

No Silver-Bullets for IEDs

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"Improvised Explosive Devices (IEDs) are responsible for almost 50% of the casualties (both mortal and injured) sustained in Iraq and nearly 30% in Afghanistan since the start of combat operations. Furthermore, in Operation Iraqi Freedom (OIF) and Iraqi Enduring Freedom (OEF), deaths from IEDs have steadily increased since the cessation of major combat operations in 2003."¹

"We all drank the Kool-Aid," said a retired Army officer who worked on counter-IED issues for three years. "We believed, and Congress was guilty as well, that because the United States was the technology powerhouse, the solution to this problem would come from science. That attitude was 'All we have to do is throw technology at it and the problem will go away.'"²

Improvised explosive devices are not new: The counter-IED fight really started for the Marine Corps on October 23, 1983, when 220 Marines, 18 sailors, and 3 soldiers were killed during the bombing of the barracks in Beirut, Lebanon. Many other IED attacks have occurred since then, but the counter-IED fight did not really begin in earnest until after the initial invasion of Iraq. IED warfare is highly effective because it is always evolving. Unfortunately, as a result of this rapid evolution, technological solutions are simply always a step behind the enemy tactics, techniques, procedures, and equipment used to build and employ IEDs. Because U.S. counter-IED measures have been reactive and counter productive, the U.S. needs to pursue a proactive strategy that encompasses prevention, detection, neutralization, protection, and training.

Current Measures

JIEDDO

The biggest current setback in the counter-IED fight is the fact that no direct consensus exists among the services about how the fight will actually be waged. The Joint Improvised Explosive Device Defeat Organization (JIEDDO) is the chief organization tasked with solving the IED problem for the DoD. Its mission is to focus (lead, advocate, coordinate) all DoD actions in support of combatant commanders and their respective joint task forces to defeat improvised explosive devices.³ In reality, JIEDDO is a lumbering giant bureaucracy which is primarily focused on technological solutions to the IED problem and which has no authority to compel other organizations to act or even participate in its efforts.

Moreover, the one organization that is supposed to be guiding the DoD effort on counter-IED is oriented on the current operating environment and on fielding short term technological solutions to the present day IED threat. The problem with this approach is that JIEDDO is constantly working the already muddled and slow acquisitions process to defeat the IEDs of yesterday, while no mid- or long-term strategic plan has been developed for the future. Combined with the fact that JIEDDO does not fit into the existing Joint Chiefs and COCOM structure, it lacks the enforcement mechanism to provide

leadership in this fight. JIEDDO would be more effective if it were made a tenant command under the Joint Forces Command, whose major role is to provide coordination and direction among the services.⁴ Unfortunately, JIEDDO is also suffering now from funding issues as the long-running cost of the war is beginning to take its toll on budgets.⁵

MRAP

Despite the shortcomings of JIEDDO, the technological innovations that it has pursued have made a dramatic difference in the survivability and neutralization of IEDs. One of the highest cost and most visible ways that the military is working to counter IEDs is the fielding of equipment designed to protect personnel from the effects of IEDs, specifically the family of mine resistant ambush protected (MRAP) vehicles.

MRAP is an exceptional program that is already proving that it saves lives that would otherwise be lost to IEDs. In fact, the failure to field MRAP vehicles would be morally inexcusable on the part of the services. From a purely practical point of view, the cost of MRAP is far less in the long run than the cost of lost lives and equipment.

Despite its obvious advantages, a major issue with the MRAP family is that it creates an arms race: As soon as the U.S. fields an MRAP vehicle strong enough to defeat the latest type of IED or RPG, the enemy changes tactics and builds either

a bigger or more effective weapon. This escalation trend is reflected in the U.S. response to the recent introduction of the explosively formed penetrator (EFP). During April 2007, 69 EFP attacks occurred in Iraq. The DoD response has been to design and field MRAP II, with the goal of defending against EFPs.⁶

MRAP is the shining example of the wrong mindset with regard to the counter-IED. MRAP cannot defeat any IED; it is a force protection measure which saves the lives of military personnel while they utilize other techniques to find and eliminate IEDs. In an environment in which the success of U.S. strategic goals depends on its involvement with the local populace, the MRAP runs the risk of isolating troops from the very people the U.S. is trying to help by making it appear to the local populace that the military is "hiding" in its armored beasts. As stated in the latest Counterinsurgency manual, "the more you protect your force, the less secure you may be." IEDs will continue to be the choice weapon of the insurgent in future conflicts, and success in counterinsurgency is achieved by protecting the populace, not the counterinsurgency force.⁷

Proposed Strategy

Protective technologies like MRAP will only continue to mitigate the effects of IEDs but will not convince the enemy to

abandon these weapons. All the insurgent or terrorist needs is one successful IED attack out of 100 failed attempts to be videotaped and sent around the world on the Internet, and he has succeeded in strengthening his mission and weakening his enemy's position. Instead, to fight an effective counter-IED campaign, the strategy must focus on all five functional areas with regard to IEDs: prevention (capturing or killing emplanters, trigger-men, bombmakers, and other members of IED cells), detection (combining surveillance techniques with technology to determine location of IEDs), neutralization (render safe or destroy encountered IEDs), protection (use of electronic warfare to prevent detonation rather than just relying on advanced armor like MRAP to mitigate effects of an IED), and training.⁸

Prevention and Detection

The areas of prevention and detection need more attention from staffs and commanders, moreover prevention and detection both rely heavily on a blending of all the available assets in order to be successful in the two most crucial areas of counter-IED. Ineffective detection is a guarantee that the IEDs that remain hidden will kill or injure personnel at some point. However, an IED cannot be neutralized if its location is not known. Since information is imperfect, some IEDs will

detonate, at which time protective measures are necessary to mitigate the effects.

Prevention is ultimately the heart of the matter in counter-IED operations. The goal of prevention is to attack the IEDs at their source, the cell that is making and emplacing them. Neutralizing an IED cell consisting of emplacers, trigger-men, financiers, bombmakers, etc. is a much easier operation than the effort required to individually defeat all of the IEDs that the cell can employ. Focusing on the IED rather than on the cell is treating the symptom rather than the cause.

In order to conduct counter-IED operations in terms of prevention and detection, a commander and staff at the regimental level (and possibly battalion level) must have a counter-IED working group that is made up of all available personnel who have a stake in this fight. The purpose of this group is to coordinate all the various efforts: electronic warfare, information operations, route clearance, reconnaissance and surveillance, HUMINT, SIGNINT, Imagery, UAV support, EOD, forensics experts, etc. Effective prevention and detection require the coordinated effort of all these groups. The efforts of operations and intelligence sections must be fully integrated or the result will be an unfocused and hazardous counter-IED operation.

Neutralization and Protection

The areas of neutralization and protection are being addressed appropriately as these have seen the most tangible successes from new technologies and tactics. Other than problems with MRAP, armor protection has greatly increased the survivability rate of IEDs. Technologies like those in the counter remote IED electronic warfare (CREW) family of systems have provided protection from certain types of detonation methods. Procedures for dealing with known IEDs have been refined, resulting in a greatly increased number of IEDs being exploited for intelligence. Most notably has been the integration of EOD and forensics teams with engineer route clearance patrols.

Training

The area that shows the greatest potential for long-term effects in the counter-IED fight is training. Thanks to the efforts of the Marine Corps Engineer Center of Excellence, master lesson plan files have been created and standardized. Classes are currently being taught at entry level schools and to the operating forces. These focus on counter-IED warfare for individuals, small unit leaders, staffs, and route clearance. This training is critical and must continue to be stressed as it brings all Marines into the same mindset with regard to IEDs. Tactics, techniques, and procedures (TTPs) and

technology may change, but the doctrinal fundamentals and mindset should provide the unified focus and basic skill sets required to conduct counter-IED operations. Every Marine must be imbued with an offensive counter-IED mindset that is prepared to be in an IED-laden environment at any time. As an extension, staffs must understand how to integrate their various functions and skills to conduct counter-IED operations as a unit. Exercises like MOJAVE VIPER have made great strides towards providing the necessary realistic training to conduct counter-IED ops. MOJAVE VIPER is the capstone deployment exercise that Marine units go through prior to deploying to Iraq, which provides some realistic instruction on counter-IED warfare. The major piece that is still missing from the area of training is a unifying manual for the services to provide sound doctrine on conducting IED operations, but this will not be likely addressed until the previously mentioned problems with JIEDDO are fixed.

Counter arguments

Proponents of the arms race between counter-IED and IED technologies draw on some of the same ideas as the proponents of the Cold War arms race. Supporters of a nuclear strategic arsenal during the Cold War argued that the United Soviet Socialist Republics (USSR) would run out of money try to design, produce, and maintain the technology required to

compete in an arms race with the U.S. Counter-IED technologists also contend that the U.S., with its seemingly limitless resources and funds, can eventually win the counter-IED fight through the production and implementation of technology. This argument ignores the fact that currently the nation's enemies who utilize IEDs are largely non-state actors whose low cost and historical weaponry continues to defeat the expensive futuristic technology that JIEDDO continues to fund.

Conclusion

Weapons systems and technologies all have failure rates. No system is ever going to be foolproof or guaranteed. Science simply cannot account for all the variables on a battlefield. Counter-IED is a problem that cannot be solved with technology alone. The current policy of buying technology as a "silver bullet" solution to the IED problem will yield only marginal results unless a major shift in the counter-IED mindset and approach occurs.

IEDs are a problem that will continue to plague US forces until IEDs prove no longer to be a viable form of warfare for the terrorist. Technology has a role to play, but it is the successful, coordinated integration of technology along all five functional areas of counter-IED that will provide a comprehensive solution to the challenge posed by IEDs. Only

through a coordinated effort and a solid understanding of the fundamentals will units be consistently effective against IEDs.

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Notes

1. Richard F. Ellis, LTC, USA, Richard D. Rogers, MAJ, USAF, Bryan M. Cochran, LCDR, USN, "Joint Improvised Explosive Device Defeat Organization (JIEDDO): Tactical Successes Mired in Organizational Chaos; Roadblock in the Counter-IED Fight" (paper written at Joint Forces Staff College, Joint and Combined Warfighting School - Intermediate, Class # 07-02, March 13, 2007), 1.
2. Rick Atkinson. "The single most effective weapon against our deployed forces" [washingtonpost.com](http://www.washingtonpost.com/wpdyn/content/article/2007/09/29/AR2007092900750_pf.html) (September 30, 2007), http://www.washingtonpost.com/wpdyn/content/article/2007/09/29/AR2007092900750_pf.html
3. The Joint Improvised Explosive Device Defeat Organization (JIEDDO), "About Us," JIEDDO public site, <https://www.jieddo.dod.mil/>
4. Ellis, "JIEDDO; Roadblock in the Counter-IED Fight", 9-10.
5. Greg Grant. "Pentagon's counter-bomb agency running out of money" [GovernmentExecutive.com](http://www.govexec.com/dailyfed/1107/112007g1.htm) (November 20, 2007), <http://www.govexec.com/dailyfed/1107/112007g1.htm>
6. Clay Wilson, "CRS Report for Congress - Improvised Explosive Devices (IEDs) in Iraq and Afghanistan: Effects and Countermeasures" (Congressional Research Service paper prepared for members and committees of Congress, August 28, 2007), 3.
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8. Ezio Bonsignore, David Eschel, Richard Garland. "Countering the IED Threat" *Military Technology* Vol 30, Iss. 6 (2006): 108-120

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