Sri Lanka," Geneva: The Small Arms Survey, 2003. As of June 18, 2019: <http://www.smallarmssurvey.org/fileadmin/docs/B-Occasional-papers/SAS-OP11-Sri-Lanka.pdf>

Staniland, Paul, *Networks of Rebellion: Explaining Insurgent Cohesion and Collapse*, Ithaca, N.Y.: Cornell University Press, 2014.

Stohl, Rachel J., "Fighting the Illicit Trafficking of Small Arms," *SAIS Review of International Affairs*, Vol. 25, No. 1, Winter–Spring 2005, pp. 59–68.

Swamy, M. R. Narayan, *Tigers of Lanka: From Boys to Guerrillas*, Delhi: Konark, 2002.

Terrill, W. Andrew, "Antiquities Destruction and Illicit Sales as Sources of ISIS Funding and Propaganda," The Letort Papers, Carlisle, Pa.: U.S. Army War College, April 2017.

Toft, Monica Duffy, and Yuri M. Zhukov, "Islamists and Nationalists: Rebel Motivation and Counterinsurgency in Russia's North Caucasus," *American Political Science Review*, Vol. 109, No. 2, 2015, pp. 222–238.

Turbiville, Jr., Graham H., "Firefights, Raids, and Assassinations: Tactical Forms of Cartel Violence and Their Underpinnings," *Small Wars and Insurgencies*, Vol. 21, No. 1, 2010, pp. 123–144.

Winer, Jonathan M., and Trifin J. Roule, "Fighting Terrorist Finance," *Survival*, Vol. 44, No. 3, 2002, pp. 87–104.

Wood, Reed, "Rebel Capability and Strategic Violence Against Civilians," *Journal of Peace Research*, Vol. 47, No. 5, 2010.

Zech, Steven T., and Zane M. Kelly, "Off with Their Heads: The Islamic State and Civilian Beheadings," *Journal of Terrorism Research*, Vol. 6, No. 2, 2015, pp. 83–93.

al Zarqawi, Musab, "Zarqawi Letter," U.S. Department of State Archive, 2004. As of June 17, 2019: <https://2001-2009.state.gov/p/nea/rls/31694.htm>

Zelin, Aaron Y., "Picture or it Didn't Happen: A Snapshot of the Islamic State's Official Media Output," *Perspectives on Terrorism*, Vol. 9, No. 4, August 2015. As of March 8, 2019: <https://www.washingtoninstitute.org/uploads/Documents/opeds/Zelin20150807-Perspectives.pdf>

About This Report

The research reported here was completed in July 2020, followed by security review by the sponsor and the Office of the Chief of Public Affairs, with final sign-off in April 2022.

This report documents research and analysis conducted as part of a project entitled, *The Adaptability of Violent Non-State Actors: Anticipating Change in the Operational Environment*, sponsored by the Deputy Chief of Staff, G-3/5/7, U.S. Army. The project identifies how violent nonstate actors (VNSAs) adapt to changes in the operational environment and provides recommendations on how the Army might anticipate VNSA adaptation and mitigate it before it occurs.

This research was conducted within RAND Arroyo Center's Strategy, Doctrine, and Resources Program. RAND Arroyo Center, part of the RAND Corporation, is a federally funded research and development center (FFRDC) sponsored by the United States Army.

RAND operates under a "Federal-Wide Assurance" (FWA00003425) and complies with the *Code of Federal Regulations for the Protection of Human Subjects Under United States Law* (45 CFR 46), also known as "the Common Rule," as well as with the implementation guidance set forth in DoD Instruction 3216.02. As applicable, this compliance includes reviews and approvals by RAND's Institutional Review Board (the Human Subjects Protection Committee) and by the U.S. Army. The views of sources utilized in this study are solely their own and do not represent the official policy or position of the DoD or the U.S. Government.

We benefited greatly from the support of, and comments provided by, members of our sponsor's office, the Deputy Chief of Staff, G-3/5/7 (DAMO-SS). We particularly want to thank Walter "Tony" Vanderbeek (now retired), Mark Calvo, and MAJ Connie Quinlan for providing guidance and direction during our research.

At RAND, we would like to thank Arroyo Center Director and Vice President Sally Sleeper, Strategy, Doctrine, and Resources Program Director Jennifer Kavanagh and Associate Program Director Stephen Watts for their generous support, reviews, comments, and critiques of our work at various stages. We would also like to thank Paul Steinberg for reviewing and editing this document and Diane Egelhoff and Francisco Walter for their administrative support. We also thank our reviewers, Steven Metz of the Army War College Strategic Studies Institute, and Sean Zeigler of RAND for their insightful comments, critiques, and suggestions. Any errors or omissions in this report are the responsibility of the authors.



The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND®** is a registered trademark.

Limited Print and Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law. This representation of RAND intellectual property is provided for noncommercial use only. Unauthorized posting of this publication online is prohibited. Permission is given to duplicate this document for personal use only, as long as it is unaltered and complete. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents for commercial use. For information on reprint and linking permissions, please visit www.rand.org/pubs/permissions.

For more information on this publication, visit www.rand.org/t/RR-A324-1.

© 2022 RAND Corporation

www.rand.org