MIPB

Military Intelligence Professional Bulletin
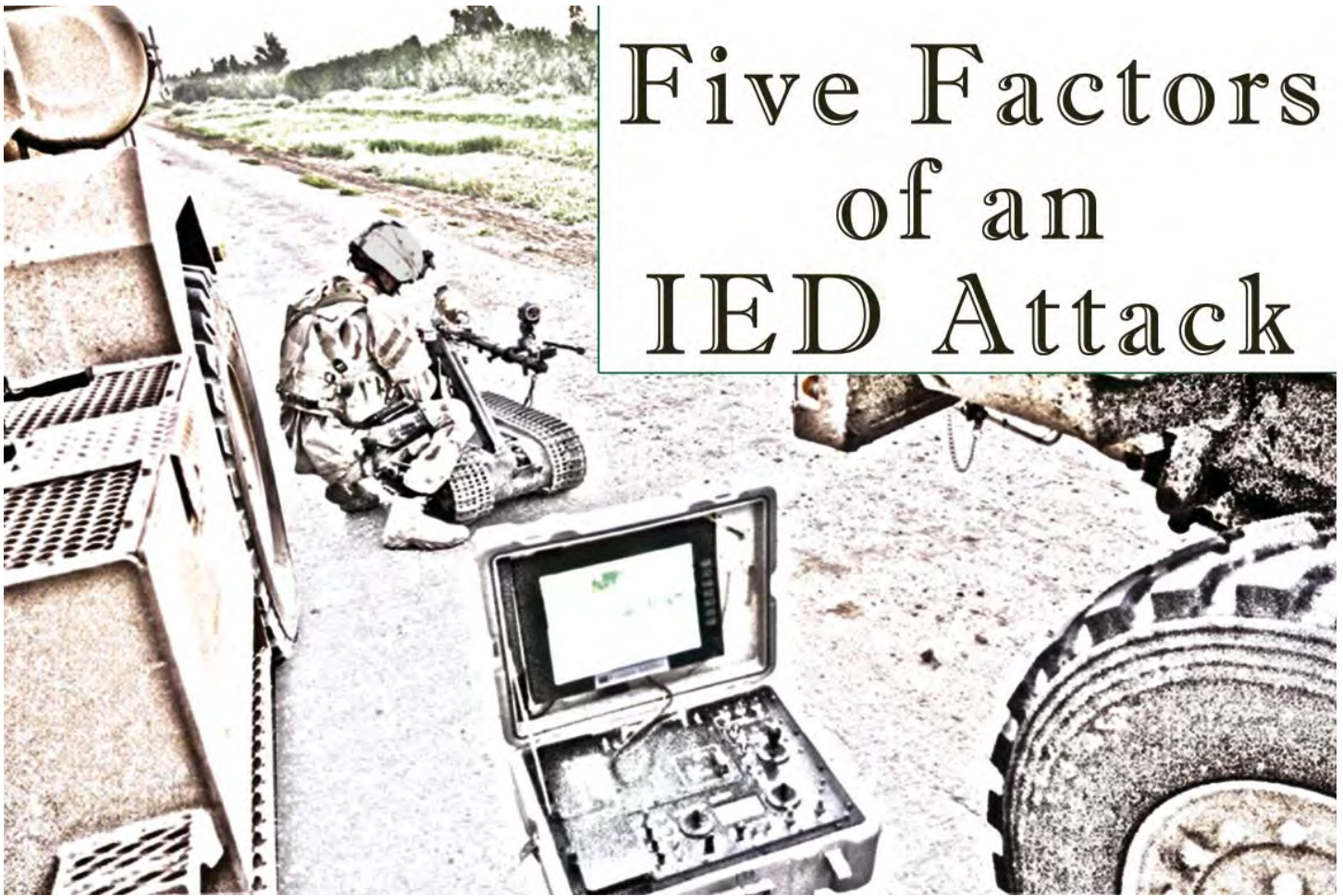July - September 2011   PB 34-11-3

Enabling Intelligence Analysis

Five Factors of an IED Attack

by Major William Gettig

Introduction

Without a doubt, the wars in Iraq and Afghanistan have shown us that Intelligence professionals play a critical role in operations. The contemporary operational environment of asymmetric warfare is highly fluid and often difficult for staffs to define and plan against. Today's enemy is also hard to identify in terms of personnel, let alone easily definable in theory. An asymmetric enemy typically uses anonymity as camouflage, fueling the perception that he is everywhere and can be anyone. It is important to emphasize that the role of an intelligence professional is not merely to report the enemy, but to understand the enemy as well. This understanding is vital to intelligence, allowing the focus of intelligence analysis methods and intelligence, surveillance, and reconnaissance (ISR) assets to place a spotlight on the enemy in the fog of the battlefield. Intelligence analysts should remember that they are not reporters; they are detectives in their own right, testing hypotheses and predicting results.

Despite the perceptions to the contrary, the enemy is not all-powerful, all-knowing, and invincible. The enemy can be detected and *can be beaten* and beaten often. The enemy is a human being, and enemy organizations are made of human beings. He must still plan in order to organize against a foe and expect success. The enemy also requires a method to ensure the survivability of the organization, however large or small. By examining past incidents, an intelligence analyst can discern (with varying degrees of success and accuracy) the battlefield geometry inherent in enemy planning.

Applying this philosophy of analysis will yield a better analysis overall, allowing Commanders and staff to focus operations and ISR assets. For exam-

ple, how does the enemy plan attacks? An attack does not "just happen." A successful attack requires some degree of planning, training, and execution. A perfect example of how an analyst can predict enemy attacks is in-depth analysis of improvised explosive device (IED) attacks.

Five Factors of an IED Attack

There are five basic factors that are critical to a successful IED attack: bomb type; trigger type; the observer/triggerman; the target, and the bomb location. Any enemy planner addresses each one to some degree, and circumstances on the battlefield change the order of priority and importance. Indeed, the absence of any one of these will not yield the desired effects, negating enemy action. Lack of a bomb: no explosion. Lack of a trigger: no explosion. Lack of an observer/triggerman: no effects on target and possible compromise of the bomb. Lack of a target: no effect. Lack of location: no explosion.

Bomb Type. The capabilities of the bomb are important for an enemy planner. Potential effects upon a target will affect the design and composition of the bomb (based upon availability of materials), and in turn affect the location of its employment. In general, explosively formed projectiles (EFPs) are better than a lone artillery shell against an armored target. In contrast, an artillery shell is best suited against dismounted personnel or other targets requiring an area affect weapon. The bomb type also affects tactics the enemy will use to employ the bomb. A shape charge can bring down a tree or pole, causing a target to stop or separate from a group.

Analysis of the bomb type can tell an analyst, usually in broad terms, the level of sophistication or depth of logistics available to an enemy. An EFP requires a significant amount of resources and sophistication to produce compared to artillery shells and other similar explosives. An analyst with an enemy that employs EFPs on a daily basis is fighting a different fight than an analyst whose enemy employs only explosives in general. Harder-to-make EFPs that are used daily implies a much greater logistics structure and ability than easier-use munitions. In similar fashion, an enemy using explosives against hard targets with little success also indicates a level of training and ability to execute, allowing an analysis to provide relevant intelligence to the fight.

Trigger type. Trigger type is important in terms of bomb location and the observer (assuming for now that an observer also acts as a triggerman). As is the case of bomb type, the trigger will indicate the level of sophistication and depth of logistics. A wire-and-battery system is intuitively less sophisticated than a remote control trigger. As is the case in bomb types, neither trigger is better or superior to the other since both have their uses and are best employed in different scenarios. Even timers can be used, although they require a different degree of planning, employment, and logistical support. Analysts examining a situation should be cognizant of this, ask the relevant questions, and place thought into an analysis.

The purpose for the trigger is to not only produce effects upon a target, but to balance survivability of the observer/triggerman with the ability to execute an operation. Any trigger can go with any bomb. An enemy trend showing an association between a bomb type and trigger type enables an analyst to provide meaningful and relevant intelligence.

Trigger type will affect, and is sometimes affected by, the location of the bomb. In some ways, a target will also dictate which trigger type is most effective, depending upon the targets counter-IED capability. Each trigger type will also indicate a different logistical signature, leading to identification of an organization or to patterns of planning and execution.

Observer/Triggerman. The most important role in an attack is the observer/triggerman. Sometimes the observer is the triggerman, sometimes not. In any case, the observer should be disciplined enough to keep vigilant for a target and in some cases, a *specific* target. If an analyst can discern that a specific target was the goal of the operation, the analyst can then describe a whole level of planning remarkably different from a more general target of opportunity.

The observer/triggerman must also keep eyes on the bomb in order to prevent discovery and tampering of the bomb or compromise of the operation in general. Line-of-sight analysis may help an analyst to at least begin to discover where an observer was located, as well as offer the analyst the ability to predict future kill zones. In this light, the IED may be thought of as a fire support system for the enemy, allowing indirect contact and requiring observers to detect targets.

The survivability of the observer/triggerman is key to future enemy operations. A terrorist organization can be reasonably expected to conserve human resources for a variety reasons, such as training, operational security, and recruitment.

Target. The target is important to consider as well. Attacks upon logistics vehicles yield different results than attacks upon armor or infantry. A wise enemy planner will consider all the capabilities of a target. His analysis of available and/or desired targets will affect (or in logistical terms be affected by) bomb types and trigger types. The target is the point around which the web of enemy planning is woven, as the availability of bomb types, trigger types, observers, and bomb locations will affect and be affected by the target. An analyst fusing these inferences together at this point can also discern the enemy's ability to plan and execute operations based on logistical concerns.

Bomb location. There are two aspects to bomb location: macro and micro. They are often associated together, yet both must be considered separately and then fused into a comprehensive thesis later. Macro locations refer to terrain an analyst can see on a map in terms of terrain features, such as curves, straight-ways on roads, bridges, etc. Micro locations are best thought of in terms of what the target sees, such as left, right, above, and below. Macro and micro locations affect one another, yet require a shift of viewpoint from maps to lines-of-sight. When fused together in an analysis, both will provide a uniquely relevant and extremely useful insight into the mind of the enemy.

An enemy planner uses target capabilities to determine where to employ the bomb. A macro location will provide insight to the level of sophistication of the enemy's ISR capabilities as well as understanding of target capabilities. Features such as curves provide insight into an enemy that considers the importance of the ability to retain a higher speed (obvious for sure, yet important when compared to an attack on a straightaway). A macro location will also indicate where the enemy "knows" that a target will be available. Like minefields in conventional armies, an enemy employs a bomb in a specific place to cause an effect of some type.

Micro locations also indicate the enemy's ability to understand target capabilities. Lines-of-sight are all important in this regard, and their use or non-use will provide insight to an analyst. A bomb placed under asphalt is markedly different from one placed along the curb, *even if they are the same bomb and trigger type.* The difference comes not from a technical aspect, but more from a sophistication of planning. An enemy going to the trouble of hiding a bomb within a road is different in nature from an enemy merely placing one on the side. Micro locations also affect bomb types in as much as they dictate the camouflaging techniques necessary to hide the bomb from the target until detonation.

Macro and micro locations fused together in analysis provide tremendous insight to an analyst. Occasionally, and analyst can deduce the method and techniques used by a specific enemy group and create a useful (albeit mostly mental) enemy template. The understanding of bomb locations is crucial to an analyst, especially when predicting attack locations in a new area.

Conclusion

Useful intelligence analysis always considers the art and science of warfare. Because of this, some exceptions do apply to any given scenario. Many different philosophies of thought go into the analysis, especially in Intelligence organizations. However, the analysis must start somewhere and then lead to some well-defined thesis or prediction. Analysis for the sake of analysis is never as important as analysis that paints a picture for a Commander. Applying critical thought to how an enemy may employ IEDs within an area leads to a better understanding of the enemy. Understanding an enemy leads to predictive analysis, which is far more actionable than simply reporting the activities of the enemy.

Major William Gettig is the Brigade S2 for 1st Stryker Brigade Combat Team, 1st Armored Division at Fort Bliss, Texas. He has served four tours in Iraq, as a Battalion S2 for 1-17 FA BN, Brigade S2 for 75th FA BDE, and Military Transition Team Intelligence Advisor for 4th Battalion 1/6 Iraqi Army, and as an Executive Officer for USF-I J2 Strategic Intelligence Engagements.