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IMPROVISED EXPLOSIVE DEVICES: WHY THEY ARE USED AND OUR FAILURE TO DEFEAT THEM

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ABSTRACT

Improvised Explosive Devices in both Iraq and Afghanistan have become a weapon that insurgents have deployed in growing numbers since both conflicts began. These bombs are an ideal choice for the insurgent in the campaign against coalition forces because the materials are readily available and the effects caused by the devices have both an immediate impact by causing casualties and destroying vehicles and equipment, and they have a larger strategic impact by influencing local, international, and any coalition country's own population. Coalition forces initially failed to recognize the significance of the explosive device and had a difficult time in defeating them because of a poor understanding of the operating environment.

The insurgencies in Iraq and Afghanistan were different than past insurgencies of the Cold War era and are much more complex and dynamic in nature. Insurgents operate within their defined countries but with the improvement of technology, they have been able to have an impact on a global scale and using the Improvised Explosive Device as a key part of their overall strategy. This paper contends that the most effective method in defeating the Improvised Explosive Device is to take an offensive operation and Attack the Network. In order to achieve this, coalition forces must have a complete understanding of the operating environment and implement an intelligence system that will focus on improved cultural awareness. This will not only have an effect in understanding the Improvised Explosive Device system that insurgents employ, but also an improved understanding of the insurgency itself. In defeating the bombs, coalition forces will take an integral component away from the insurgents which will aid in the greater counterinsurgency battle.

INTRODUCTION

On 11 September 2001, terrorists executed an attack against the United States (US), similar to the Japanese attack on Pearl Harbour on 7 December 1941, forcing them into a war. This war became known as the Global War On Terror (GWOT) and it truly became a world affair. Nations from the North Atlantic Treaty Organization (NATO) would become heavily involved in operations in Afghanistan and in a more limited role in Iraq, a war fought primarily by the US and the United Kingdom (UK). Terror attacks spanned the globe in the years after 9/11, however, these were not particularly new events on the world stage. The wars in Afghanistan and Iraq were to become the focal point for this new war and the advent of the term Improvised Explosive Device (IED) would become a common term in households across the world.[1] While IEDs are not a new weapon, defeating them has become one of the most important factors in the wars against insurgents in Iraq and Afghanistan.

Improvised explosive devices have become the "weapon of choice" for terrorists and insurgent groups. An IED is defined as "an explosive device that is placed or fabricated in an improvised manner; incorporates destructive, lethal, noxious, pyrotechnic, or incendiary chemicals; and is designed to destroy incapacitate, harass or distract."[2] IEDs consist of a wide range of devices and detonators, and can be simple artillery shells detonated by a command wire,

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[1]The World Wide Incident Tracking System (WWITS) is the US National Counterterrorism Centre's database for terrorist incidents; available from http://wits.nctc.gov/main.do; Internet; accessed 3 January 2010.

[2] National Research Council, *Countering The Threat of Improvised Explosive Devices* (Washington: The National Academies Press, 2007), 1.

or can be more sophisticated explosively formed penetrators (EFP) detonated by motion, a

weapon more commonly found in Iraq, but slowly moving to the Afghanistan theatre.[3]

Terror attacks in London, Madrid, Oklahoma City, and Bali and the massive use of IEDs

in both the Iraq and Afghanistan insurgencies, demonstrate these weapons are in fact the

preferred and primary weapons used in current irregular warfare and terrorism. Western

militaries were largely unprepared for the IED threat that has surfaced in recent years and the use

of IEDs continues to spread as part of overall campaigns for terrorists and insurgents, as they are

relatively cheap, unsophisticated weapons that cause a large amount of damage and have

strategic consequences. They are used to attack political leadership, security forces and

infrastructure, but more importantly, it attacks a nation's will to continue to conduct their

operations.[4]

Countering IEDs has been a top priority in many Western nations as a direct result of

them being the deadliest threat to soldiers in Iraq and Afghanistan and the strategic impact they

can have.[5] In 2004, the senior leadership in the US military realized that a colossal effort must

be put into action to win against this weapon. The Department of Defense (DOD) established

the Joint IED Defeat Organization (JIEDDO) and has spent approximately 14 Billion dollars as

of November 2008 just to keep up with the evolving threat of IEDs.

With Canada's first hand experiences in the Afghanistan theatre of operations with

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[3] *Report of the Committee on Armed Services on DOD's Fight Against IED's Today and Tomorrow,* Vic Snyder and Todd Akin, (Washington, DC: US House of Representatives, 2008), 11.

[4] James Kennedy Martin, "Dragons Claws: The Improvised Explosive Device as a Weapon of Strategic Influence" (master's thesis, Naval Postgraduate School, 2009), 5.

[5] *Ibid.* 11.

respect to the effectiveness of IEDs, the Canadian Forces (CF) has similarly established the Counter-IED Task Force (C-IED TF). The main goal of these organizations is simple: to defeat IEDs. Perhaps the biggest question to date is are these organizations effective and are we winning the fight against IEDs in Afghanistan and Iraq? These questions are difficult to answer as insurgents quickly adapt to our Tactics, Techniques, and Procedures (TTPs) and can overcome our technological efforts in many cases.

Many argue that IEDs are just another weapons system used by the enemy, however, the sheer fact that they are created in an improvised nature means they are limited only by the imagination of the insurgent and terrorist. Therefore, if you simply attempt to defeat the weapons system, the enemy will remain one step ahead of you, evolving their tactics and methods in their IED operations.[6] What is required is an understanding of counterinsurgency and C-IED methods when dealing with an enemy that is adept to irregular warfare.

The aim of this paper is to examine the IED challenge faced by coalition forces demonstrating that the insurgencies in Iraq and Afghanistan are different from past Cold War insurgencies, as they are more complex in nature and they use IEDs has strategic and influential weapons. This paper will show that to defeat the insurgent IED campaign, it is imperative that coalition forces have a thorough understanding of how and why the insurgencies and the IED systems that they use operate. The most effective means in defeating the IED threat is through collaborative intelligence, making use of new technologies that the insurgents also utilize, and taking an offensive approach by attacking the IED network.

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[6] Cdr Vincent T. Clark USN, "The Future of JIEDDO – The Global C-IED Synchronizer" (research paper, US Naval War College, 2008), 1,

This will be accomplished in three chapters. The first chapter will describe the changing nature of insurgencies from the past showing that coalition forces in Iraq and Afghanistan were largely unprepared for the irregular threat that emerged. Globalization has significantly changed the world we live in today with new technologies that have contributed to insurgencies becoming global, only adding to their complexity. Insurgent campaigns during the Cold War were much more revolutionary and focussed on seizing power, however current insurgencies are less concerned with running their countries and more with ousting coalition forces and economic opportunity.

The second chapter will delve into the area of why insurgents use the IED, demonstrating that their weapon of choice has become a strategic weapon. Insurgents have embraced the new technologies of modern times and frequently record IED attacks allowing them to rapidly disseminate their messages and propaganda to the local population, international community, as well as the coalition soldiers they are fighting and their home nations. This has an influential impact on those they are trying to persuade and has negative consequences for coalition forces because of loss of public and international support, as well as having a detrimental psychological effect on the soldiers themselves.

Lastly, the third and final chapter will show what coalition forces need to do in order to defeat IEDs in the highly complex insurgencies of Iraq and Afghanistan. Technology and a defensive approach to countering the IED threat is not sufficient to defeat the well determined, media and technologically smart insurgents of today. Coalition forces must understand the IED system that the insurgencies use, understand the insurgency itself and what motivates the insurgent, and must have collaborative intelligence at all levels across the coalition.

CHAPTER 1 – THE CHANGING FACE OF INSURGENCIES

Introduction

The havoc that the IED has caused for coalition forces started in the initial months after the US completed their major combat operations in Iraq in the spring of 2003.[7] The US military, at the beginning, did not seem to be overly concerned with the IED threat. Initially, insurgents relied upon coordinated direct fire attacks to harass and inflict casualties. However, the overwhelming firepower of the US resulted in the insurgents rapidly adjusting their tactics by using indirect methods consisting of mortars and rockets. While these were successful at first, again US firepower and its ability to locate and bring counter battery fire to bear, caused the enemy to once again adjust their tactics. What emerged was the widespread use of the IED, or more definitively the use of IEDs as roadside bombs.[8]

To gain more knowledge on how and why IEDs are used, it is first necessary to look at the insurgencies in Iraq and Afghanistan and understand the manner in which they are organized and how they operate. This chapter will demonstrate that the insurgencies in those countries have evolved from past conflicts and that coalition forces were largely unprepared to counter them. Insurgents in Iraq and Afghanistan have structured their organizations differently from insurgencies of the Cold War era, their reasons for staging an insurgency have changed from past conflicts, and the impact of technology and globalization have all significantly changed the face of insurgencies in both nations. Western militaries failed initially to recognize these changes and have only recently started to adapt their approach to COIN and the IED battle. The current

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[7]John Bokel, "IEDs in Asymmetric Warfare," *Military Technology* 31, no. 10 (October 2007): 34.

[8]*Ibid.*, 34.

insurgencies are a living system made up of individual people, groups and various organizations and networks and due to the effects of globalization; they use information technology to their advantage in order to achieve their goals.[9]   The use of IEDs is one of the key tools that the insurgents use in attaining these goals and in order to target the IED system, it is imperative that there is an understanding of the insurgent organization.

This chapter will initially contend that Western militaries were primarily a conventional fighting force, focussed largely on major combat operations and not on operations across the full spectrum of conflict. When they found themselves confronted by insurgencies, they relied upon lessons learned from past conflicts in the 20th Century and did not take into account the changing nature of the world or the type of insurgency they were fighting. The chapter will then discuss the insurgency during operations in Iraq and how the coalition forces were not prepared for the problem once major combat operations were complete. Further, this section will look at the development of the Iraqi and Afghan insurgencies and highlight why they are different from past insurgent organizations. This chapter will then look at the complexities of the modern insurgent network and how it operates, showing that it is more difficult to counter than past insurgencies due to their decentralized command and control of the networks. Finally, the chapter will demonstrate that globalization has had a tremendous impact in the method that insurgents use to conduct their operations because of new technology, further complicating the insurgencies in Iraq and Afghanistan and their use of IEDs.

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[9] Shanece Kendall, "A unified general framework of insurgency using a living systems approach"(master's thesis, Naval Postgraduate School, 2008), 3. The effects of globalization referred to are that information is shared more easily and quickly throughout the world due to increased technologies. This has allowed insurgent groups to learn from one another, sharing ideas and information at a vastly larger and faster rate compared to the Cold War era, and ultimately demonstrate to the world the effectiveness of their operations by using the internet to their advantage.

Past Insurgencies and the Western Focus

Insurgencies are one of the oldest forms conflict. The Romans spent more time trying to suppress insurgencies in their own borders then they did actually trying to expand their empire.[10] Insurgencies and how to effectively counter them have been a continual problem throughout history and have continued to persist in present times. Western nations have been involved in multiple COIN conflicts in the past Century, however they have continually preferred to focus on conventional combat operations even though insurgencies have been the more frequent form of warfare throughout the world.[11] The US Army for instance has fought in 8 foreign wars, 1 civil war and the War of Independence, and in addition to those approximately 320 other conflicts that cannot be classified as conventional operations.[12] However, the culture and training in the US Army has always been centred on conventional combat operations. One only needs to look at the US Army's doctrine in Field Manual 3-0, *Operations*, where it states "fighting and winning the nations wars is the foundation of Army service. . ."[13] This was clearly seen with the US's forces engaged in both World Wars, The Korean War, Operation DESERT STORM in 1991 and the initial approach to Operation IRAQI FREEDOM.[14] The US Army and Marine Corps COIN

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[10] Walter Perry and John Gordon, "Analytic Support to Intelligence in Counterinsurgencies" (Santa Monica, The RAND Corp., 2008), 1.

[11] *Ibid*., 2.

[12] Dr Donald Wright and Colonel Timothy Reese, *On Point II*, (Fort Leavenworth: Combat Studies Institute Press, US Army Combined Arms Center, 2008), 49.

[13] Department of the Army, Field Manual 3-0, *Operations*, (Washington DC, June 2001), 1-2.

[14] Dr Donald Wright and Colonel Timothy Reese, *On Point II,* 49.

doctrine manual was not published until 2007 when it was realized that there was no doctrine for conducting COIN operations, but rather lessons learned and literature from past experiences.[15]

The September 11, 2001 attacks against the US resulted in many Western militaries having central roles in the conflicts in Iraq and Afghanistan. After the quick and relatively easy initial victories in both of those countries, insurgencies blossomed against the coalition forces and they found they were quickly conducting operations across the full spectrum of conflict.[16] At first, the insurgencies were thought to be of the same nature of the communist backed conflicts that developed in Asia, South America, and Africa throughout the 1900's. Because most Western militaries did not specifically train in conducting COIN and stability operations, they were relying on those conflicts as references in executing their operations in Iraq and Afghanistan.[17] Recommended professional development for officers were books on the subject of COIN from conflicts such as Malaya and Vietnam, the problem was, that in both of those conflicts, the insurgents focussed on nationalistic transition and did not contend with the complexities of the current world.[18]

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[15] For more information on the US Miitary's focus on past conflicts see Chapters 1 and 2 of John Arquilla's book Worst Enemy: *The Reluctant Transformation of the American Military.*

[16] The Full Spectrum of Conflict entails operations from Conventional operations on one end of the spectrum to Operations Other than War and Stability Operations on the other. For more information on this subject see the introduction section in *On Point II* by Dr Wright and Colonel Reese and B-GJ-005-300/FP-000, *Canadian Forces Operations*, Chapter 1, Section II.

[17] Steven Metz, "Rethinking Insurgency." (Strategic Studies Institute, US Army War College, Carlisle, 2007), 42.

[18] *Ibid*., 43.

Many of these past insurgencies used the Maoist strategy where the insurgent's main goal was to take control of the state and form the new government.[19] Many modern insurgencies do not follow the Maoist strategy and are not seeking to overthrow their governments, and are not motivated towards other political objectives, but rather by economic and social issues.[20] Mao's model of insurgency was a product of the Marxist-Leninist theory and his experiences in fighting a guerrilla war in China in the 1930's.[21] His model was one that the insurgent organization had unity of command and unity of purpose, and had a prescribed set of phases that would lead them to ultimately overthrowing the government and taking control.[22] With a hierarchical type organization, it was much easier for the counterinsurgent to understand the insurgencies in terms of how they operated and what their goals were. It will be shown later in this chapter, that this was not the case with the insurgent organizations in Iraq and Afghanistan.

While not all past insurgencies were revolutionary, the US and other Western nations focussed on these types of conflicts as they posed the largest threat to national interests.[23] Insurgencies of Maoist nature had defined lines where there was two groups of people, the insurgent forces attempting to overthrow the government, and the current regime, both which were attempting to gain the support of the people of the state and whoever was successful in that endeavour would win. With coalition forces in Iraq and Afghanistan not trained or proficient in

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[19] Steven Metz, "Rethinking Insurgency." 3.

[20] Shanece Kendall, "A unified general framework of insurgency using a living systems approach," 12.

[21] Dr Donald Wright and Colonel Timothy Reese, *On Point II.* 99.

[22] Thomas Hammes, *The Sling and the Stone: On War in the 21st Century*, (St. Paul: Zenith Press, 2004), 52.

[23] Steven Metz, "Rethinking Insurgency." 5.

COIN warfare, and attempting to fight their adversaries in the state of mind that they were of the traditional nature from the past, they were caught off guard to the point that the insurgents had gained the early initiative.

The Insurgencies in Iraq and Afghanistan

When major combat operations were completed in Iraq by coalition forces, a complex insurgency started to develop. As noted earlier in this chapter, coalition forces in Iraq and Afghanistan, and in particular the US Army, categorized the insurgencies along traditional lines and defined it as "organized movements aimed at the overthrow of a constituted government through the use of subversion and armed conflict."[24] The prevailing thought by the US military at the time was that any insurgent organization would have of a clear chain of command and that they would all be working towards a common goal. For example, in the earliest stages of the Iraq conflict, the insurgent groups were small and did not share a common purpose, making it much more difficult for coalition commanders to define the magnitude and sophistication that the insurgency would eventually develop into.

In the opening stages of the Iraq insurgency, these small groups conducted only limited attacks on government and coalition forces. Their main effort was to focus on building relationships with other organizations and groups and to recruit for their cause.[25] In these cases, insurgents used their old party affiliations, tribal and family connections, and geographical

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[24] Joint Publication (JP) 1-02, *DOD Dictionary of Military and Associated* Terms (Washington DC, April 2001), 213.

[25] Dr Donald Wright and Colonel Timothy Reese, *On Point II,* 99.

locations such as neighbourhoods and villages in order to build up their foundation and construct a networked organization.[26] These early groups were mainly Sunni in nature and, despite what the US military thought, they were not interested in fighting to return the Baathist party to power, but were organizing and fighting over their anger of widespread unemployment and the occupation by coalition forces.[27] In the view of many Sunni's, they were organizing their networks by appealing to religious and patriotic views and depicting the coalition forces as infidel occupiers. Religion seems to have a dominant role in the rise of the insurgency and simply because Western forces entered Iraq, they had become their enemy.[28]

As time wore on after the summer of 2003 and into 2004, the Iraq insurgency continued to grow in magnitude. They were more organized and continued to evolve, with the insurgency consisting of groups of foreign fighters, Saddam loyalists mostly from the Fedayeen Saddam, an Iraqi Army element specifically trained in irregular warfare skills, as well as groups of Sunni tribesmen and ex-Baath party members.[29] This is an example of the diversification and sophistication that the insurgency in Iraq was starting to become. Add in the Al Qaeda terrorist organization of Abu Masab al-Zarqawi and lesser groups from the Shia tribes and criminal gangs, it can be understood that the ability of the coalition forces to fully understand the insurgency that they were up against was extremely difficult.

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[26] Ahmed Hashim, *Insurgency and Counterinsurgency in Iraq* (Ithaca: Cornwell University Press, 2006), 21.

[27] Dr Donald Wright and Colonel Timothy Reese, *On Point II,* 100.

[28] Ahmen Hashim, *Insurgency and Counterinsurgency in Iraq,* 116.

[29] Dr Donald Wright and Colonel Timothy Reese, *On Point II,*102-103.

Between the summer of 2003 and the summer of 2005, the insurgent groups throughout

Iraq continued to evolve and diversify, significantly growing in number. Attacks throughout this

timeframe started to intensify in terms of the number of attacks and their highly organized

nature. As depicted in Figure 1, attacks against coalition forces rose from approximately 500 in

August 2003, to approximately 1,500 in December 2004.
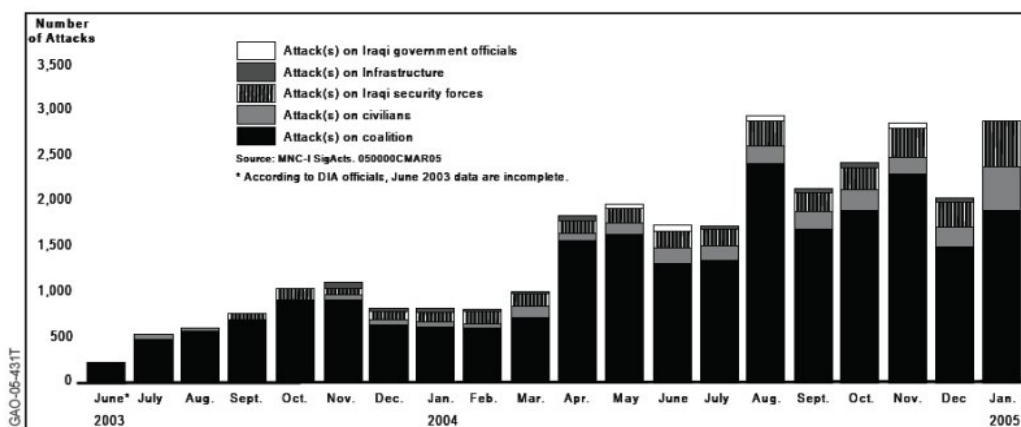
Figure 1. Violent Incidents in Iraq from
June 2003 to January 2005. From *On
Point II*, 100.

What started as a number of groups working independently and virtually uncoordinated,

had become multifaceted and cohesive in some areas, however, there still remained a tendency to

shift their positions and loyalties when they felt was necessary in order to benefit for

themselves.[30] As depicted in Figure 2, the insurgency was vastly complex and loosely organized

but did have a common enemy and a religious cause to motivate themselves and their followers.

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[30] *Ibid.,* 102. At the start of the insurgency in Iraq, many of the groups conducted their own operations
without coordinating their effects of timings with those of other liked minded groups. However, they realized that
they shared many common goals and realized that in order to achieve these it would be much easier to coordinate
their operations with each other which they started to do in mid 2004 on a regular basis. Each organization still had
their own motivations such as financial gain, or tribe supremacy in a certain area or neighbourhood, so when these
goals conflicted with the overall insurgency aims, the groups tended to ensure the needs had primacy.

The complexity of the situation continued to make it extremely difficult for coalition forces to fully comprehend the insurgency in Iraq and as a result, they were slow to adapt their tactics and procedures.[31]
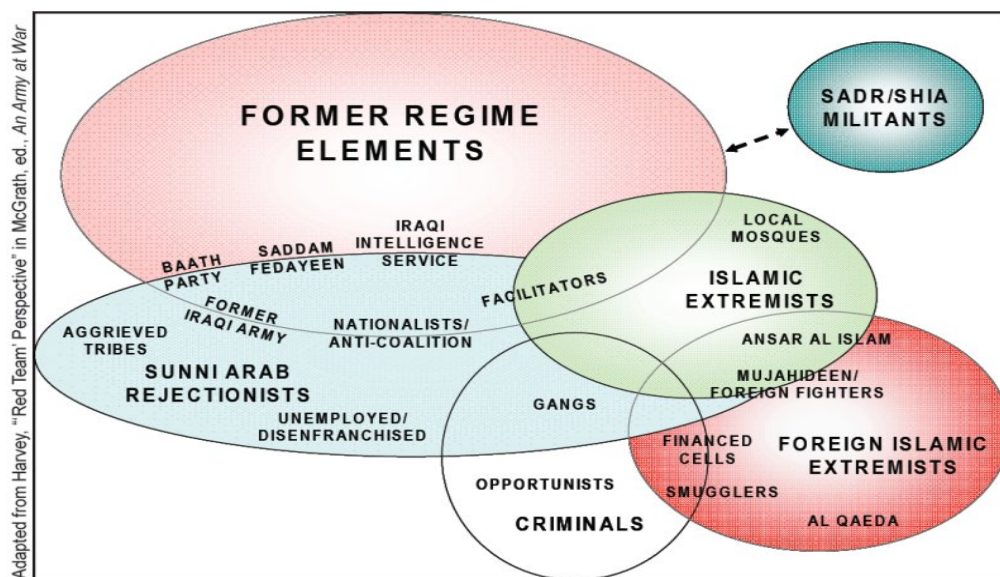
Figure 2. Iraq insurgency 2004. From *On Point II,* 103.

The insurgencies, particularly in Iraq, were extremely different from the Maoist models that the US and coalition forces had experience in dealing with in the 20th Century. It did not share unity of command and while there was a common purpose in fighting against the coalition, there were no specific political goals that coalition forces were able to detect.[32] US doctrine on COIN made the assumption that insurgents always fight for a higher political reason, such as

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[31] John Arquilla, *Worst Enemy: The Reluctant Transformation of the American Military*, (Chicago: Ivan R. Dee Publishing, 2008), 44-45.

[32] Dr Donald Wright and Colonel Timothy Reese, *On Point II,* 99. When US forces in Iraq were trying to determine the motivations of the organizations of the insurgency, they could not find any group that wanted to take absolute power and take over and run the government. While there were groups, such as the Sunni, that wanted to be the strongest element in Iraq, they did not have any specific political goals in mind.

overthrowing the government or an ideological reason such as communism, however, in the case

of Iraq there was not one common political agenda. The insurgent groups all shared a common

enemy in the coalition troops and this is what initially held them together. Dr Ahmed Hashim, a

professor at the US Naval postgraduate school, completed a detailed study into what motivated

the insurgents, and he discovered that for many of them, removing the coalition forces was their

only common goal.[33]

The insurgent organizations had more goals than just ousting a common enemy. The

insurgencies in Iraq and Afghanistan continued to fight against coalition forces to oust them from

their respective countries, however, economic and social aspects were important pieces to the

conflicts. According to Steven Metz, a professor at the Strategic Studies Institute in the US

Army War College, the current insurgencies actually feel less pressure in attaining overall

victory against coalition forces because they are trying to establish themselves as a more

enduring entity.[34] Adding to the complexity is that unlike past irregular conflicts, insurgent

groups "are modeling their organizational structure after current successful business

corporations."[35] Not only do they model their organizations after corporations, they also adopted

some of the same business practices in terms of acquisitions and mergers, developing and

maintaining strategic partnerships and accumulating and expanding capital to name a few.[36] For

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[33] Ahmed Hashim, *Insurgency and Counterinsurgency in Iraq,* 122.

[34] Steven Metz, "New Challenges and Old Concepts: Understanding 21st Century Insurgency", available from http://www.strategicstudiesinstitute.army.mil/pubs/people.cfm?authorID=22; Internet; accessed 29 January 2010, 5.

[35] Shanece Kendall, "A Unified General Framework of Insurgency using a Living Systems Approach," 11.

[36] Steven Metz, "New Challenges and Old Concepts: Understanding 21st Century Insurgency," 6.

example, in terms of mergers and acquisitions, insurgent groups in Iraq often joined into partnerships with one another where a powerful group joined with a less powerful one.[37] This was for the benefit of both groups with an example being one tribe joining with an organization, such as one based on ex Bath Party members for the common purpose of financial support and gain.[38] In essence, there is a large portion of the insurgencies, in both Iraq and Afghanistan, that are more concerned with economic opportunity as opposed to any real political goals or ousting coalition forces. According to Paul Collier, a professor of economics at Oxford University, "conflicts are far more likely to be caused by economic opportunities than by grievance. If economic agendas are driving conflict, then it is likely that some groups are benefitting from the conflict and therefore, have some interest in initiating and sustaining it."[39]

Dr Ahmed Hashim's research suggested that removing coalition forces was the only common goal, while Dr's Metz and Collier ascertain that economic prosperity plays a significant role in the insurgency in Iraq. According to David Killcullen, a leading expert in COIN, "today's threat environment is nothing if not complex, ambiguous, dynamic, and multifaceted, making it impossible to describe through a single model."[40] While there are many different arguments as to why the insurgents conduct their operations in both Iraq and Afghanistan, what matters is that they have become increasingly complex in their organization and the reasons they conducted operations against coalition forces varied from group to group. The counterinsurgent

[37] *Ibid.,*6.

[38] *Ibid.,*5.

[39] Paul Collier, "Doing Well out of War: An Economic Perspective," in *Greed and Grievance: Economic Agendas in Civil Wars*, ed. Mats Berdal and David Malone, (Boulder: Lynne Rienner, 2000), 91.

[40] David Killcullen, *The Accidental Guerrilla: Fighting Small Wars in the Midst of a Big One,* (New York: Oxford University Press, 2009), 7.

must be aware and come to an understanding why the insurgencies are fighting. Killcullen describes four models which are: A Backlash against Globalization; the Globalized Insurgency model; Islamic Civil war theory; and Asymmetric Warfare model, which he argues, by understanding these models and theory's, militaries will have a more complete understanding of the current threat.[41] The arguments used by Dr's Metz and Hashim span these models further demonstrating the complexity that Killcullen feels describes the insurgencies in Iraq and Afghanistan.

Not only have insurgencies changed in their organizational structure, their reasons for conducting their operations have become more complex than the past. While there are differences of opinion on why insurgents conduct their operations, from combating outside forces to economic prosperity, insurgencies have become more complex than ever before. They are characterized by non-state actors inter-linked with religious, geographical, family, and tribal affiliations that have a network approach to insurgency, aimed not at winning in a conventional manner, but by attacking the will of the decision makers.[42] To understand how the insurgents successful conduct their operations, there is a requirement to look at how they organized their networks in Iraq and Afghanistan.

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[41] *Ibid., 7*. To see what each model entails see pages 7-28 of Killcullen's book.

[42] Brian Reed, "A Social Network Approach to Understanding an Insurgency," *Parameters* (Summer 2007): 24.

Insurgent Networks

To this point in the chapter, it has been established that coalition forces were unprepared for the type of insurgency that they encountered in Iraq and eventually Afghanistan. Western militaries were focussed on conducting conventional operations and when they realized they were fighting insurgencies in Iraq and Afghanistan, they relied upon their experiences of the 20th Century. Modern insurgencies have evolved into extremely complex organizations that do not share a common political goal, but rather a common goal in defeating occupying forces, and on the other hand economic prosperity has become an important factor. Thus far we have looked at the larger complexities of the modern insurgencies, but to fully understand how to defeat such a complex and loose organization, an understanding of how they are organized into networks will provide insight into the weaknesses of the insurgents. Furthermore, it will provide an understanding in how best to defeat and mitigate their weapon of choice, the IED, which will be covered in detail in the final chapter.

The insurgencies in Iraq and Afghanistan are made up of decentralized networks, and as a result have the ability to react rapidly to changing situations or opportunities.[43] This is not to suggest that that there is no leadership within these networks. There are leaders, but no one leader making all decisions because of the number of different organizations involved. As a result, decision-making authority is by default pushed to much lower levels than past insurgencies thereby allowing them to adapt much more quickly. An example of an insurgent group adapting to their environment was their ability to hack into Predator unmanned aerial vehicle videos that were being sent back to the United States. The insurgent group used a $26

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[43] Stephen Metz, "Rethinking Insurgency," 12.

software program called SkyGrabber that allowed them to download videos being sent allowing them to see what the US military was reporting on.[44] This innovation and ability to overcome Western Military technology is an ongoing battle between insurgent and counterinsurgent, which in the end gives the advantage to the insurgents who find a less expensive and easier method to hinder larger military forces.[45] As well as the ability to adapt, their decentralized nature also ensures that the greater organization is much more survivable because no single cell or network is vital to the overall insurgency.[46]

In trying to understand exactly what these networks look like, Marc Sageman, a former US Foreign Affairs Officer, in his book *Understanding Terror Networks*, conducted a study with the Mujahedin in Afghanistan. In his book he states that "a group of people can be viewed as a network, a collection of nodes connected through links. Some nodes are more popular and are attached to more links, connecting them to other more isolated nodes. These more connected nodes, called hubs, are an important component of a network,"[47] Dr John Arquilla and David

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[44] Michael Farrell, "Skygrabber: hack of US Drones shows how quickly Insurgents adapt," *The Christian Science Monitor*, available from http://www.csmonitor.com/USA/2009/1217/SkyGrabber-hack-of-US-drones-shows-how-quickly-insurgents-adapt ; Internet; accessed 10 March 2010.

[45] Dominic Johnson, "Darwinian Selection in Asymmetric Warfare: The Natural Advantage of Insurgents and Terrorists", available from http://dominicdpjohnson.com/publications/pdf/2009%20-%20Johnson%20-%20Selection%20in%20War.pdf ; Internet; accessed 10 March 2010. Johnson argues that adaptation is a key element in the insurgencies of today and that the current system in the US military is often slow to adapt and implement new equipment and tactics that would assist in the current conflicts. The insurgents do not have this slow system and therefore can adapt more quickly to changing coalition tactics.

[46] Stephen Metz, "Rethinking Insurgency," 13.

[47] Marc Sageman, *Understanding Terror Networks*, (Philadelphia: University of Pennsylvania Press, 2004), 137.

Ronfeldts suggest there are three basic types of networks; the chain network; the star or hub

network; and the all channel network which are depicted in Figure 3.[48]
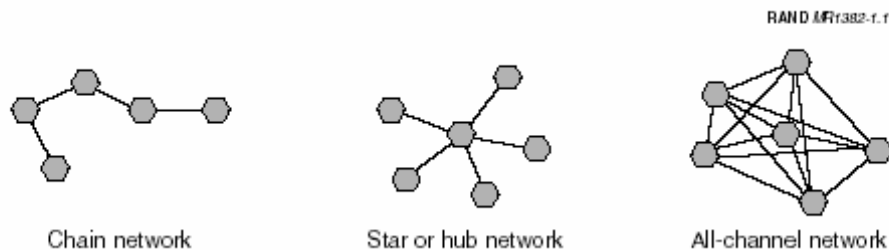
Figure 3. Three Basic Types of Networks.
From Arquilla and Ronfeldts, 8.

The chain network moves people, goods, and information from end to end with

intermediate nodes, the hub network has a central node where other nodes must go in order to

coordinate and pass things through. The all-channel network is a system where everyone has a

connection and has the authority to move information in any direction.[49] The all-channel

network is the most difficult of all to sustain but with the advent of globalization, it is the most

effective network and most commonly used in modern insurgencies.[50] The actual organization

of an all-channel network is flat with no central leadership, headquarters, or "precise heart or

head that can be targeted."[51]   This type of network is based upon shared intent with the shared

principles and interests, and possibly a common doctrine at the operational level, but at the

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[48] John Arquilla and David Ronfeldts, *Networks, Netwars and the Future of Terror, Crime, and Militancy* (Santa Monica:The RAND Corp., 2001) 7-8.

[49]*Ibid.*, 7.

[50] *Ibid.*, 9.

[51] *Ibid.*, 9.

tactical level, the insurgents understand the overall intent and know the tasks that they need to accomplish but are not told exactly how to accomplish those tasks.[52]

Sageman also discusses two other ideas that are critical in understanding how insurgent networks function. These two ideas are the concepts of "geographical distribution" and "embeddedness."[53] Within geographical distribution, his suggestion is that cells and networks do not develop from a top down approach, but are capable of "spontaneous organization" and recruiting is easier because "like minded" communities attach themselves to the network, forming their own group.[54] Embeddedness refers to the social and economic links within the cells and networks explaining their links to society.[55] These two ideas would strengthen the notion that insurgent networks have become more complex and based very much on their societal ties to their tribe, community or religion, all of which are important aspects in Afghanistan and Iraq.

In the structure of insurgent cells, although not a new concept, the method in which they operate in modern conflicts has changed. They rely mostly on an all-channel type of network, as described above, which has no easily defined hierarchy and has a large attachment to the community to which they belong. In this construct, the networks get operational intent and at the tactical level are able to implement the overall strategy without being told precisely what to do on a continual basis, which is a difference from past insurgencies. By establishing themselves in this manner, the insurgents have made their ties to leadership figures difficult, they have ties to a

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[52] *Ibid.*, 9.

[53] Marc Sageman, *Understanding Terror Networks*, 142.

[54] *Ibid.*, 142.

[55] *Ibid.*, 146.

community to that protects and provides for them, and they are free to conduct operations on their own without higher level authority. Globalization has allowed the modern insurgent network with a distinct advantage in how they accomplish their tasks over past insurgencies. This is yet another reason why insurgencies are so difficult to target directly and why the expertise in the use of IEDs moves from one location to another.

Technology and the Globalization of Insurgent Groups

The other aspect that Western militaries failed in identifying was the profound effect that globalization, and in particular new technology, would have on the conflicts in Iraq and Afghanistan. Globalization and new technology has assisted in the transformation of insurgent groups from being primarily a regional challenge, such as South East Asia in the 1960's and 70's, to a major global security threat where insurgents from different regions share information and tactics through technology.[56] This has significantly improved the organizational effectiveness of insurgent groups, increased their lethality and ability to operate on a global front and has connected groups that have never been connected in the past. [57] Criminal organizations, terrorists groups, right-wing militias and insurgents are all interconnected, allowing for increased funding and financial support, an increase in technology and methods of operation, as well as a cultural "togetherness" that fosters conflict and resentment.[58] The result has been that insurgent

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[56] Querine H. Hanlon, "Globalization and the Transformation of Armed Groups," in *Pirates, Terrorists, and Warlords*. ed. By Jeffery H. Norwitz, (New York: Skyhorse Publishing, 2009), 124.

[57] *Ibid.*, 124.

[58] *Ibid.*, 127.

organizations are extremely effective in their campaign against Western militaries on both the

physical and moral planes of warfare. This section will discuss the impact of technology on the

insurgencies in Iraq and Afghanistan and demonstrate that it has significantly changed the way in

which insurgent groups operate. Globalization includes a broad range of aspects that have

affected insurgents, but the biggest changes have come from the globalization of technology.[59]

Historically insurgent groups have maintained and grown their support through direct,

face to face communications as well as treating the local population with respect.[60] Technology

has not significantly changed the second aspect of support but it has dramatically changed the

first. Insurgents depend on their ability to communicate their message to each other, to civilians

and to the international community.[61] The satellite and cell phone have been at the forefront of

technological change and currently 80 percent of the world has some type of cellular coverage

with 25 percent owning a phone.[62] This has given the insurgent a means of communications on

a global scale with satellite phones and a regional base one with cellular coverage. The problem

is however, that while it gives the insurgent some advantages, it offers some disadvantages as

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[59] John Mackinlay, *Globalization and Insurgency*, (New York: Oxford University Press, 2002). Technological advances, such as the internet and cell phone technology, have allowed insurgents to use recordings of ambushes and \IED attacks to great effect. Recordings can be cut and turned into "propaganda" and posted onto websites for anyone in the world to view. This allows insurgents to get their messages and activities out quickly and to a large audience. It is difficult to shutdown these types of websites by coalition forces. The internet is also used to communicate tactics and procedures (for things such as building IEDs) that can be shared by insurgent and terrorists groups throughout the world.

[60] Christopher Ford, "Of Shoes and Sites: Globalization and Insurgency," *Military Review* 87, no. 3, (May-June 2007): 86.

[61] Joel Clark, "The Effect of Technologies on Insurgency Conflict: Framing Future Analysis" (master's thesis, Naval Postgraduate School, 1998), 6-7.

[62] Christopher Ford, "Of Shoes and Sites: Globalization and Insurgency," 86.

well. Coalition forces are able to monitor satellite and cell phones and as a result, some high

profile

terror networks such as Al Qaeda have stopped using them as a form of communications.[63] This

is not suggest that insurgent groups no longer use them, as insurgents in Afghanistan will use a

cell phone for a short period of time and discard it for a new one in fear of being targeted by

coalition forces.[64] This is a simple yet effective method of getting around the ability of coalition

forces monitoring and pinpointing insurgents. Cell phones also have many other features that

allow them to play a significant role for insurgents as they have a recording capability as well as

camera functions. These functions allow them to record coalition forces responding to incidents

or patrolling and to record incidents where coalition forces break rules or local customs, allowing

the insurgents to upload the information to the internet and subsequently share it throughout the

world.   The 304th Military Intelligence Battalion, in their periodic newsletter, demonstrated how

insurgents have the capability to use cell phones for surveillance of coalition forces. The

newsletter showed that insurgents will use chat rooms, viewed by other terrorists and insurgent

groups, to share information on the best methods to use cell phones in this type of role.[65]

While insurgents have a use for satellite and cell phones, the most profound technological

change has come in the form of the internet, which has given a large advantage to them for

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[63] Major Kevin Leahy, " The Impact of Technology on the Command, Control, and Organizational structure of Insurgent Groups, (master's thesis, US Army Command and General Staff College, 2005).

[64]Laura King, "Taliban's new Strategy is Pushing the Wrong Buttons," *Los Angeles Times*, available from http://articles.latimes.com/2008/apr/23/world/fg-cellphones23 ;Internet; accessed 13 April 2010.

[65] 304th MI Bn OSINT Team, Periodic Newsletter, "Sample Overview: Al Qaida-Like Mobile Discussion and Potential Creative Uses," available from http://www.scribd.com/doc/9457812/Mobile ; Internet; accessed 13 April 2010. This newsletter demonstrates that insurgent and terror groups share information on a regular basis and are not longer restricted to regional sharing but rather on a global nature.

communications and information operations.[66] The insurgent can choose from a wide range of

tools on the internet from e-mail, chatrooms, instant messaging, and websites.[67] While these,

like the phone, can be monitored by coalition forces, their diversity offers a real challenge for the

counterinsurgent.[68] Not only does the counterinsurgent need to monitor all of the different

mediums of the internet, they also need to deal with the encryption that is easily accessible to

insurgents groups and the websites are often difficult to link directly back to these groups.[69]

They can reach people and groups that they did not have the capability to before, specifically to

disseminate propaganda, recruit persons for their cause, and obtain financial support.[70] For

example, the total number of websites that is in current use by insurgent groups, terrorists

organizations and other subversive organizations has grown from 100 in 1996 to approximately

5,000 as of 2006 and most likely continues to grow every year.[71] These websites are used to

serve as propaganda sites and for fundraising as they have account numbers where supporters

can donate. The groups make use of software that is capable of looking at the demographics in

order to identify possible sympathizers and these people are sent individual recruitment e-mails

or are solicited for donations.[72]

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[66] Christopher Ford, "Of Shoes and Sites: Globalization and Insurgency," 87.

[67] The use of these tools is discussed further in Chapter 2 of this paper.

[68] Christopher Ford, "Of Shoes and Sites: Globalization and Insurgency," 87.

[69] Lieutenant-Colonel Patrick Tibbetts, "Terrorist Use of the Internet and Related Technologies, (master's thesis, US Army Command and General Staff College, 2001), 9.

[70] *Ibid*., 11.

[71] Canadian Centre for Security and Intelligence Studies, "A Framework for Understanding Terrorist Use of the Internet," available from http://www.carleton.ca/cifp/app/serve.php/1121.pdf ;Internet; accessed 13 April 2010.

[72] *Ibid.*

The internet also enables insurgents to avoid injury, capture or death. Insurgents are able to easily share information that has allowed them to learn and adapt quickly to coalition tactics, making it less likely for them to be killed or captures.[73] For example, an insurgent may be able to obtain information on an upcoming coalition operation, allowing him to warn his fellow insurgents and escape unharmed. While this type of information should not be available over the internet, with different news sites, military interest groups, and blogs, the internet can provide this type of information.[74] Certain websites offer information on counterinsurgent forces in Iraq with the locations of forward operating bases, troop levels and ongoing combat operations.[75] An example is that insurgents also use Google Earth to great effect.   It has provided information on locations of coalition bases and gave them a bird's eye view, allowing them to see what shelters were hardened and where the possible vulnerable points were.[76]

Insurgents across the globe are also able to share and obtain tactical information on the method to build IEDs and how to use them to the greatest possible effect. Going to websites that the western nations use on a daily basis can provide information for insurgents. For example,

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[73] Brian Jackson, "Organizational Learning in Terrorist Groups and its Implications for Combating Terrorism," (Santa Monica: The RAND Corp., 2005), 17.

[74] Christopher Ford, "Of Shoes and Sites: Globalization and Insurgency," 88.

[75] *Ibid.*, 88.

[76] Katie Halfner and Saritha Rai, "Google offers a Bird's eye view and some governments Tremble, *New York Times*, 19 December 2005, available from http://www.mail-archive.com/infowarrior@g2-forward.org/msg01787.html ; Internet; accessed 5 February 2010.   British Forces in Iraq consistently complained that Google Earth was providing information to the insurgents.

several books on the design and construction of IEDs are available on the amazon.com website.[77]

A Globally connected insurgency has become a network of leaders and fighters and with the improvement of technology, the insurgent has become more empowered with information than past insurgencies. Often the wars in Iraq and Afghanistan were thought to be two different conflicts however, globalization has brought them extremely close together and the sharing of information has only made them stronger.[78] The idea of insurgent groups operating globally is a vast change from the insurgencies of the 20th Century and with the advent of cell and satellite phone technology and more notably the internet, insurgents have gained a large advantage over counterinsurgents. They are able to readily share information, gain intelligence, obtain financial support, and get their messages out to each other and the international community more easily. This has significantly changed the insurgencies and has meant that the weapons that they use, specifically IEDs, have had and will continue to have a global impact.

Conclusion

This chapter has demonstrated that the insurgencies in Iraq and Afghanistan have evolved from the past Maoist type typically seen by western militaries during the Cold War. Once insurgencies had begun, coalition forces looked to lessons learned from those past conflicts, not taking into account the changes of the 21st Century. Insurgents are no longer looking to over

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[77] Christopher Ford, "Of Shoes and Sites: Globalization and Insurgency," 88.
I went to amazon.com myself and found several books that explain how to build and use IEDs. Books such as "Improvised Explosives: How to Make your Own," by Seymour Lecker and "Anarchist Arsenal: Improvised Incendiary and Explosive Techniques," by David Harber, were one of 339 matches when improvised explosives was used to search the site.

[78] David Kilcullen, *The Accidental Guerrilla,* (New York: Oxford University Press, 2009), 41.

throw their current government and take power. Rather, they are fighting to remove foreign forces from their soil. The insurgent groups are no longer hierarchical in nature and evolved into organizations that are "flat" with decentralized command and control. This has ensured that they are extremely difficult to target and offers very little in terms of a defined centre of gravity for coalition forces to attack. This method of operation, coupled with loose networks that are based on tribal, religious, geographical, and in some cases economic lines, have caused serious problems for Western militaries to understand. Globalization has further ensured that insurgent groups have the ability to communicate more effectively by exchanging and sharing ideas to counter the counterinsurgents, to gather intelligence, to gain financial support and to get their message out internationally, all in a relatively secure manner.

In the complex insurgencies of Iraq and Afghanistan, insurgents use the IED as their weapon of choice. With the complexity of their networks and the failure for coalition forces to adapt to the changes quickly, insurgents have ensured that the IED has been extremely effective and difficult to counter. The next chapter will demonstrate that with the changing nature of insurgencies, IED's have become a strategic weapon used by insurgents to influence the international community, military and political decision makers, as well as the indigenous population. It is a centrepiece to the insurgent information operations campaign and has significant psychological effects not only on soldiers, but the will of the public and politicians in Western nations.

CHAPTER 2 – THE INSURGENT USE OF IEDs

Introduction

Chapter 1 of this paper discussed several characteristics that make the insurgent groups in Iraq and Afghanistan difficult to target and as a result make their primary weapon similarly difficult to target. The IED comes in many different shapes, sizes, and detonation techniques, and it has proven to be the most lethal weapon for insurgents groups in both Iraq and Afghanistan. The Canadian Forces has experienced the lethal effects of IEDs first hand with their participation in the International Security Assistance Force (ISAF) in Afghanistan. All soldiers recognize that the enemy uses IEDs extensively for their operations and that they are a serious threat to the tactical, COIN operations that soldiers conduct. What many of them fail to realize is that although they are a deadly tactical threat, their real value is at the strategic level.[79]

This chapter will focus on the IED as a weapon and discuss why they have become such an important aspect of the insurgencies in Afghanistan and Iraq. It will look at the strategic effects that a tactically employed weapon, such as the IED, can have on the battlefield, showing that the insurgents exploit its use as part of their overall information and psychological operations campaign. While the IED causes casualties, the insurgents are more concerned with

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[79] Dr Eric Ouellet, "Ambushes, IEDs and COIN: The French Experience," *Canadian Army Journal* 11, no. 1 (Spring 2008): 7.

the psychological effect that it has on the battlefield and in coalition home countries, than the

attrition of a military force. When used and exploited IED attacks can successfully target the

will of the local population, the government, coalition forces and international audiences and

influence the strategy and decisions they make. Finally, the chapter will demonstrate that there

are primary and secondary advantages to using IEDs, some with strategic level goals and

secondary advantages at the tactical level.

Casualties caused from IEDs

According to Lieutenant-General Thomas Metz, Director of the JIEDDO, IEDs are a

strategic weapon that the enemy uses ". . . as a terror weapon to discredit our coalition forces and

the Iraqi and Afghanistan governments and to erode our will to fight by exploiting our low

tolerance for casualties."[80] In Iraq and Afghanistan, by mid 2009, more than 52% of all coalition

casualties were directly attributed to IEDs.[81] The number of IED attacks against coalition forces

in Iraq as of July 2008 was just over 40,000.[82] As Figure 4 demonstrates, the number of IEDs in

Afghanistan has increased dramatically since first encountered in that area of operations and they

have continued to climb at an alarming rate.[83] While the figure clearly depicts that coalition

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[80] Glen Goodman, "Interview with Lt Gen. Thomas Metz," *Journal of Electronic Defense* 31, no. 8, (August 2008): 25.

[81]Sheila Bird and Clive Fairweather, "IEDs and Military Fatalities in Iraq and Afghanistan," *The RUSI Journal* 154, no. 4 (August 2009): 31.

[82] Philip Jacobson, "The success of the Homemade Bomb," *The Sunday Times*, 21 September 2008, available from http://spengler.atimes.net/viewtopic.php?t=11652&sid=0567e5761447a556218d368d58d6a5c9 ;Internet; accessed 2 February 2010.

[83]Figure 3 available from http://www.scribd.com/doc/18458827/Final-July-09-IED-Incident-Trends; Internet; accessed 3 January 2010.

forces have found many more IEDs than have been triggered, it gives a clear sense that insurgents have increased the frequency of their use. The insurgents can afford to have IEDs that are ineffective or are found because it only takes one IED strike, from time to time, to have the desired effect and they are relatively inexpensive, especially when compared to the efforts to counter them. When IEDs were first encountered in 2003 and 2004 in Iraq, the ratio was one attack to one casualty, however, the ratio is now roughly seven or eight IEDs to one casualty.[84] This has resulted in more effort for the insurgents in their operations, however the effects that they wish to achieve, especially in Afghanistan at this time continue to work.
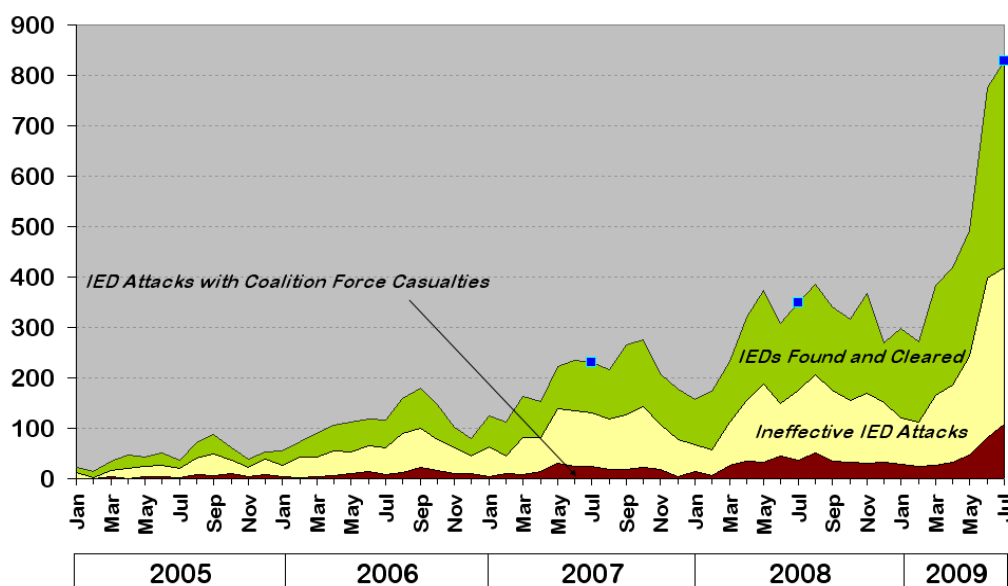
Figure 4 IED Incident Trends in Afghanistan[85]

[84] Philip Jacobson, "The success of the Homemade Bomb," *The Sunday Times,* 21 September 2008; available from http://spengler.atimes.net/viewtopic.php?t=11652&sid=0567e5761447a556218d368d58d 6a5c9*;* Internet; accessed 2 February 2010.

[85] Final July 2009 IED Incident Trends in Afghanistan, available from http://www.scribd.com/doc/18458827/Final-July-09-IED-Incident-Trends ; Internet; accessed 9 January 2010.

In recent years in Iraq, the IED threat has substantially decreased, with many believing it was a result of the methods the coalition forces adopted as part of their overall COIN strategy.[86] The US military implemented a strategy that would see increased amounts of troop levels in 2007 in Iraq in anticipation that they would regain the initiative and the support of the population. This did occur and had the secondary effect of decreasing the amount and sophistication of IEDs faced by coalition soldiers.[87] The IED threat, although not new, has become an extremely important factor in the successful accomplishment of the mission for Western militaries. The insurgents recognize that IEDs are an important piece in their strategy and have and will continue to use them in order to influence political, domestic, and world support.

Insurgent Information Operations

According to Commander John Moulton, the lead planning officer for Combined Joint Task Force Troy in Baghdad, the main purpose of an IED is not to attrite military forces, but to erode domestic, international and political support for the missions.[88] The insurgent's use of Information Operations (Info Ops) is one of the main reasons why the IED has become such an effective weapon on the battlefield. Insurgents have recognized this and the person responsible for media and information within a cell is most often placed in a position of importance,

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[86] Sheila Bird and Clive Fairweather, "IEDs and Military Fatalities in Iraq and Afghanistan," 25.

[87] Thomas E. Ricks, *The Gamble: General David Petraeus and the American Military Adventure in Iraq, 2006-2008*(New York: Penguin Press, 2009), 240. It should be noted that this success cannot yet be fully measured in the overall effect it has had on the security situation in Iraq. It appears in the short term that the surge has been successful.

[88] John Moulton, "Rethinking IED Strategies: From Iraq to Afghanistan," *Military Review* 89, no. 4 (July/August 2009), 29.

typically as the second in command. [89] To further this point, between June and November 2007 in Iraq, US forces captured eight media labs with a total of 23 terabytes of material consisting of footage and photographs of attacks, mostly from IEDs, against coalition forces that had not yet been uploaded to the internet as part of their Information Operations campaign.[90] Filming an IED attack has become an integral component of the attack itself and the visual material provides a powerful means of attacking a nations will to continue fighting.[91] Sites such as YouTube, Google Video and Liveleak contain vast amounts of propaganda material placed there by members of Al Qaeda and the Taliban.[92] We have even seen US news channels use some of the footage provided by insurgents and terrorists because they cannot obtain combat footage on their own. The news networks ABC, CBS, NBC, CNN, and Fox made it regular practice to download footage from these websites.[93]

The insurgents in Iraq, and to a lesser degree in Afghanistan, have used Info Ops as an extremely effective tool in their operations against coalition forces. A Terrorism expert, Bruce Hoffman stated, [what makes] "the insurgency in Iraq so different from previous ones is the insurgents' enormous media savvy."[94] Globalization and technology has allowed insurgents to

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[89] Cori Dauber, "YouTube War: Fighting in a World of Cameras in every Cell Phone and Photoshop on every Computer," available from http://www.strategicstudiesinstitute.army.mil/pubs/people.cfm?authorID=754; Internet; accessed 5 March 2010, 11.

[90] *Ibid.,* 19.

[91] *Ibid.,* 20.

[92] *Ibid.,* 20. If you go to one of these sites yourself and simply type the word Sahab, an al-Qaeda distribution organization, you will come away with hundreds of propaganda videos many showing IED attacks against coalition forces.

[93] *Ibid.,* 22.

place photographs of burning military vehicles and other propaganda on websites that are easily accessible to everyone in the world with a computer.[95] When the population in Canada and the US see these images, coupled with the loss of lives, it leaves serious doubts about the ability of coalition forces to provide security. Insurgents are using the new technologies that have been developed, such as the internet and phones, as a global information network with the main purpose being to attack the coalition's main source of strength, that of public opinion both domestically and internationally, including the populations of Iraq and Afghanistan.[96]

Speed of getting the information out quickly has become increasingly important. In Iraq in particular, insurgent groups were able to get their information out within twenty-four hours of an event or incident.[97] In a report by leading experts from a workshop conducted at the Center for Strategic Leadership as the US Army War College entitled "Bullets and Blogs: New Media and the Warfighter," they came to the conclusion that insurgent forces were able to get their stories out quickly because of decentralized decision making.[98] All of the insurgent groups clearly understood the strategy and the messages, possessing their own ability to capture and deliver the information that they wanted sent out. As the report states, "when insurgent foot soldiers see an opportunity, they are empowered to act instantaneously."[99] The local population

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[94] Brian Ross, "Staying Strong: The Insurgency in Iraq: Many Media Savvy Groups Make for Tough Opponents," ABC News, 20 March 2006, available from http://abcnews.go.com/WNT/print?id=1748161; Internet ;accessed 18 February 2010.

[95] *Ibid.*, 29.

[96] Dr. Donald Wright and Colonel Timothy Reese, *On Point II*, 287.

[97] *Ibid.,* 287.

[98] Deirdre Collings and Rafal Rohozinski, "Bullets and Blogs: New Media and The Warfighter, An Analytical Synthesis and Workshop Report," 25.

[99] *Ibid.*, 25.

would hear and see the insurgent information first and the coalition always seemed to be reacting to the stories or images that were aired and distributed. The result was that the coalition was always one-step behind and could never seem to win the battle for public opinion in the country in which they were operating.

One reason for this is that the insurgents would specifically conduct an IED attack or series of attacks with the intention of using them as a psychological tool.[100] As described above, within minutes of an attack, pictures were posted on the internet and became instant news for the insurgents. According to Cori Dauber, "the true target is not actually that which is blown up or destroyed . . . what is really being targeted is those who are watching at home. The goal after all, is to have a psychological effect of some sort and it is not possible on those who are already dead."[101]

It is logical that the local population, knowing that an incident had occurred, would immediately look for more information on what had happened and turn on the news or go to websites. The pictures and stories can be seen not only by the Iraqi public, but by Muslims throughout the world allowing insurgents to continually garner support for their fight.[102] Even if viewing the material does not positively affect every Muslim, there are some who will provide their support to the insurgent cause. The coalition's ability to counter instantaneous news was

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[100] John Bokel, "IEDs in Asymmetric Warfare," 35.

[101] Cori Dauber, "YouTube War: Fighting in a World of Cameras in every Cell Phone and Photoshop on every Computer," 2.

[102] Brian Ross, "Staying Strong: The Insurgency in Iraq: Many Media Savvy Groups Make for Tough Opponents," *ABC News*, 20 March 2006, available from http://abcnews.go.com/WNT/print?id=1748161; Internet; accessed 18 February 2010.

very difficult because they always needed to go through an approval process that would allow

them to put out their own messages of an incident. They also needed to ensure that they were

reporting the correct facts of any incident, because if they did not, it would strike a blow to their

credibility. On the other hand, insurgent groups did not have to go through an approval process

and they did not have to report the truth, only their version of the truth.[103] The approval process

for US forces in Iraq was extremely cumbersome as the lowest level of authority to approve any

Info Ops message was at least at Brigade level, often going as high as Corps and theatre level.

The US Army Info Ops doctrine states that "commanders from Brigade through echelons above

Corps conduct IO."[104] In a COIN environment such as Iraq, commanders at lower levels need the

flexibility to approve message and make the system less cumbersome and more reactive. This

will be explored more in the chapter 3 of this paper.

Insurgent Advantages in using IEDs

According to John Moulton, the IED has become such a widely used weapon by

insurgents and terrorists groups because it is highly effective and it works better than any other

weapon system they can employ.[105] An attack that is "properly planned and executed, learned

from, video-taped, and propagandized provides an insurgent group with a number of primary and

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[103] Dr. Donald Wright and Colonel Timothy Reese, *On Point II*, 288.

[104] Major Peter Sicoli, "Filling the Information Void: Adapting the Information Operation Message in Post Hostility Iraq" (monograph, US Army Command and General Staff College, 2005), 48.

[105] John Moulton, "Rethinking IED Strategies: From Iraq to Afghanistan," 26.

supporting advantages."[106] The IED is a weapon that gives far more return in terms of the time,

energy and materials that insurgents use, giving them some significant advantages while

avoiding the counterinsurgents combat advantages.[107] These advantages will be discussed in

greater detail below.

By using roadside bombs, suicide bombers and vehicle bourne IEDs, insurgents are able

to choose the target, timing, location and damage of their attacks, allowing them to seize the

initiative from the coalition and government forces.   By using the attacks as part of their

information operations plan, as described earlier in this chapter, they are able to influence

opinion and actions of the indigenous population, the counterinsurgents and their own

populations.[108] If the insurgents strike the wrong target, such as hitting women and children, then

their information operations will not have the desired effect and the insurgents will be at a

disadvantage because they will not be able to maintain the support of the population.[109]

Primary Advantages-The IED as a Tool of Influence

IEDs have been used as a tool of political and symbolic violence in many conflicts and

for an extended period of time with an example being the Irish Republican Army's (IRA) attacks

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[106] James Martin, "Dragon's Claws: The Improvised Explosive Device as a Weapon of Strategic Influence," 35.

[107] Evan Colbert, "The Devil's Right Hand: Understanding IEDs and Exploring their use in Armed Conflict," (master's thesis, Naval Postgraduate School, 2007), 50.

[108] James Martin, "Dragon's Claws: The Improvised Explosive Device as a Weapon of Strategic Influence," 36.

[109] Timothy Powledge, "Beating the IED Threat," *Marine Corps Gazette*, 89 no. 5 (May 2005), 65.

against civilian targets in the United Kingdom.[110] They have numerous advantages, both

tactically and strategically and because they improvised in their nature, they can be used in an

unlimited number of ways in order to achieve a variety of objectives.[111] IEDs are usually

employed in a tactical manner and often cause death or serious injury to soldiers and physical

damage to equipment and infrastructure. However, the way the insurgents exploit its effects,

through their use of information operations, causes it to be a very symbolic weapon capable of

effecting the decision making process of high level military and political leadership.[112] What this

essentially means is that the effects of the detonation of an IED reach far beyond the immediate

target that it hits, after the detonation, the attack continues to affect the "target of influence."[113]

The IED is a weapon that not only has a tactical effect, but a strategic one as well as it

continually attacks the will of the counterinsurgent, the indigenous population, the government

on a domestic front, as well as international opinion. We have seen this in Canada, particularly

in 2007 as a result of the growing casualty rate in Afghanistan as there was a parliamentary

debate on whether or not the mission is worth the risk to our soldiers.   With pressure from

parliament and Canadian citizens, Prime Minister Harper in October 2007 called for an

independent panel to investigate the way ahead for Canada's involvement in Afghanistan.[114]

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[110] Ibid., 23.

[111] John Bokel, "IEDs in Asymmetric Warfare," 34,

[112] James Martin, "Dragon's Claws: The Improvised Explosive Device as a Weapon of Strategic Influence," 24.

[113] *Ibid*., 24. The target of influence refers to the people that the insurgents are trying to persuade or change their behaviour or will.

[114] CBC news report, "Canada in Afghanistan," availabe from http://www.cbc.ca/canada/story/2009/02/10/f-afghanistan.html ; Internet; accessed 13 March 2010.

With the number of casualties continually mounting, there has been ongoing pressure by the public for the CF to pull out of Afghanistan, which it will in 2011. IEDs have played a direct role in influencing the opinion of the Canadian public because of the deaths that they have caused. For example, in a poll conducted by SES research in 2008, they found that 55% of Canadians felt that if casualties continued to grow then Canada should pull out of Afghanistan.[115] Similarly, in 2009 they conducted a subsequent poll asking if Canadians opposed the pull out of Canadian troops. Just over 60% said they fully support the idea and 17% said they somewhat support the withdraw of the Canadian military due to increasing casualties.[116]

In "Things Come Together: Symbolic Violence and Guerrilla Mobilization," Gordon McCormick and Frank Giordano identify three effects that violence can have in the symbolic sense. They are the agitation effect, provocation effect and demonstration effect, which sometimes have immediate effects and others are over a longer period of time in order to achieved a strategic goal.[117] IED attacks, when the images and stories are disseminated and used for information operations, are the key tool to aid insurgents in these effects.

Agitation is violence that can be used to let everyone know that there is opposition to the current regime and "before the opposition can even begin the process of building a base of popular support, it must first be able to disrupt the system's inertial stability."[118] The insurgents use violence to disrupt the government and coalition forces stability, as well as a tool to

[115] SES Research on Canadians on the Mission in Afghanistan, available from http://www.nanosresearch.com/library/polls/POLNAT-S07-T233.pdf; Internet; accessed 6 March 2010.

[116] SES Research on Canada's involvement in Afghanistan, available from http://www.nanosresearch.com/library/polls/POLNAT-S09-T396.pdf; Internet; accessed 6 March 2010.

[117] Gordon McCormick and Frank Giordano, "Things Come Together: Symbolic violence and Guerrilla Mobilization," *Third World Quarterly* 28 no. 2 (2007), 307.

[118] *Ibid.,* 307.

challenge, disrupt and influence the population in order to gain their awareness. The insurgents

hope that it will cause the indigenous population to be against the status quo in their country.[119]

The use of violence with this effect in mind, is used early on in an insurgency and most often is

extremely devastating, but is not something that they typically use over a long period of time as

it may result in the loss of support of the population.[120] The reason that it cannot be used over a

protracted period of time is that it tends to lose its effectiveness as the population becomes

familiar with it.[121] For example, the IRA's bombing campaign gained support from the Irish

Catholic population, however, due to the continued loss of life in the bombings, the Catholic's

started to desire a political solution to the problem rather that violence.[122]

Provocation is the use violence in order to provoke coalition and government forces into

overreacting.[123] According to McCormick and Giordano, government overreaction alienates the

population from counterinsurgency effects because of the collateral damage that often

accompanies such action.[124] The insurgents then take advantage of this overreaction through

their information operations, further alienating the population. The coalition forces implement

excessive countermeasures in an attempt to protect themselves and infrastructure against

insurgent attacks, pushing the population further towards supporting the insurgency. The

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[119] *Ibid.,* 307.

[120] James Martin, "Dragon's Claws: The Improvised Explosive Device as a Weapon of Strategic Influence," 31.

[121] Thomas Thornton, "Terror as a Weapon of Political Agitation," in *Internal War*, ed. Harry Eckstein, 339 (London: The Free Press of Glencoe Collier-Macmillan Limited), 339.

[122] James Martin, "Dragon's Claws: The Improvised Explosive Device as a Weapon of Strategic Influence," 31.

[123] Gordon McCormick and Frank Giordano, "Things Come Together: Symbolic violence and Guerrilla Mobilization," 309.

[124] *Ibid.,* 308.

insurgents use the IED as a tool to provoke a reaction from coalition forces. An example is the use of suicide bombers that are sent to strike a target. In most cases the victims of the attack were unaware of what was about to happen and the situation quickly turns chaotic has a profound psychological effect on the victims and the witnesses. These initial feelings can immediately cause an overreaction with soldiers conducting extensive searches of the area, questioning and detaining civilians and becoming overly aggressive. The enemy is well aware that IED attacks cause this type of reaction and in some cases film the events in the aftermath to use them as part of the Info Ops campaign.[125]

Demonstration is the use of violence to present the impression that the insurgents are strong and the coalition and government forces are weak.[126] What is important about this effect is that it is about the population and who they think is the element that is in control of the situation.[127] In many cases, the population will choose the side that has the perceived power because they are potentially afraid of what may happen if they support the other side. An example of this was what took place on 21 July, 1972 in Belfast. The IRA set off 26 coordinated car bombs after the British government implementation of direct rule. The IRA intended these bombings to be a demonstration that they were in control of the situation and if you supported the British, there was a good chance that you could be a target in a car bombing.[128] In the demonstration effect the IEDs, whether they are successful attacks or not,

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[125] James Martin, "Dragon's Claws: The Improvised Explosive Device as a Weapon of Strategic Influence," 41.

[126] Gordon McCormick and Frank Giordano, "Things Come Together: Symbolic violence and Guerrilla Mobilization," 309.

[127] *Ibid*., 309.

[128] James Martin, "Dragon's Claws: The Improvised Explosive Device as a Weapon of Strategic Influence," 32.

continue to demonstrate that the insurgents have the ability to go on the offensive. This is another reason why, as shown in Figure 1, the use of IEDs by insurgents has grown over time, to continue to demonstrate, or at least try to, that they still have the initiative.

Another effect that McCormick and Giordano do not discuss is the cumulative effect that multiple attacks can have during a conflict or campaign. In his book, *Insurgency and Terrorism: From Revolutionary to Apocalypse*, Bard O'Neill states that "cumulative acts of violence wreak havoc and create insecurity, which will eventually produce a loss of confidence in the government."[129] With IED attacks and the violence seen in Iraq and Afghanistan on television sets and in newspapers around the world, it eventually begins to erode and influence a nations home populations feelings for their soldiers being in those countries. For example, in Canada a study that was published in 2009 indicated that 65% of the population feels that Canada's mission will not be successful in Afghanistan and 56% either strongly disapproved or somewhat disapproved of Canada's continued participation with the conflict.[130] These numbers are the highest since Canada started their mission in 2002 in Afghanistan and with growing casualties will only get worse.[131]

The same can be said for US forces in Iraq. The US has noted that, "the strategic goal of one organization of users is to inflict casualties on their opponents forces in an attempt to demoralize them. Such is the case in Iraq where roadside bombs are used to erode the will of US

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[129] Bard O'Neill, *Insurgency and Terrorism: From Revolutionary to Apocalypse*, (Washington DC: Potomac Books, 2005). 62.

[130] Fragile States Report No. 20, Afghanistan, available from http://www.carleton.ca/cifp/app/serve.php/1223.pdf;Internet; accessed 10 February 2010.

[131] CBC News, *Public Support for Afghan Mission Lowest Ever,* September 2008, available from http://www.cbc.ca/canada/story/2008/09/05/poll-afghan.html; Internet; accessed 10 February 2010.

politicians and citizens through high service-member casualty rates."[132] Cumulative acts of violence, especially those that cause death to coalition soldiers and are propagandized with the tools of the information age, ultimately change the level of support for the conflict.[133] It will influence the strategic decision making of the leadership of a country, especially when the population is against the continued participation.

There is also a cumulative effect for coalition soldiers faced with fighting in a protracted conflict. It is described as "psychological attrition" where the anxiety of survivors who have experienced the loss of a fellow soldier and must continually face attacks when they leave "the wire," are prone to overreaction.[134] Over time, these daily attacks against them will start to affect their morale to the point where they begin to question their own reason for being there, something that only continues to push them further away from the local population.[135] Insurgent groups use the IED to continually attack the psychological capacity of the local population, coalition soldiers, and the international community so they can influence them in order to achieve their own goals.

Secondary Advantages-Resources, Production and Employment

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[132] Evan Colbert, "The Devil's Right Hand: Understanding IEDs and Exploring their use in Armed Conflict," 77.

[133] James Martin, "Dragon's Claws: The Improvised Explosive Device as a Weapon of Strategic Influence," 34.

[134] *Ibid.*, 42.

[135] *Ibid.*, 34.

The primary advantage in the use of IEDs is the psychological effect that they have, however there are also some secondary effects that are highly beneficial to the insurgent. They are cheap compared to counter-measures employed by coalition forces, the resources needed to manufacture them in Iraq and Afghanistan are readily available, and the nature of their employment allows for high success rates and survivability for the insurgents.

The IED is an extremely versatile weapon that can be manufactured quickly out of readily available materials and can be quickly deployed once built.[136] In contrast, coalition counter measures to protect the force have been extremely expensive. A good example is the Mine Resistant Ambush Protected vehicle (MRAP), that were purchased by the US military. The vehicles themselves have been instrumental in saving the lives of coalition soldiers in Iraq and Afghanistan, and the US has sold them to other countries as well. However, MRAP is a multi-million dollar vehicle that is protecting against a weapon worth no more than $100 and the $100 IED inevitably seriously damages or destroys the MRAP, even if it does save the lives of the crew.[137] There are three key reasons why IEDs are tactically advantageous for the insurgents. The components for IEDs are readily available to them, the production is easily done with minimal risk, and their employment allows few insurgents to come into contact with their enemy.[138]

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[136] Rick Atkinson, "Left of Boom: The Fight Against Roadside Bombs," *The Washington Post* (30 September 2007) available from http://www.washingtonpost.com/wp-srv/world/specials/leftofboom/index.html ; Internet; accessed 2 February 2010.

[137] Anne Roosevelt, "IEDs are Strategic Weapons," *Defense Daily* 238, no. 58 (2008), 1.

[138] James Martin, "Dragon's Claws: The Improvised Explosive Device as a Weapon of Strategic Influence," 44.

Resources for building IEDs are easily available, inexpensive, and the explosive itself is simple to build and can be delivered very easily to its intended target.[139] An IED consists of essentially four components, a main charge, an initiator, a power source and a switch. The main charge is the explosive component of the IED and in failed or failing states such as Iraq, they were obtained them quite easily. After the invasion of Iraq was completed by the US, Iraqi munitions sites were cleared out of their explosive material. One site in Al Qaqaa had 380 tons of explosive that went missing in the aftermath of the invasion.[140] In agricultural countries, such as Afghanistan, items that can be used for building explosives are easily available and insurgents can easily learn how to construct them from the internet.[141] While explosive material in Afghanistan is not the military type found in Iraq, it is just as dangerous with the insurgents using two types of fertilizer; potassium chloride and ammonium nitrate.[142]

The initiator or blasting cap can be obtained from military installations left unguarded much as they were in Iraq at the Al Qaqaa site. In Afghanistan the IEDs are not quite as sophisticated to this point as they are not using shaped charges and do not require military ordinance of this type to be initiated. They are initiated using homemade blasting devices such as a modified flash bulb or a percussion primer, essentially any component that will produce a

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[139] William Adamson, "An Asymetric threat invokes strategic leader initiative: The Joint Improvised Explosive Device Defeat Organization," (research paper, The Industrial College of the Armed Forces, National Defense University, 2007), 10.

[140] Adrian Wilkinson, James Bevan, and Ian Biddle, "Improvised Explosive Devices: An Introduction," available from http://www.smallarmssurvey.org/files/sas/publications/b_series_pdf/CAiS/CAiS%20CH14%20IEDs.pdf; Internet; accessed 19 February 2010.

[141] James Martin, "Dragon's Claws: The Improvised Explosive Device as a Weapon of Strategic Influence," 44.

[142] Spencer Ackerman, "The IED Threat Right Now," *The Washington Independent,* available from http://washingtonindependent.com/79137/the-ied-threat-right-now; Internet; accessed 6 March 2010.

spark or flame.[143] The power source is much easier to obtain than any other component and is

simply a battery or series of batteries hooked up to give power to initiate the charge. The switch

can be as complex as infra-red sensors, a cell phone, or simply touching to ends of wiring to a

battery.[144] Virtually all of the components are easily available to insurgent groups in Iraq and

Afghanistan, with resupply coming from outside areas if required.

There are a vast number of production advantages to the insurgents but the biggest

advantage is that they are easy to build, taking minimal training.[145] Basic IEDs found in

Afghanistan can be passed on from one insurgent to another in a short period of time and can be

passed globally through the use of the internet. More complex IEDs, such as Explosively

Formed Projectiles (EFPs), will need to be constructed by persons with greater knowledge of

explosives, however the bottom line is that most rudimentary IEDs that were encountered in Iraq

and more so in Afghanistan could be built will minimal knowledge. The second advantage they

have in production is that they can be easily modified to deal with coalition changes in tactics

and procedures. For example, with the use of jamming devices for IEDs operated with cell

phones, the insurgents started to use command pull or command wire IEDs more extensively.

The actual IED was the same, but the method in which it was initiated had changed.[146]

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[143] Adrian Wilkinson, James Bevan, and Ian Biddle, "Improvised Explosive Devices: An Introduction," available from http://www.smallarmssurvey.org/files/sas/publications/b_series_pdf/CAiS/CAiS%20CH14%20IEDs.pdf; Internet ; accessed 19 February 2010.

[144] John Moulton, "Rethinking IED Strategies: From Iraq to Afghanistan," 27.

[145] James Martin, "Dragon's Claws: The Improvised Explosive Device as a Weapon of Strategic Influence," 45.

[146] IEEE Spectrum. "Countering IEDs." 45 no. 9 (September 2008); Journal on-line; available from http://spectrum.ieee.org/aerospace/military/countering-ieds/4; Internet; accessed 19 February 2010.

Concerning the employment of IEDs, they tend to be detonated close to their target having the same effect as a precision guided weapon with the intent of inflicting minimal collateral damage but destroying the intended target. [147] It also allows for the insurgency to use a powerful weapon while exposing only a small number of people to coalition soldiers. Often the "triggerman" is hundreds of meters away waiting for the target and once he detonates the device, he is able to quickly leave the area without being seen.[148] With larger IEDs such as vehicle bourne or suicide bombers there seems to be no lack of volunteers to give their lives for their cause.[149] If there is a shortage of people for this type of task, the insurgents have been known to use young children and mentally ill persons to carry the device, which is subsequently detonated by remote control.[150]

The employment of IEDs, which we have demonstrated have strategic implications, allow the insurgents to fight a conflict based on economy of force. The IEDs are cheap, readily available, easy to manufacture and allow the insurgents to use minimal manpower in their employment. In the early stages of the conflicts in Iraq and Afghanistan, militaries tried to solve the IED problem with technology, however the insurgencies were able to easily adapt to and continue their struggle.

Conclusion

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[147] John Moulton, "Rethinking IED Strategies: From Iraq to Afghanistan," 27.

[148] *Ibid.*, 27.

[149] James Martin, "Dragon's Claws: The Improvised Explosive Device as a Weapon of Strategic Influence," 47.

[150] *Ibid.*, 47.

This chapter has focussed on the IED and shown that it is a weapon used with tactical benefits but has strategic level consequences. It is a weapon the insurgents use as a tool of influence against coalition forces with the goal of weakening their will both on the battlefield and on the home front. When they execute their operations, they do so with this strategic goal in mind. The effects of agitation, provocation and demonstration, are all intended to influence the insurgents' enemy into acting and thinking in a manner that will assist the insurgent in achieving their aims.

Initially, this chapter discussed the rising threat of the IED and demonstrated that since the insurgencies have started they have increased dramatically. While the IED causes casualties, it is more about the psychological and influential effect that it has on the battlefield and in home countries, than the attrition of a military force. It then discussed the insurgent information and psychological operations campaign and how it is used as a tool of influence or order to achieve an overall effect. Finally, it demonstrated that there are primary and secondary advantages to using IEDs, some with strategic level goals and secondary advantages to its use at the tactical level.

The first two chapters have demonstrated that the insurgents in Iraq and Afghanistan, once the insurgencies commenced, had the advantage in both of those conflicts. Coalition forces were unprepared for the complexities and nature of the insurgencies, they initially did not understand the strategic implications of the IED as an influential weapon. Chapter 3 will look at the initial solutions to the problem and how Western militaries focussed on technological and tactical methods that were defensive and reactionary in nature. It will further demonstrate that the best way to counter the IED threat in the insurgencies in Iraq and Afghanistan, is to have an

understanding of the battlespace environment allowing coalition forces to be more offensive in nature.

CHAPTER 3 – HOW TO DEFEAT THE IED THREAT

Introduction

Western militaries have attempted to defeat IEDs through various means, most notably attempting to better protect their soldiers by providing them with more armour protection for both their vehicles and the individual, and providing them with equipment and tactical drills that aid in the detection of the devices. The problem with this approach is that it is reactive in nature and only attempts to defeat an IED at the point of detonation or emplacement. Throughout the years of the insurgencies in Iraq and Afghanistan, coalition forces have come to realize that the most effective means in defeating the IED threat does not exist in more protection but a more offensive approach to counter-IED and information operations.

This chapter will contend that the most effective method in defeating the IED threat is by Attacking the Network itself through increased intelligence methods, including analysis of the insurgents to provide an improved understanding of the environment within which coalition forces are operating. In attacking the network, it is possible to defeat the IED before it is deployed. Furthermore, when an IED attack does take place, it is essential that coalition forces become more proactive and aggressive in the information operations realm. This entails using new media resources to the fullest possible extent and decentralizing the authority for releasing information in order to force the insurgents to be more reactive to events.

Initially this chapter will outline the process that insurgent groups use to manufacture, finance and put to use their IEDs, demonstrating that the most effect method in defeating the device is to attack it well before it is ready for use. There is a chain of events in the use of IEDs, of which detonation is the last event. It is far more efficacious to interrupt this chain early in the process, which necessarily obviates the detonation of the IED. In order to achieve this however, it is imperative that coalition forces understand the operating environment in terms of culture and the interrelationships of the insurgents with each other. This is achieved through sound intelligence operations and an analysis of the insurgency, thereby allowing coalition forces to target the IED chain. Further, the chapter will outline that intelligence needs to become more centralized and shared amongst the coalition allowing for a more comprehensive approach to attacking IEDs.

Finally, the chapter will discuss the area of how to attempt to defeat or lessen the effect of the IED at a strategic influential weapon. The final portion of the paper will demonstrate that Western military forces need to become more perceptive in terms of using the new technology that has been developed in the last several years.

The Insurgent IED System

It is necessary for insurgents to conduct a large number of activities to ensure a successfully executed IED attack. These activities will include personnel, resources, and actions that are all part of the IED system as seen in Figure 5. Most often IED systems include a number of individuals, however, there is no firm template and in some cases one individual may be

responsible for several roles or tasks within the system itself.[151] What is important to note in the

IED system is the attack is only one facet within the entire chain of events that must occur as

there are multiple people and actions involved. The events in this system, because it is not

hierarchical, are not easily translated into tactical, operational or strategic level categories.

What this means is that there is no high level authority giving insurgents overall guidance on

when and how to attack targets, it is all executed within the IED cell itself. Insurgents may get

the resources from outside their own group but it is up to them when and where they place an

IED.   What Figure 5 describes is that an IED system can be broken down into three re-occurring

phases of action; resources and plan, execute and exploit. Each phase occurs sequentially for

one IED attack, however, they will continually occur based on the insurgents concept of

operations.[152]

Resource and Plan

This phase of the IED system includes all the activities associated with obtaining the

financial and technical support for IED production, the training and recruiting (if required) of

personnel, and finally actually getting the material to construct the IED. All of this occurs on

both the international stage and with local support and is usually completed by the leadership of

an IED organization. Once the IED is actually constructed, it will be delivered and a general

plan on its use will be developed.[153]

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[151] Department of National Defence, B-GL-323-004/FP-0XX Canadian Joint Forces Publication , *Countering Improvised Explosive Devices (Draft),* 1-8.

[152] *Ibid*., 1-7.

Execute

At this point the actual plan has been developed and surveillance of a target area has occurred by the insurgents. Once a suitable location has been identified, rehearsals will occur and the IED will be moved to the target area for emplacement. Once placed, the triggerman will monitor the area and detonate the device at the optimum time, subsequently making their escape using a pre-planned route. This is the simplest form of attack and in more complex operations, the triggerman may stay to detonate secondary devices, depending on the nature of the IED.[154]

Exploit

There are normally two forms of exploitation, either assessment or publicized success. Insurgents will assess the damage they have created and will continue to monitor the area immediately following the blast allowing for lessons learned for future attacks, as well as knowledge of coalition TTPs. In doing this, they will become more effective and adapt their procedures. IED attacks are crucial to the insurgent's overall information operations strategy and they will most likely, if the situation allows it, record images in order to publicize the attack as discussed in Chapter 2.[155]

Subsystems within the IED System

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[153] *Ibid.*, 1-8.

[154] *Ibid.*, 1-8

[155] *Ibid.*, 1-8.

The IED system has several sub-systems that interact in order to carry out an IED operation or campaign. These subsystems, shown in Figure 5, are all inter-dependant on one another but certain activities are isolated by time and distance, making it even more difficult to target.[156] The human aspects within the sub-systems operate in a decentralized nature allowing for shorter planning cycles, quick and timely decision making and better flexibility and security. Not every IED system is the same as depicted in Figure 5, but they all have a very similar organizational pattern. They typically follow the same sequence of events in gathering personnel and material, manufacture the IED, place the device, conduct the attack and then evaluate the results always applying a lessons learned approach to their activities.[157]
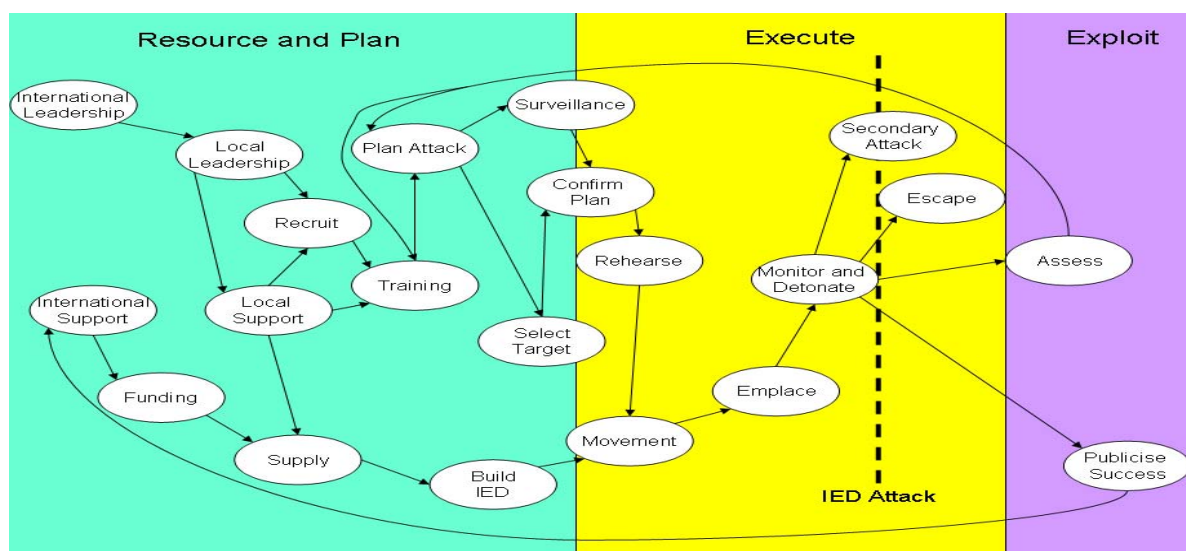

Figure 5 – Example of Nodes and Linkages in the IED System[158]

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[156] *Ibid*., 1B-1.

[157] *Ibid*., 1B-3.

[158] *Ibid*., 1B-1.

The material side of the IED sub-systems consists of all the pieces required to make the weapon including a main charge, initiation device, detonator, a power source, and a container (as described in more detail in chapter 2). For coalition forces, knowledge of IED components and where to obtain them are critical in exploiting the system and ultimately defeating it. This knowledge leads to intelligence, the gathering of evidence against insurgents for criminal convictions, the cutting off of critical supplies and the ability to develop counter measures.

Coalition Doctrine

The CF and NATO allies conduct their counter-IED operations in three areas that are intended to win the battle against the IED. Those three areas are Defeat the Device, Prepare the Force and Attack the Network. Defeating the Device are all those measures taken which have an immediate effect and directly save lives such as the use of robots to disarm an IED.[159] This also includes the identification of insurgent tactics and techniques in emplacing IEDs, the protection of coalition forces and the development of technologies in order to detect and disrupt IEDs. Prepare the Force simply refers to properly training counterinsurgent forces to conduct operations in an IED threat battlespace by instructing soldiers on effective methods to recognize an IED threat and how to conduct drills at the tactical level to detect an IED.[160]

Attacking the Network focuses on proactive action that targets the IED system and sub-system and prevents the IED from being deployed in the first place. This is done by denying the supply of components and financial resources to the insurgent, and attacking key nodes of the

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[159]*Ibid*., 2-3.

[160] *Ibid*., 2-3.

sub-system such as training and manufacture facilities as well as the bomb makers themselves.[161]

While both Defeating the Device and Preparing the Force are an important piece of counter-IED

operations, the insurgents will continue to seek new tactics and methods to counter coalition

forces.[162] The best method in preventing an IED attack, therefore, is to break the chain of events

early on and attack the system or network before it can be emplaced.[163] According to Colonel

Omer Lavoie, the Canadian counter-IED Task Force Commander, "A lot of good work has gone

into neutralizing an IED once it is found or mitigating the blast of IED once it goes off, but we

want to shift that focus from being device centric, to going after the networks that were

emplacing the device in the first place."[164] Coalition forces, in the past few years have started

making strides and working towards this goal and have been successful in both Iraq and

Afghanistan, although they have not managed to stop all IED attacks.[165]

The official term used by coalition forces to Attack the Network has become Left of

Boom where the IED is targeted before it detonates.[166] An IED system and all of its related sub-

systems have vulnerabilities that can be exploited and the key is to understand the system itself

and that the IED attack is only one portion of the overall cyclical nature of the attack.   The best

method in understanding the system and how the insurgents operate their IED activities is

through the use of intelligence that will enable coalition forces to target the system.

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[161] *Ibid*., 2-3.

[162] Dr Eric Ouellet, "Ambushes, IEDs and COIN: The French Experience," 22.

[163] Department of National Defence, B-GL-323-004/FP-0XX Canadian Joint Forces Publication , *Countering Improvised Explosive Devices (Draft)*, 1B-4.

[164]Adam Day, "Left of Boom," *Legion Magazine*, 19 January 2009, available from http://www.legionmagazine.com/en/index.php/2009/01/left-of-the-boom/; Internet; accessed 20 December 2009.

[165] *Ibid.*

[166] *Ibid.*

Attacking the Network through Intelligence

What will enable coalition forces to go about Attacking the Network and have the ability

to conduct Left of Boom operations? One of the first things that coalition forces did, most

notably the US in 2005, followed by Canada and Australia in 2007, was to create centralized

counter IED organizations allowing for a collaborative approach for coalition forces to

synchronize actions at the strategic level with US, Canada, and Australia's main focus on

Attacking the Network.[167] These organizations work as the centre point for the intelligence

gathering process that allows coalition forces to have a synchronized strategic effect in the IED

campaign. In the early years of the operations in Iraq and Afghanistan, counter IED operations

were not focussed at a higher level because there was no organization or centre of excellence that

specifically collated all the information and intelligence about IEDs from the tactical level. With

the development of the national level counter IED organizations, they are able to gathering all of

the relevant information, synthesize it, and help direct counter IED operations in the theatre.

There is some debate on the validity and effectiveness of these organizations within the

military as the organizations have no true authority to prosecute the battle against IEDs. The

JIEDDO is seen by some senior US military leadership as a "bureaucratic organization that lacks

the agility to react quickly to a changing enemy and has no legal authority for other Department

of Defense entities to act."[168] What this essentially means is that the counter IED organizations

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[167] Phil Winter, Alex Meiliunas and Steve Bliss, "Countering the Improvised Explosive Devices Threat," *United Service* 59 no. 3 (September 2008), 9.

[168] Lieutenant Richard Ellis, "JIEDDO:Tactical Success mired in Organizational Chaos; Roadblock in the C-IED Fight," (research paper, Joint Forces Staff College, 2007), 2.

cannot order any operational unit or headquarters to conduct a task, they are merely there to enable the counter IED efforts. It is these efforts where they play a critical role, by acting as the focal point for all issues in regards to IEDs, by continually developing resources for protection and enabling the process of Attacking the Network at the operational and tactical levels.

An example of Canada's counter IED task force enabling units in Afghanistan is the work they do with the counter IED squadron that operates in Kandahar province. The counter IED squadron consists of experts such as engineers and analysts who coordinate counter IED efforts at the tactical level in Afghanistan. The counter IED task force enables the squadron in terms of intelligence resources from several agencies, such as the Communications Security Establishment (CSE) and the Canadian Security Intelligence Services (CSIS), that may lead to a target being prosecuted by Special Forces or other means. It may also entail the development of a new technique for detection or protection to be implemented by soldiers while conducting patrols and other operations.[169] The intelligence that is gathered by the counter-IED squadron's work at the tactical level is pushed up to the task force and shared amongst coalition organizations such as Task Force Paladin, a US organization created in 2007 to assist in combating IEDs in Afghanistan and an organization that the Canadian squadron closely works with.[170]

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[169]Adam Day, "Left of Boom," *Legion Magazine*, 19 January 2009, available from http://www.legionmagazine.com/en/index.php/2009/01/left-of-the-boom/; Internet; accessed 20 December 2009.

[170] Christine Romo and Stephanie Walsh, "US Military Fights Rising IED Attacks in Afghanistan," *ABC World News,* 24 July 2009 available from http://abcnews.go.com/WN/story?id=8160160 ; Internet; accessed 16 April 2010.

Intelligence is nothing new on the battlefield and it has always had an important role. The difference in counterinsurgency and irregular warfare operations is that the enemy is often elusive and indistinguishable from the population.[171] In conventional warfare it is much easier to identify the enemy and intelligence is gathered to support the decision making process for military commanders to determine a course of action that will allow them to be successful. In COIN operations intelligence is developed to identify insurgents and their locations, as well as attempting to determine their command structure and relationships with other organizations and groups.[172] This is also true of conventional intelligence, which seeks to identify the order of battle, doctrine, and location of units. In a COIN sense military intelligence starts to resemble that of police forces in that they are trying to identify people and in the case of IEDs, using forensics to assist them in making connections to the chain of who and where the IED came from. An example of this is the work that is completed by the explosive ordinance disposal teams (EOD) and the Combined Explosives Exploitation Cell (CEXC) in both Iraq and Afghanistan. The largest difference between police and military intelligence in COIN comes down to the cultural aspect. Iraq and Afghanistan consist of complex tribal systems that have been in existence for generations and it takes an entirely different effort to understand how this interacts with the insurgent IED problem. In this sense, military intelligence experts also need to become well versed in the tribal systems and connections in Iraq and Afghanistan, making the problem much more complex.[173]

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[171] Walter Perry and John Gordon, "Analytic Support to Intelligence in Counterinsurgencies," (Santa Monica: The RAND Corp., 2008), 13.

[172] *Ibid*., 15.

One of the methods used to understand and target the insurgencies is suggested by David Killcullen, a COIN expert, in his paper "Countering Global Insurgency." In his paper, he discusses the idea that a complex adaptive system can be used to model current insurgencies in Iraq and Afghanistan and guide the counterinsurgent in their analysis of the insurgent organization. He proposes that to counter the global insurgency a strategy of disaggregation should be used to dismantle the insurgency so it cannot function on a global scale.[174] Killcullen uses Iraq as a case study to demonstrate that by analyzing the insurgency as a complex adaptive system, the counterinsurgent can identify key nodes, subsystems, links and interactions between the insurgents.

A complex adaptive system suggests that insurgencies are social systems that form in societies when "pre-existing elements (grievances, individuals, weapons and infrastructure) organize themselves into new patterns of interaction involving rebellion, terrorism, and other insurgent activity."[175] By using and understanding this model it allows the counterinsurgent to understand the environment, the nodes and links, and sub-systems that consist of the insurgency. He stresses that this is not a fixed blueprint in dealing with the insurgencies in Iraq and Afghanistan, as they are constantly evolving and must be continually reassessed, but rather he demonstrates how the method can be used to form a counterinsurgency campaign.[176] Similar to

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[173] Combined Arms Centre Blog, "Reflections from Dr Jack." Available from http://usacac.leavenworth.army.mil/blog/blogs/reflectionsfromfront/archive/2010/01/07/afghanistan-fixing-intel.aspx ;Internet; accessed 16 April 2010.

[174] Walter Perry and John Gordon, "Analytic Support to Intelligence in Counterinsurgencies," 15.

[175] David Killcullen, "Countering Global Insurgency," available from http://smallwarsjournal.com/documents/kilcullen.pdf; Internet; accessed 6 March 2010.

[176] For more in depth information, see Appendix C of Killcullen's article "Countering Global Insurgencies."

the complex adaptive system, is the social systems approach used to assist in understanding an insurgency. Also called link analysis, the term the CF uses, and network theory, it constructs and analyzes a diagram made up of nodes that link individuals and organizations.[177] In doing this coalition forces will be able to identify key players and organizations thereby allowing them to target the areas that will have the most effect on the insurgency.[178]

The complex adaptive systems approach and the social systems approach are two very similar approaches used to identify and understand the insurgencies in Iraq and Afghanistan. What they all share in common is the understanding that the insurgencies are highly complex systems and they are linked by social and cultural identifies. In order to apply a systematic approach in understanding the insurgencies, sound intelligence and information of the population in Iraq and Afghanistan are instrumental for success in defeating the IED chain.   It is this cultural awareness and understanding that will allow coalition forces to be successful in Iraq, Afghanistan, and future COIN conflicts. While the notion of sound intelligence gathering and using a systematic approach in understanding the environment and culture seems obvious at this point, it took several years to fully appreciate the requirement. Countering the IED threat is only one piece of targeting the insurgencies but because of their strategic effect, it should be the main effort in Iraq and Afghanistan for intelligence collection.

Within Afghanistan, there is still much concern with regards to the intelligence process that is in place. In a paper written by Major-General Michael Flynn, Captain Matt Pottinger, and Paul Batchelor in January 2010 entitled "Fixing Intel: A Blueprint for Making Intelligence

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[177] *Ibid.*, 16.

[178] Brian Reed, "A Social Network Approach to Understanding an Insurgency," *Parameters, US Army War College Quarterly,* (Summer 2007): 21.

Relevant in Afghanistan," they argue that the US and ISAF intelligence collection efforts have been focussed too much on insurgent groups themselves and not enough focus on the people and the environment.[179] Intelligence cells in units and headquarters effectively summarize classified human intelligence, signals intelligence and other violent actions, however the rarely gather and process assessments on census data, patrol debriefs, reports from meetings with local tribal leaders and villagers, and after action reports.[180] Their paper gives credence to the notion that we still are not making intelligence and cultural understanding a relevant piece of the overall strategy.

Many coalition countries have established their own national counter IED organizations, however, this has not direct feed or authority into the multi-national regional commands. One of the ideas that Major-General Flynn's paper stresses is the need for special team of analysts that work in what they call "Stability Operations Information Centers." Each Regional area within Afghanistan will have their own single information center that will be able to provide intelligence of insurgent groups, the people and the environment and will be accessible to all ISAF intelligence cells.[181] The regional cell construct will be responsible to integrate all of the information collected by Provincial Reconstruction Teams, Civil Military Cooperation and

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[179] Major-General Flynn, Captain Pottinger, and Paul Batchelor, "Fixing Intel: A Blueprint for Making Intelligence Relevant in Afghanistan," (Centre for a New American Secuirty, Voices from the Field, January 2010), available from http://www.cnas.org/files/documents/publications/AfghanIntel_Flynn_Jan2010_code507_voices.pdf; Internet; accessed 6 January 2010.

[180] *Ibid.,* 7.

[181] *Ibid*., 21.

Psychological Operations teams, Afghan liaison officers, manoeuvre units, and other non-governmental development agencies. What is important about this concept is that the analysts will not simply work from a protective base and sift through reports. The concept entails analysts retrieving information from the ground level by visiting the reconstruction teams, Afghan officials, tactical level units and all of the other elements that play a role in information collection.[182] The reason for this is that very little of the information that these lower level organizations produce ever makes it to the regional level command centres and their analysts. Some of the reports are sent up the chain of command and into intelligence cells but get lost "in one of the many classified and disjointed networks that inevitably populate a 44 nation coalition."[183] The notion of sending analysts to retrieve the information is not to suggest that they partake in combat patrols or other operations, but they would be "information integrators" gathering data already collected and bringing it back to a centralized location. Once the information is back to the information centres the analysts would be able to gain a clearer picture of who the key personalities are, how local attitudes are changing if at all, any evolution in enemy tactics, why farmers were planting more or less poppy seed, and a host of other items. This would provide a district focussed picture and consistently updated reports for the understanding of the environment and culture for commanders and soldiers, allowing them to better execute operations.

It is felt that these information centres will pay dividends in the fight against IEDs as they will be able to effectively use a unified systematic approach in analysing the insurgent system for

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[182] *Ibid.,* 17.

[183] *Ibid.,* 17.

each area and there will be a single center responsible for understanding Afghanistan's social and cultural landscapes. While these centers will not be solely dedicated to counter-IED operations, it is the overall battle of persuading the population and targeting key IED nodes that will allow for success.[184]

Defeating the IED as a Strategic Weapon

Chapter 2 discussed how insurgents, particularly those in Iraq and Afghanistan, have used IEDs as a weapon that has strategic level consequences. IED attacks kill and wound soldiers and disable vehicles, but the most valued effect is a psychological one against the counterinsurgent, the local population, the international community and the population of the nations involved in the conflict. Insurgents are able to use IEDs as strategic weapons as a result of the technologies that are found throughout the world today. The internet and tools such as YouTube have significantly increased the insurgents ability to discuss and display the effects of IEDs worldwide, often getting their information out much quicker than coalition forces after an attack has taken place.[185]

Coalition forces have been largely unsuccessfully in countering the information operations campaign that the insurgents have executed. What needs to occur is that coalition forces need to embrace the same technologies and strategies that the insurgents are employing in their own information operations. This does not mean using propaganda against the people of

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[184] *Ibid.*, 24.

[185] Cori Dauber, "YouTube War: Fighting in a World of Cameras in every Cell Phone and Photoshop on every Computer," 4.

Iraq or Afghanistan or on the home front, but rather a robust information operations campaign and public affairs policy that is proactive and able to engage in a rapid response to an attack or situation and getting ahead of stories that are predictable.[186] Public Affairs officers at all levels need to be more aggressive in getting ahead of insurgent propaganda, and there are examples of this trend starting to occur. In December 2008, a suicide bomber in Afghanistan killed 14 children between the ages of 6 and 14 and wounded another 52 civilians. The US military had surveillance video of the incident and released it quickly with a statement demonstrating that the suicide bomber intentionally blew themselves up with children in the area.[187] By shaping and framing the bombing, they made certain that the insurgents had to become reactive to the statement that was released.

Collings and Rohozinski argue that information control, where information is controlled at high levels, is not the answer; the best way forward is what their workshop termed "information engagement."[188] Winning the insurgencies of today means being proactive in terms of information; commanders at all levels should be provided the ability to act with regards to information within the confines of acceptable risk. Essentially, this entails adopting a more decentralized authorization and execution process that gives authority to the levels of brigade and unit enabling them to respond to events without waiting for guidance or seeking permission. There is some scepticism that this could increase risk, however the current practice of requesting permission to release information operations messages up to corps and theatre level headquarters

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[186] *Ibid*., 85.

[187] Saeed Shah, "Suicide Car Bomb in Afghanistan Kills 14 Primary School Children," *The Guardian* available from http://www.guardian.co.uk/world/2008/dec/28/suicide-car-bomb-attack-afghanistan; Internet; accessed 10 March 2010.

[188] Deirdre Collings and Rafal Rohozinski, "Bullets and Blogs: New Media and The Warfighter, An Analytical Synthesis and Workshop Report," 63.

resulted in time lags where the information was no longer relevant and the insurgents had fully

exploited the event. Soldiers and commanders at all levels should be provided more detailed

training and guidance and "rules of engagement" for the use of media and the conduct of

information operations in a COIN environment.[189]

The second idea is that the military needs to focus their efforts on the new media that is

being used by insurgents and take advantage of things such as blogs, youtube, facebook and

other sites in order to get the information out to people.[190] This would come with some risk in

terms of operational security, but these are challenges that can be overcome with training and

specific persons responsible in the control and information flow to the sites. Individual soldiers

today all possess laptops, cell phones and other multi-media tools that allow them access to these

sites and this is not a suggestion that everyone have the ability to blog and discuss insurgent

activities and their thoughts on current operations or IED events. Rather, a controlled system

that will be able to target international opinion and the populations in Iraq and Afghanistan. This

system would be controlled at higher operational and strategic levels for the use of youtube and

other sites. "We need to embrace new media better than the adversary, and become so adept at it

that we become the most proficient and professional force in the world."[191] Hand in hand with

this idea is that there must also be measures of effectiveness established to ensure that the

message is the correct one and to see if it is having the desired effect of changing behaviours and

perceptions over time. The best way to do this is by conducting polling and other atmospherics

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[189] *Ibid.,* 67.

[190] *Ibid.,* 63.

[191] *Ibid.,* 64.

with the local population to determine if they are receiving or viewing the message, then determining if it is having the intended effect.

The third and final area is that the process of obtaining new technologies and how they can be used to support the counter IED and insurgency battle. New technologies are coming out extremely quickly and insurgents are able to use it at will, as opposed to military forces who wait "30 months to figure out whether we are allowed to use it or not."[192] The biggest barriers to speeding up the process is determining the operational security concerns and having a specific organization responsible for the identification of these types of new technologies for use in Iraq and Afghanistan within the military chain of command. If the military is to take information operations seriously then the decision to use new technologies needs to be made and applied much quicker than the current system.

Conclusion

This chapter has discussed the most effective methods in defeating an IED. The chapter first demonstrated that the actual IED attack is only one small portion of the overall sequence of events that must take place in order for it to occur. With this in mind, the most effective method in dealing with the IED is therefore to target those people and material before they have the chance to conduct their operation. This is known as Left of the Boom where coalition forces target the IED network as opposed to being reactive by only trying to detect and deal with the explosive at the site.

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[192] *Ibid.,* 64.

In order to effectively Attack the Network, intelligence operations are imperative. A systematic approach that assists in identifying the social aspects of the insurgencies must be adopted and refined at all levels of command. This will greatly assist in identifying the common threads of different groups and organizations and how they are interlinked creating a greater understanding of the operating environment. One of the largest problems, especially in Afghanistan, is that information and intelligence is not centralized throughout the coalition. The establishment of single information centres at regional levels will enable information to be shared amongst the different nations ultimately leading to more focussed operations.

Finally, it is impossible to take every IED out of the system and when attacks do occur, then there must be methods used to curb the insurgent use of the attack as an influential weapon of strategic consequences. To do this, Western militaries need to embrace the new technologies of the globalized world and make the best possible use of them by decentralizing the authority in pushing out information once at attack has occurred.

CONCLUSION

The IED is a weapon that has been used by terrorist organizations and insurgent groups

for years. The Irish Republican Army used them extensively in their campaign against the

United Kingdom and the bombings in Madrid and Bali demonstrate that improvised explosives

are used throughout the world. The IED has become a critical weapon for insurgent groups in

both Iraq and Afghanistan because they were easily constructed, can be emplaced with ease and

with little threat to the insurgent, and because the materials used to make them are easy to obtain.

In order to have a full appreciation for the IED threat and the complexity of the situation,

it was first necessary to look at the insurgencies of Iraq and Afghanistan and how they have

changed from the past. Chapter 1 of this paper discussed how Western military forces were

largely unprepared for the new type of insurgencies that were faced in Iraq and Afghanistan.

The US military in particular, with its emphasis on fighting a conventional war was unprepared

for the complexities of the irregular war in Iraq once they had declared victory against Saddam

Hussein.

Once the US forces realized they were fighting a COIN conflict, they initially looked at

the past revolutionary types of insurgencies in places such as Vietnam to help them understand

the situation they were involved with. The problem was that that both the Iraq and Afghanistan

insurgencies were much different than Vietnam.   The insurgency in Iraq was made up a vastly

different groups and organizations, some fighting to oust the coalition forces from Iraq, others

for economical reasons. The insurgent organizations were vastly complex as they were tied to

tribal, community, religious and ideological values. As well, the hierarchical nature of past insurgencies is not a trademark of the ones of the 21st Century. The current insurgent organizations are loosely networked and exercise decentralized command and control which make the insurgents difficult to target because defeating one cell will only cause minor disruptions to the overall conflict. The insurgencies in Iraq and Afghanistan are not isolated in those two countries. Because of globalization and new technologies, as David Killcullen has argued, the conflict has become a global insurgency. The IED is the centrepiece to this new, complex insurgency that is extremely difficult to understand.

Chapter 2 of this paper discussed the IED as a weapon and looked at the effects that it has on the battlefield. It argued that the IED is a weapon that is used at the tactical level, but can have strategic implications for the counterinsurgent. As a result of new technology, insurgents often capture IED attacks on devices able to record the event and they quickly upload it to the internet and use it as part of their information campaign in an attempt to influence many different players.

The insurgents use IEDs as an influential and psychological weapon to attack the will of the coalition forces. As shown in Chapter 2, frequent IED attacks erode support for the coalition forces because it is seen by the international community, the home nations, and the local population, as an unwinnable situation that is costing the lives of soldiers. IEDs have many different effects, some intended by the insurgents and some not, but the insurgents came to realize that by exploiting new technology when IED attacks were executed, they could have a much larger effect than simply killing soldiers.

After looking at the new complexity of the insurgencies in Iraq and Afghanistan and at why IEDs are used and the effect that they can have, Chapter 3 of this paper discussed the most effective means in defeating the IED. Western militaries such as Canada, Australia and the US, established dedicated counter-IED organizations whose sole purpose was to defeat IEDs. Initially, they focussed on methods that were defensive in nature by buying better protected armoured vehicles and establishing tactics and techniques to assist soldiers in the detection of IEDs. The insurgents adapted to this and were able to continue their IED campaign largely unaffected.

The final chapter of this paper argued that the most effective means in defeating the IED, was to take an offensive approach and Attack the IED Network. In order to effectively undertake this, it was necessary to fully understand what the network consisted of and how the insurgents operate and execute and IED attack. By doing this, it demonstrated that the most effective means is to attack the IED chain of events before an IED attack can take place. The key to executing this was sound intelligence at all levels and the ability to understand the insurgency itself.

Intelligence is vital in the IED fight as it allows coalition forces to target the bomb makers, the material used in the construction of IEDs, as well as the people who finance and supply the components. Unfortunately it is impossible to take stop every IED attack from occurring. When attacks do occur, coalition forces need to make better use of media and technology to win the war of information against the insurgents. By being proactive and having decentralized authority to the tactical levels of command in order to execute information operations, coalition forces would be able to stop the IED attack as a strategic level event for the insurgents and use it to their own advantage.

The aim of this paper was to examine the IED challenge faced by coalition forces and demonstrate that the insurgencies in Iraq and Afghanistan are different from past Cold War insurgencies, and that the insurgents use IED attacks not only tactically to inflict casualties, but as a strategic and influential event. This paper showed that to defeat the insurgent IED campaign, it is imperative that coalition forces have a thorough understanding of how and why the insurgencies and the IED systems that they use function. The most effective means in defeating the IED threat is through collaborative intelligence, making use of new technologies that the insurgents also utilize to win the information war, and taking an offensive approach by attacking the IED network.

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