What is Old is New

Countering IEDs by Disrupting the Weapon Supply

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IN THE COUNTERINSURGENCY battlefields in Iraq, Afghanistan, the Philippines, and elsewhere, one key enabler for insurgent operations is the weapons cache. Finding the enemy's weapons stores is a cause for excitement in a unit; unit S-2 shops often make "bragging" slides when such caches are found—using buzzwords such as "jackpot" or "money." Such a find provides tangible evidence that intelligence is accurate and that the unit is operating smoothly. Normally, such discoveries are the result of intelligence collection, and in counterinsurgency, it is often human intelligence (HUMINT) that leads to big cache finds. In recent years, this has worked well in Iraq and Afghanistan. However, one must consider the maturity of these theaters; HUMINT has literally had years to develop. Intelligence, surveillance, and reconnaissance sensors are employed with much skill based on theater-specific lessons learned. Theater-specific tactics, techniques, and procedures are so well developed that soldiers practice them at training centers such as the Joint Maneuver Readiness Center.[1]

However, immature theaters may be the norm in future counterinsurgency operations. Consider the fact that the United States supports a myriad of global partners who have internal threats that can snowball into insurgencies. Units may not always have the luxury of relying on mature, theater-specific sources and methods for intelligence.

In this article, we focus on the issue of locating weapons caches—arguably one of the most effective ways to reduce violence in an insurgency. We approached this problem by posting an open question on an Army-sponsored forum known as Intelst, which is frequented by many professionals with varying degrees of tactical-level experience.[2] In other disciplines, this is known as "crowdsourcing."[3]

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PHOTO: Iraqi National Police and U.S. advisors inspect a National Police Reva armored personnel vehicle after an IED attack on Route Peggy (Photo courtesy of CPT Paulo Shakarian)

The question we asked was, "Suppose you are an insurgent and you want to position a weapons cache in a district or province. What considerations would you make when placing it?" We received many good responses, and have compiled them here into an analytical framework for locating weapons caches that professionals can apply to several environments.

It turns out that some techniques we learned about were used in contingencies such as Northern Ireland and Vietnam—hence the title of this article, which introduces our analytical framework for finding caches and shows how it applies in three case studies, each in a different war.

The Framework: Thinking like an Insurgent Logistics Officer

Based on our discussions, we determined that there are three aspects of cache location that staffs should consider when producing an estimate—security, accessibility, and distribution.[4] The idea is to mirror concerns of an insurgent.[5] Below, we list the three areas, along with relevant questions that the insurgent may ask.

- *Security.* Is the cache site secure against an opposing force? Is it located in an area where the locals are likely to report the existence of a cache to the opposing force? Is the cache in an area normally patrolled by the opposing force? Would the cache be inside the cordon of an opposing force when an operation (i.e. IED attack) is conducted? Can nearby members of the cell protect or evacuate the site in the case of an emergency?
- *Accessibility.* Can members of the cell easily access the site to resupply stores or obtain weapons for a pending operation? What terrain features can be used as reference points to locate the cache?[6] Does the cache support cell members staying at the site for an extended period? Can the cache be accessed by multiple lines of communication to avoid setting a pattern?
- *Distribution.* If the cache is designed to support the operations of multiple insurgent cells, is it near a road or other line of communication that would allow the munitions to be more easily distributed to those cells? If the cache is designed to support a series of pending attacks, is it near a line of communication that allows easy access to the

(DOD, SPC Kristina L. Gupton, U.S. Army)

U.S. Army SGT Cullen Wurzer finds a bag of rocket-propelled grenades and a grenade launcher while searching a compound in Pacha Khak, Afghanistan, 7 April 2011.

attack sites? When munitions are transported to or from the cache, must a cell member travel through an unfriendly neighborhood or an area where security forces are conducting frequent patrols?

There are some things to note about these three areas. First, insurgent planners encounter tension between security and accessibility (and to a lesser extent, between security and distribution). Hence, there are inherent trade-offs between making a site more accessible and making it more secure. The cellular structure of many insurgent organizations encountered leads us to assume that security would trump accessibility. In such a scenario, a small number of individuals would have access to the cache, thus difficult access instructions would not pose a problem. However, even in a cellular structure, easy accessibility may prove necessary. Consider a logistics cell that prepositions munitions at a cache site for the operators to retrieve later. So, which is more likely for an organization with a cellular structure? In such a case, one must consider the purpose of a cache. Better understanding of what the insurgents use the cache for can help focus on how the insurgent staff weights each of the three components of our framework. For example, if the site is for tactical-level use, it is likely a small site, possibly located in a wood line used for storing a limited number of weapons to support two or three nearby attacks. On the other hand, insurgents may hide operational-level caches in large caves, and those caches could contain hundreds of pounds of explosives.

Another consideration associated with accessibility is "micro-terrain." Counter-IED experts often associate micro-terrain with small pieces of terrain (culverts, lampposts, fire hydrants, etc.) that an insurgent uses to mark an attack location—often to aid in the timing of detonation.[7] An old Special Forces manual, ST 31-205, which describes methods to hide a weapons cache, mentions the use of micro-terrain as a means to improve accessibility to a site. The manual identifies two types of reference points—immediate, which identify a major terrain feature near the cache, and final, a piece of micro-terrain close to the site. Often, the immediate and final reference points are related—allowing the placer of the cache to specify directions to the final reference point by way of the immediate reference point.

As a theater matures and caches are found, a review of exploitation reports may reveal patterns that demonstrate how the insurgent uses such reference points and help decode "clandestine communication" of an insurgent organization (i.e., bricks or rocks stacked in a certain manner, etc).[8]

The areas of security and distribution may also cause the insurgent staff to consider sociocultural variables. To ensure the security of the cache, it is safer for the insurgent to place it in a friendly neighborhood. To make it easier to transport weapons, the insurgent may prefer that lines of communication to caches be in friendly, or at least neutral, territory. Security and distribution may also add tension to placing tactical caches. Ideally, a cache should be close to an attack site to minimize security risks in moving weapons to the site. However, if the cache is too close to the attack site, security forces could uncover it in a cordon or area search after an attack.

With the above framework in mind, we will look at how it applies to a few real-world situations. First, we look at a case study from Vietnam in which the framework led to discoveries of a significant amount of munitions. Then, we consider British counterinsurgent operations in Northern Ireland, where the framework provided indicators for cache sites. Finally, we provide an example from Operation Iraqi Freedom, in which the framework led to counter-IED operations that involved denying the insurgents terrain to use for cache sites. The framework was applied (knowingly or unknowingly) in each of these cases, but each time it led to a different result.

Case Study I: Hue, Vietnam, 1968

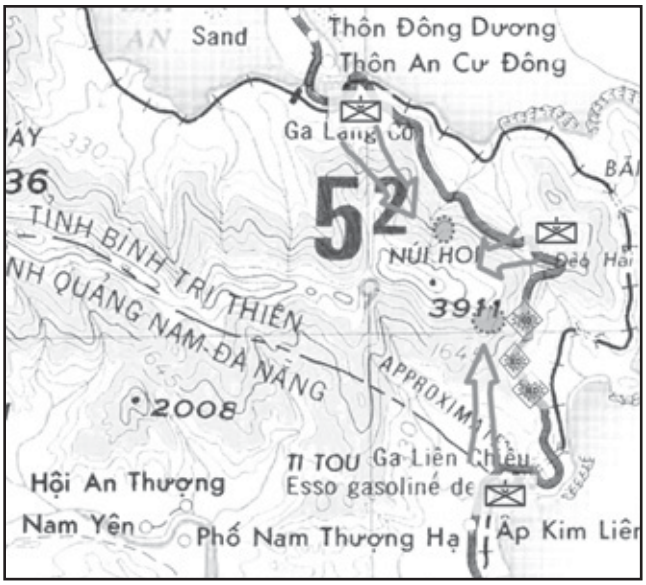
During the Tet Offensive of 1968, North Vietnamese conventional forces (the NVA) took the city of Hue.[9] U.S. Marines, supported by several Army units, fought to retake the city. Based out of Da Nang, the Marine division had only one ground line of communication between Da Nang and Hue—Route 1, an 80-kilometer paved road which ran through very steep terrain for about 20 kilometers north of Da Nang over the Hai Van Pass and then ran parallel to the coastline on level ground. This route became the main supply route for the operations in Hue. The Marines attempted to start regular combat logistics patrols to support

operations in Hue. Prior to the convoy, engineer elements supported by light infantry conducted a route-clearance operation on the 20 kilometers of steep terrain over the pass. However, despite clearing this most dangerous portion of the route each morning along Highway 1, the Marine combat logistics patrols hit command-detonated land mines three days in a row just north of the city. The mines destroyed their lead vehicles and forced them to return to Da Nang.

The 2/502 Parachute Infantry Regiment (PIR) (whose S-3 was the then-Major Otstott) was given the mission to keep Highway Route 1 "green" in that first 20 kilometers of very steep terrain. Rather than continue the unsuccessful route clearance operations, they decided to use an "attack the network" approach. The battalion would attempt to locate the weapons caches. The 2/502 staff conducted some good "common sense" intelligence preparation of the battlefield to determine the caches' locations.

We examine them here with our framework:

- Security: In order to avoid detection from U.S. aerial assets, the mine emplacers would select a cache location where jungle canopy would provide better concealment against airborne reconnaissance platforms.
- Accessibility: The mine emplacers would have to ensure that individuals in the cell could easily access the hiding places to utilize the munitions or resupply the cache. Hence, there would be foot trails to allow access. Moreover, if the emplacers were to stay for an extended period to interdict the road, without returning home to villages in the area, they would need shelter and water. Thus, the staff concluded that the cache would be near a stream under the triple canopy vegetation.
- Distribution: The 2/502 PIR staff determined that the mine emplacers would need to store their weapons relatively close to the attack sites, and they had to transport heavy munitions over very steep treacherous terrain. The staff concluded that such base camps would be no more than two kilometers from the attack locations. They also believed that the cache would be positioned uphill, to make moving the munitions to the locations of attacks easier. Further, the staff concluded that, to ensure redundancy, emplacers would maintain caches on both sides of the steep ridge that the highway crossed in the Hai Van Pass.



(Perry-Castañeda Library Map Collection, the University of Texas)

Area along Route 1, which connects Hue to Da Nang. The IED icons indicate the locations of the insurgent attacks. The shaded circles represent the objective areas determined to be likely cache sites by the 2/502 PIR staff. Note that they are in areas of heavy vegetation with access to streams and uphill from the attack sites. Five-hundred pounds of explosives were found on the northern objective while eight-hundred pounds were found in the southern one in 1968.

Based on their analysis, the staff was able to draw two small objectives that were likely candidates for the cache sites. They tasked two companies to move off road through the difficult terrain, one company to take each objective, supported by a third company in reserve. They maintained command and control with a forward battalion command post.

The operations lasted about two days, and the company taking the northern objective discovered two huts and about 500 pounds of explosive material *inside* their designated objective area. Meanwhile, the second company found another small base camp, also *inside* its designated objective area. At this second site, consisting of two or three huts, the company engaged five or six enemy combatants in a brief firefight that resulted in two to three enemy casualties. They discovered 800 pounds of explosives and destroyed them on site. The operations neutralized the threat to the highway, and it remained open for the next 40 days after the operation. During this time, the battalion patrolled the area alongside the highway, set ambushes at night, and kept the enemy from emplacing any new IEDs on the main supply route.

(AP Photo/Eddie Worth)

A soldier retrieves a timing device from a bomb-laden van outside the Europa Hotel in Belfast, Northern Ireland, 7 September 1972.

Case Study II: Northern Ireland, Mid-1970s

During the early years of the Irish Republican Army's (IRA's) campaign in Northern Ireland in the 1970s, a Royal Engineer officer, Captain Winthrop, created a list of key analytical features to help find IRA weapons caches.[10] It turned out that focusing on these features greatly increased the chances of finding caches. The list included the following:

- The IRA quartermaster (responsible for weapons supply) would build the weapons cache in a place that allowed friendly observation at all times. Early in the conflict, a quartermaster would often place the cache in line of sight of his own house.
- The cache could be evacuated out of direct line of sight of a surveillance asset.
- The location was marked by some easily recognized feature (lone tree, specified telephone pole, derelict house) and then by some small local mark on that feature (a scratch on a tree or a stone). This micro-terrain enabled outsiders to collect the weapons by following instructions.
- The cache location had several routes of access.
- The cache itself was usually a metal milk can, sometimes buried under or inside a stone wall, where signs of disturbance could be easily disguised to avoid detection.

Using our framework, the reader can see that the first, second, and fifth items fall under the area of security: the IRA wanted to ensure that the site was watched at all times, but was in a location where it could be evacuated outside of anyone's line of sight. The third item indicates that they used the micro-terrain to advantage for accessibility. Further, they used multiple ingress and egress routes for the cache, the fourth item to affect both accessibility and distribution.

Case Study III: Balad, Iraq, 2006

In October 2006, a road known as Route Peggy, outside the city of Balad, Iraq, was the scene of seven IED attacks against U.S. and Iraqi forces in a period of ten days.[11] To address the attacks and use the opportunity to train, a team of U.S. advisors (which included Captain Shakarian) conducted a map analysis of the so-called IED "hot-spot" with their Iraqi staff officers. The imagery of the attack site was revealing. Although thick pomegranate

and palm groves lined the sides of Route Peggy, all of the attacks took place near an open area free of trees and close to the *edge* of that open area. The U.S. and Iraqi staff officers then identified several patches devoid of trees in the imagery near the open area—areas that would be concealed but could still be used as staging areas or cache sites for the attacks. A patrol sent out to investigate these sites found evidence of caches—fresh garbage packed neatly in a trash bag as well as a radio. There had been no previous military or police use of this area. Armed with the knowledge of possible staging areas, a local U.S. unit worked with the Iraqis to deny the enemy these staging areas by a variety of means (increased patrols, removal of vegetation, and increased interaction with locals). Because of this operational change, the terrain was no longer useful to the enemy, and the attacks stopped.

The caches employed by the insurgents in this situation were transient and tactical in nature—the insurgents were using them to pre-position supplies for the attacks. However, our framework still applies. First, let us consider security. Clearly, the insurgents relied on the concealment of trees to avoid detection from patrols on the road. Moreover, the cache locations were outside the radius of the normal cordon established following an IED attack. This allowed the insurgents to avoid compromise of the hiding place after an operation. Regarding accessibility, the patrols on the ground also found multiple footpaths leading from the attack sites. What was noteworthy was that these paths were too small to be on any map, and vegetation hid them on the imagery. Clearly, the proximity of the caches to the attack sites also allowed for easy placement of munitions for an IED attack.

Interesting also to note is that the analysis that led to the discovery of the caches did not produce a large weapons cache, but it did provide insight into how the insurgents conducted operations. The unit used the information about these tactical-level caches to counter the threat. By denying the enemy access to these sites, the unit was also able to degrade the insurgent's capability. Although the patrols did not recover any munitions, the analysis did lead to a successful operation against the insurgents. The IED hotspot was neutralized.

(Photo courtesy of Paulo Shakarian)

The U.S. Army transition team that worked with the Iraqi National Police who were patrolling Route Peggy in Balad, Iraq, 2006. CPT Shakarian is kneeling in the lower-right.

The Way Forward

We designed the common sense analytical framework introduced in this article to help staff planners better determine locations on the ground where caches can be found. In each of our vignettes, the unit leveraged this information differently. In Northern Ireland, the British used this analysis to establish a list of likely indicators for cache sites. These could be given to patrols looking for suspicious areas or used to help verify other pieces of intelligence, such as HUMINT. In Vietnam, good analysis led to a highly successful operation where munitions were recovered and additional attacks were prevented by removing the IED supplies. In Iraq, the analysis led to an operational decision to deny the enemy use of the cache locations. The way to use this analysis is certainly not limited to these techniques. Essentially, the framework of this paper can be used to aid development of named areas of interest, which can then be used in a variety of ways—from kinetic operations to cueing of intelligence assets.

We think that analytical frameworks such as the one presented here will gain more importance in Army staff planning, particularly in immature theaters. Personnel in units deploying to new environments will often have little intuition on how to best pursue mission objectives. Just as a nine-line MEDEVAC request forces a soldier in combat to take stock of the current situation, analytical frameworks such as this can be used to better help staffs initially understand unfamiliar environments.

Such analytical techniques already exist for conventional environments and weapon systems (for example, locating origins of mortar attacks). However, for nonconventional scenarios such as counterinsurgency, foreign internal defense, or peacekeeping, units often must resort to theater-specific techniques. We note that lessons learned from places such as Iraq and Afghanistan also tend to be theater specific. As a result, units involved in future contingencies in immature theaters will most likely apply the lessons of Iraq and Afghanistan in an ad hoc manner.

The development of non-theater specific analytical frameworks such as the one presented in this article can alleviate this issue—particularly in the face of nonstandard weapon systems such as IEDs. Such analytical frameworks will provide a complement to the military decision making process, intelligence preparation of the battlefield, and analysis of competing hypotheses.

Further, many high-technology devices in the force today aid warfighters in finding IEDs and the networks that employ them, but our common sense techniques can often be as useful as high-technology counterparts. Go after the hotspots with a healthy dose of analytical common sense, and you will see a pay off. ***MR***

NOTES

1. For examples, refer to CALL Newsletter 08-40, *Commander Interviews Volume I* (Fort Leavenworth, KS: Combined Arms Center (CAC)/Center for Army Lessons Learned (CALL), August 2008) or Ralph Baker, "HUMINT-Centric Operations: Developing Actionable Intelligence in the Urban Counterinsurgency Environment," *Military Review, Counterinsurgency Reader II* (2008): 116-25, specifically 120.

2. We would like to thank retired LTC Holden, moderator of the INTELST Forum. For more information, send email to intelst@listserv.army.pentagon.mil.

3. Daren C. Brabham, "Crowdsourcing as a Model for Problem Solving," *Convergence: The International Journal of Research into New Media Technologies* 14, no. 1 (2008): 75-90.

4. These three aspects are based on four bullet points outlined by Homer McDougle, a retired special operations forces operator and current instructor at JRTC. McDougle's four points separated accessibility and maintenance (we combine these into "accessibility"). He categorized protection from the environment under security, where we place that under accessibility. The views expressed in this note are McDougle's personal opinions and do not necessarily reflect those of JRTC.

5. The idea of "thinking like an insurgent S-4" was provided by Michael Ligon, a USAIC instructor and retired military intelligence officer.

6. ST 31-205, *U.S. Army Special Forces Caching Techniques* (Fort Bragg, NC: December, 1982), 1.8-1.9.

7. James McAfee, "Best Practices in Counter Improvised Explosive Device Environments," *2010-03 Urgent Enemy Tactics, Techniques, and Procedures (UETTP)* (Fort Leavenworth, KS: CAC/CALL, March 2010) specifically pages 2-3.

8. The authors would like to thank Michael Ligon for illustrating the idea of clandestine communication.

9. The events described in Vietnam are from the experiences of retired LTG Otstott.

10. The authors would like to thank retired BG Chris Holtom, former director of the British Army Intelligence Corps, for sharing this vignette with us.

11. The events described in Balad are from the experiences of CPT Shakarian.