

**IMPROVING INTELLIGENCE IN A COUNTERINSURGENCY OR
COUNTERTERRORISM ENVIRONMENT THROUGH THE APPLICATION OF A
CRITICAL THINKING-BASED FRAMEWORK**

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ABSTRACT

The intelligence community is responsible for providing competent analysis and assessments pertaining to the many significant geo-political situations that may potentially or do effect the nation's interests. The intelligence community has always experienced challenges living up to that charge, and while it may merely be a case of the nature of the profession, there are always lessons that can be learned and processes that may improve the analytical processes. Critical thinking is a cognitive process that may be able to provide that improvement to the analytical processes, and when an analytical framework is built by applying these cognitive skills, the analytical effort may become more focused and meaningful.

This study examined an intelligence analysis framework that was built using specific cognitive critical thinking skills. It was demonstrated that intelligence analysis did improve, specifically with the novice analysts that participated, and there was demonstrated specificity in the respondents' analyses. A panel of experts provided insight and content assurance that demonstrated the intelligence analysis and products produced were valuable for operational usage. Finally, successful historical counterinsurgencies were examined in relationship to the analytical framework that was utilized in order to understand how this analysis can lead to operational success.

CHAPTER 1

BACKGROUND OF THE STUDY

The Intelligence Community routinely has been blamed for providing “wrong” information, bad assessments, inaccurate judgments, or a myriad of other determinants to demonstrate why something tragic happened or whether or not a sound decision was made (McConnell 2008; Cerami & Engel, 2010). Some of the greatest tragedies in U.S. history, i.e. Pearl Harbor and 9/11, have been dubbed “intelligence failures” (McConnell; Cerami & Engel). The recent outgoing Director of National Intelligence summed up his frustrations when he mentioned that everything is either an operational success or intelligence failure (McConnell). This is not to say the intelligence field will ever be able to make the perfect assessment, or even have access to the best information possible, but rather it should make us reassess the way we conduct our analysis in order to determine if we are providing the most complete, relevant, and unbiased estimates possible.

While many intelligence analysts may believe they are thinking critically about the information they are receiving, the reality was that not many analysts were formerly trained in critical thinking. Critical thinking provides a framework for the analyst in order to ensure his assessments are thorough and reasonably objective in nature. Also, by applying a critical thinking framework to intelligence analysis, it was possible to incorporate critical thinking into a domain-specific methodology instead of teaching critical thinking with the hope of it transferring into the analyst’s assessments. Critical thinking in itself will not provide that perfect assessment, but it may ensure the analyst has objectively valued his holdings while maintaining all pertinent and potential alternatives. Therefore, an analyst who applies critical thinking to his analysis will ensure that he does not let his biases dictate what the information means, and he will determine

value of competing alternatives in order to mitigate rash judgments. Applying critical thinking to intelligence analysis is not only paramount for the quality of the analysis itself, but in today's unconventional environments it is more important than ever. The counterinsurgency (COIN) operations in which we find ourselves today in Iraq and Afghanistan, and also the combating of terrorist or counterterrorism operations may become routine missions for the U.S. Army, and as such, it is imperative that we modify our analytical procedures to face these challenges.

Introduction to the Conceptual Framework

Critical thinking provides a way for one to think systematically and objectively, which can lead to more holistic and comprehensive solutions to specific problems or situations. There are many definitions for critical thinking, but all agree that the ability to apply critical thinking skills improve the quality of one's cognitive process and help identify bias that could skew or misrepresent the solutions that are being sought.

There were two main schools of thought, Facione's (2010) and Paul and Elder's (2002), pertaining to the teaching and implementation of critical thinking skills; they include applying critical thinking skills to one's cognitive ability, or applying critical thinking skills in a domain-specific manner. Domain-specific refers to taking those specific cognitive skills that critical thinking may enhance and apply them to a specific discipline. In other words, changing or enhancing the process that one utilizes when conducting his analysis or solving a problem for instance.

Intelligence analysis is the study of specific information that, when analyzed in context to a specific mission or situation, provides situational awareness and understanding for military commanders or national policymakers can utilize when making decisions. Intelligence may be provided through various means, information received from a person was known as human

intelligence or HUMINT, information received through communications was known as signals intelligence or SIGINT, information received through pictures or satellite imagery was known as imagery intelligence or IMINT, information received through studying terrain or geospatial data was known as geospatial intelligence or GEOINT, information received through open-source media was known as open source intelligence or OSINT, and so forth.

The Army intelligence analyst is charged with analyzing all the data received through the various collection of information and then fusing that data into specific products. This analysis is conducted by utilizing known information about a specific threat, country, or situation and then updating it based on previous holdings and/or additional collection.

This study will focus on how critical thinking can be incorporated into how the U.S. Army conducts intelligence analysis, and through that incorporation improve an intelligence analyst's ability to provide more thorough, objective, and applicable assessments. The U.S. Army teaches intelligence analysis through a deliberate process, Field Manual (FM) (2-01.3), known as Intelligence Preparation of the Battlefield (IPB) in which a problem may be analyzed and applied to a specific situation; however, I would argue that it does not instruct the analyst in how to think about the information in an unbiased manner. This in itself is the crux of the problem. Without teaching methodologies in which an analyst can discern how the analyst approaches the problem, it opens the door to pitfalls that are easy and convenient to fall into.

In order to conduct this study, I have led in developing a conceptual framework that applies critical thinking to intelligence analysis in a domain-specific manner, known as the Critical Thinking Intelligence Analysis Process or CTIAP (Hess & Friedel, 2008). This framework utilizes Facione's (2010) definition of critical thinking, and was built utilizing each

cognitive skill that Facione identifies into each step of the Intelligence Preparation of the Battlefield and Intelligence Analysis processes.

The CTIAP framework focuses the analyst from the very beginning of the IPB process. Essentially, step one and two of IPB were fused together to identify all potential consideration of the battlefield through the study of the operational environment (Hess & Friedel, 2008). This then provides the analyst the ability to focus his analysis on any potential threat group or other entity that needs consideration pertaining to the way that group conducts operations, and the potential areas that this threat group needs to influence (Hess & Friedel). Based on this analysis, the analyst can begin to provide predictive analysis based on those areas that are specific to the groups in question (Hess & Friedel). This process would then essentially provide a basis for a collection plan that the analyst can focus specifically to each group in question (Hess & Friedel).

Finally, the CTIAP framework provides the analyst the ability to affect the operational environment in which he is operating. As he identifies the areas or targets that a potential group needs to affect, the analyst can identify the corresponding factors that affect the overall operational environment. This model may also provide the analyst the ability to assess the effectiveness of the operations that were, and are, being conducted.

The significance of the CTIAP process is that it has the potential to improve the way intelligence analysts are trained, and enhance their analysis. Too often analysts believed that they were not really providing analysis or truly solving problems. Rather, it seems there was a growing feeling from intelligence analysts that they are glorified reporters who have access to classified information (Johnston 2005). The CTIAP process, if utilized, may help the analyst build a product that not only focuses analysis, but also focuses on providing a comprehensive and systematic way to make that analysis predictive in nature (Hess & Friedel, 2008).

Statement of the Problem

The U.S. Army, which may be considered a hierarchical organization, was accustomed to controlling the mission it conducts and the individuals that serve in those missions. This control is important for a military organization to ensure it has the ability to execute missions in extremely dangerous and demanding situations. However, the same chain-of-command hegemony creates a challenging dilemma for an intelligence analyst by introducing cultural, organizational, and cultural biases. An intelligence analyst needs to be able to present his assessment in an unbiased and substantiated manner, and when that assessment is provided to an individual who truly controls his life and livelihood, the analyst tends to fashion his analysis along the lines of what that commander thinks. These biases, introduced by the structure of the military, substantially changes the way the process of intelligence analysis is conducted (Johnston 2005). The analyst may, however, overcome this challenge, by incorporating critical thinking methodologies to the process in which he conducts his analysis. It will not necessarily change the commander's acceptance of the assessment, but the process will be integrated with providing all probable situations through an objective and quantified presentation of information (Hess & Friedel, 2008). The intelligence community is constantly trying to find better ways to conduct analysis in order to improve analytical efforts.

If we can improve intelligence analysis with a domain-specific application of critical thinking, then the following questions must be answered. How does critical thinking improve intelligence analysis? Can a domain-specific application of critical thinking to intelligence analysis provide a more holistic, comprehensive, and non-biased assessment that is pertinent to decision makers? Can the use of critical thinking in intelligence analysis lead to assessments that impact decisions that may save Soldiers' lives or at least keep them out of unnecessary

situations? Can a curriculum be developed that applies the CTIAP methodology? These questions will be explored more thoroughly as we look at a framework in chapter two that may improve the ability of intelligence to influence decisions in a comprehensive and specific way.

The U.S. Army believes that intelligence drives operations, and therefore intelligence is not only essential for operational success, but also the impetus that drives mission requirements found in FM (2-0). Conversely, operations do not, and should not; drive intelligence, but rather commanders and decision makers should drive intelligence collection efforts (FM 2-0).

According to FM 3-24, IPB in a COIN or counterterrorism environment utilize the same process found in FM 2-01.3, however, it places greater emphasis on civil considerations. This reflects the importance of utilizing a critical thinking framework, as the intelligence process is evolving and constantly updating.

Purpose for the Study

The purpose of this study was to examine if a valid critical thinking framework applied to intelligence analysis can improve the intelligence analyst's ability to provide meaningful assessments and recommendations, and also to potentially limit the pitfalls or failures that intelligence analysts are prone. This study also examined if the analysis provided through the CTIAP methodology was more useful and meaningful to commanders than the traditional IPB method.

Research Question. How does a domain-specific application of critical thinking to intelligence analysis provide a more holistic, comprehensive, and non-biased assessment that is pertinent to decision makers?

In order to sufficiently answer the research question, two research methods were utilized in this study: the case study and grounded theory. The case study was used to evaluate the

products and assessments produced from a group of cadets at the United States Military Academy. Grounded theory was used to identify areas that lead to success in two historical counterinsurgencies.

Significance of the Study

The significance of this study was the potential for improvement in intelligence analysis when utilizing the CTIAP methodology. While there was great benefit to applying critical thinking to intelligence analysis holistically, the reality is the COIN and counterterrorist environments are vastly more complex and dynamic than the conventional force-on-force military operations.

First, through the application of critical thinking, the intelligence process may produce more specific and accurate assessments. These assessments may ensure those battlefield operations being conducted are targeting the right individual or having the desired effect. Better analysis may lead to better decisions, therefore, keeping Soldiers out of needless situations, which may save lives. When operations are focused toward specific objectives, it was my contention that they will have a larger impact against the stated goal of the mission. They will also have a tendency to disrupt the operations of threat forces if those objectives are tied to the operational environment that ultimately may determine the outcome of the conflict.

Secondarily, especially in an unconventional environment, non-lethal targeting has been under appreciated, and not viewed as important or glamorous as lethal targeting. Regardless, both lethal and non-lethal targeting need to be thoroughly planned and incorporated into a unit's operations in order to achieve the desired effects. The application of critical thinking into these assessments may help the analyst understand the pros and cons of each targeting approach when studying the situation and anticipating the desired effects.

Also, by incorporating critical thinking into the intelligence analysis process, it will help the analyst understand what he has not considered. For instance, it was not uncommon for an intelligence analyst to put together a solid assessment of what he thinks a certain threat group has been trying to accomplish. In doing so, the analyst recommends a target for the commander in order to capture or kill a certain individual, or even recommends another mission in which the threat group could be neutralized or countered. The analyst may not understand why when an operation was conducted based on his analysis, targeting an individual or perhaps protecting a piece of critical infrastructure, and then the individual was not there or an attack did not occur. Routinely, the commander and operational units get frustrated with the intelligence when this happens, but there may be a good chance that the operation stopped a certain action or individual from trying to accomplish something. Therefore, through a comprehensive and deliberate application of critical thinking to the analyst's analysis, these important aspects may be discovered and assessed.

Finally, by applying critical thinking to intelligence analysis in a domain-specific manner, it was reasonable to believe analysts would be better trained from the beginning and, by doing so; they would become more adept and agile analysts earlier in their career. It was not uncommon to see a unit have junior enlisted Soldiers, or even those who were not very competent, perform other jobs such as a guard, clerk, or manual labor. When given the challenging environment of unconventional warfare, it would seem that we would want as many competent analysts working their craft instead of pulling guard duty. By improving the way we train our analysts, we could create more effective and valuable assets for the U.S. Army. Conducting this study may provide evidence that a critical thinking framework may be established as a valid approach to analyzing intelligence. Using this framework to improve the

curriculum at the various schools that train intelligence analysts could ultimately develop analysts that have greater situational awareness and understanding of the impact their work. This framework may provide an effective mean ensuring intelligence analysis provides objective and thorough assessments that will support both current and future warfare.

Definition of Terms

Critical Thinking

“We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. CT is essential as a tool of inquiry. As such, CT is a liberating force in education and a powerful resource in one’s personal and civic life. While not synonymous with good thinking, CT is a pervasive and self-rectifying human phenomenon. The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit. Thus, educating good critical thinkers means working toward this ideal. It combines developing CT skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic society” (Facione, 2010, p. 22).

Critical Thinking Framework

The critical thinking framework includes the following cognitive skills: Interpretation, Analysis, Evaluation, Inference, Explanation, and Self-Regulation (Facione, 2010). Each of the aforementioned skills of the critical thinking framework will be defined in the subsequent paragraphs.

Interpretation

“To comprehend and express the meaning or significance of a wide variety of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, or criteria” (Facione, 2010, p. 5).

Analysis

“To identify the intended and actual inferential relationships among statements, questions, concepts, descriptions, or other forms of representation intended to express belief, judgment, experiences, reasons, information, or opinions” (Facione, 2010, p. 5).

Evaluation

“To assess the credibility of statements or other representations which are accounts or descriptions of a person’s perception, experience, situation, judgment, belief, or opinion; and to assess the logical strength of the actual or intended inferential relationships among statements, descriptions, questions or other forms of representation” (Facione, 2010, p. 5).

Inference

“To identify and secure elements needed to draw reasonable conclusions; to form conjectures and hypotheses; to consider relevant information and to educe the consequences flowing from data, statements, principles, evidence, judgments, beliefs, opinions, concepts, descriptions, questions, or other forms of representation” (Facione, 2010, p. 6).

Explanation

“To state and to justify that reasoning in terms of the evidential, conceptual, methodological, criteriological, and contextual considerations upon which one’s results were based; and to present one’s reasoning in the form of cogent arguments” (Facione, 2010, p. 6).

Self-Regulation

“Self-consciously to monitor one’s cognitive activities, the elements used in those activities, and the results educed, particularly by applying skills in analysis, and evaluation to one’s own inferential judgments with a view toward questioning, confirming, validating, or correcting either one’s reasoning or one’s results” (Facione, 2010, p. 7).

Counterinsurgency

A counterinsurgency, COIN, is a military operation specifically focused toward defeating an insurgency (Researcher Defined).

Intelligence Analysis

The U.S. Army does not have a definitive definition of intelligence analysis. Therefore, I submit the following. Intelligence Analysis is the process of collecting information and examining it against other known variables in order to determine the value of that information in a specific context. The information collected is through overt and covert means, and is derived through various sources (Human, Geospatial, Measurements, Signals and Communications, etc...) (Researcher Defined).

Insurgency

An insurgency is usually a conflict in nature, which is specifically focused toward overthrowing the ruling government of a country. An insurgency comes from within the country, and typically formed by groups of individuals that are frustrated and have abandoned any hope of changing the ruling government through purely political means (Researcher Defined).

Lethal Targeting

Lethal targeting is an operation conducted against an individual or place using weapon systems with the intent to capture, control, kill, or destroy (Researcher Defined).

Non-lethal Targeting

Non-lethal targeting is an operation or groupings of operations focused toward influencing the larger objective. Non-lethal targets are typically nested toward creating favorable conditions in a specific operation or larger campaign plan. Examples of non-lethal targets could be building bridges, providing jobs, engaging religious leaders in dialogue, etc... (Researcher Defined).

Terrorism

Terrorism is a means of non-governmental actors trying to cause change to a country, region, or organization through the use of fear. Terrorism is usually violent in nature, and routinely kills innocent victims while those conducting the attacks try to attack their target. Terrorism is about power, and it typically is manifested in fear, violence, and propaganda. Terrorist groups can be regional, national, or transnational, and their ideology typically defines their geographic orientation. Terrorism can also be manifested in religion, political ideology, or otherwise (Researcher Defined).

Limitations, Delimitations and Assumptions

Limitations of the study. The study was a performance-oriented case-based scenario in which the participants were using messages in order to provide multiple assessments as to what is currently happening and what will happen next in a contrived case-based setting. The main limitation of the study was assuming to evaluate all the participants' assessments equally, given the subjective nature.

In this study it was challenging to find suitable participants, those that have the necessary analytical experience as determined by rank, experience, and responsibility. The participants were cadets pursuing a minor in terrorism studies at the United States Military Academy at West Point, and therefore my pool of participants was limited. Despite these limitations, there will be greater understanding of the CTIAP, which will develop more questions and further research.

Another limitation may have been in the understanding and clarity of the messages and scenario presented to participants during the case study. To address this, a pre-survey group with less experience than the mandate for the study, read through the scenario and messages to help ensure the situation was interpreted correctly. The interpretation was not specific to achieving a specific assessment, but rather that the participants understood the content of the scenario and messages.

Because this was a qualitative study, the results were not generalizable to a larger population of analysts, but that was not the goal of this research. Rather, the goal of this research was to examine the contextual usefulness of the CTIAP model. It may be possible that these findings manifest in studies of similar situations along with similar subjects.

A final limitation of the study that I was concerned about was the Hawthorne Effect (Gay, Mills, & Airasian, 2009). This may have been an issue when participants answered questions differently based on what they perceived to be more positive toward the study because of being observed (Gay, et al). During my interviews, I attempted to control this limitation by asking specific questions pertaining to their analysis and how they arrived at their conclusions.

Although not a limitation, I was concerned with collusion during the case-based scenario. One advantage I had during the study was that the participants were cadets at the United States Military Academy. They have a strict honor code that they must adhere to, or risk being

dismissed from the academy. I instructed them that all work during the case-based scenario must be their own, and that they could not help one another. I also asked them at the beginning of each interview if they completed the exercise and produced their products without assistance.

Delimitations of the study. The major delimitation of the study was the experience of the students, who were the primary and secondary groups being surveyed. All participants were cadets at the United States Military Academy at West Point. They did not have real-world experience in either operations or intelligence analysis at the point of the data collection. However, as the cadets demonstrated that a domain-specific application of critical thinking substantively improved their ability to conduct intelligence analysis, then it may be reflective of the importance of exposing this type of process at the beginning of an intelligence analyst's career.

The final delimitation of the study was the case-based scenario. There was one scenario with one set of messages, which the cadets were not accustomed. The scenario was based on a fictitious country that appealed to the United States for assistance with an ongoing insurgency. There were messages based on operations occurring in the U.S. area of operations, which enabled the cadets to exercise the intelligence process. The participants prepared the appropriate products in relation to the intelligence process according to FM 2-01.3, to include their ability to conduct predictive analysis. Finally, I conducted the interviews with all of the participants in order to understand how they reached the conclusions that they presented.

Assumptions of the study. My assumptions were that the participants in this study would perform their analysis to the best of their ability, and that they would utilize the processes that they had been exposed to during the course of their analysis. I also believed that the CTIAP methodology may improve the analyst's ability to conduct his analysis, and that products may be

more focused and specific in nature. Finally, I believed that intelligence analysis can be improved, and critical thinking provides a way for that improvement.

I also believed that those who have learned intelligence analysis with critical thinking applied would have a greater understanding of the intelligence process. Many analysts have a tendency to start their analysis with a focus toward what is going to happen next, and those that were taught intelligence analysis with critical thinking applied may be more adept to understand the dynamic nature of intelligence analysis while ensuring they are thoroughly completing and applying all the steps to each other.

Summary

Intelligence Analysis is challenging, it also is of paramount importance in a COIN and counterterrorism environment. The intelligence field will never be perfect, for which there were too many reasons that were not relevant to this study; however, one of the main ones may be because an analyst will never have all available information or the best information. Therefore, an intelligence analyst must be able to provide a thorough, unbiased, and pertinent assessment that focuses commanders toward making well thought through and cause-and-effect based decisions. Applying critical thinking as a framework to intelligence analysis may be a very viable and powerful way that the U.S. Army's intelligence analysts can learn and understand the many complexities of the unconventional battlefield.

CHAPTER 2

REVIEW OF LITERATURE

The restated purpose of this study is to examine the following research question: How does a domain-specific application of critical thinking to intelligence analysis provide a more holistic, comprehensive, and non-biased assessment that is pertinent to decision makers? This literature review focuses on studies that have analyzed various situations and methodologies pertaining to the instruction of critical thinking. Based on the notion that by employing a critical thinking framework which may be applied to intelligence analysis in order to improve the ability of an analyst to provide objective and substantive assessments, especially in a counterinsurgent or counterterrorism environment, the various studies demonstrates the advantage to employing such a framework. The research was organized through three major topics; effective teaching of critical thinking, domain-specific applications of critical thinking, and finally the effects of applying critical thinking in a domain-specific manner.

Intelligence should provide information that informs leaders, and inherent in that drives operations. The ability of an intelligence analyst to provide thorough and objective assessments should be welcomed amongst the intelligence community, policy makers, and commanders that execute policy, because these assessments should provide substantive information that clarifies understanding and importance of decisions being made. Good intelligence may lead to better decisions, and better decisions may lead to more focused policies and operations that benefit the country as a whole.

Conceptual Framework

Since this study was focused on the Critical Thinking applied to Intelligence Analysis Process (CTIAP) written by Dr. Curt Friedel and myself (Hess & Friedel, 2008), I will discuss

this first. The CTIAP was the conceptual framework being examined for the course of this study. The CTIAP utilizes Dr. Peter Facione's research that produced a definition, and specific cognitive skills necessary for effective critical thinking (Facione, 2010), and applies it to the U.S. Army's intelligence analysis process found in FM 2-01.3 Intelligence Preparation of the Battlefield (IPB). Facione's six cognitive skills were interpretation, analysis, evaluation, inference, explanation, and self-regulation (Facione, p. 5).

As mentioned in chapter one, there were two predominate schools of thought pertaining to critical thinking; Facione (2010), and Paul and Elder (2002). Facione's (2010) research has focused on critical thinking aspects that can be applied domain-specifically, while Paul and Elder's (2002) focus was more toward critical thinking as a stand-alone cognitive ability that generally improves thinking. I chose Facione's (2010) research as the basis for both the CTIAP (Hess & Friedel, 2008) and this study since I consider intelligence analysis unique as a discipline because it needs to be tailored to the specific mission that it may be utilized. For instance, intelligence analysis may take on a different role in conventional warfare than in a COIN or counterterrorism operation.

The U.S. Army Intelligence Center at Fort Huachuca does not subscribe to one specific methodology, but teaches from both Facione (2010) and Paul and Elder (2002). While I believe there was value in teaching both approaches, Paul and Elder's research may be difficult for an analyst to apply in very specific environments.

Critical Thinking Skills

Interpretation was defined as the ability, "...to comprehend and express the meaning or significance of a wide variety of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, or criteria" (Facione, 2010, p. 5). In other words, the analyst must

understand the context of information being evaluated, which could be rooted in culture, religious ideology, political gain, or various other nuances that could shape its meaning. The meaningfulness of the information may be categorized by the importance within these different domains or categorized by the meaningfulness to different group stakeholders. Also, the analyst must honestly consider personal experiences into how they evaluate information. Here alone the analyst can find tremendous amounts of bias or other superseding variables that affect how he assigns value to the information.

The cognitive skill analysis was defined as the ability, "...to identify the intended and actual inferential relationships among statements, questions, concepts, descriptions, or other forms of representation intended to express belief, judgment, experiences, reasons, information, or opinions" (Facione, 2010, p. 5). How the information related to other holdings is one of the key aspects of analysis. The ability to study the parts separately (distinguishing facts from opinions and assumptions) and then holistically (forming arguments from facts, opinions and assumptions) may be challenging to say the least, but this is the cornerstone of analysis. This definition, while short in words, is long in ideals. Constantly questioning or making judgments of the information is a herculean effort that cannot be taken lightly. Nor can it be something that we take for granted. Again, the analyst must understand how biases can affect the way they look at the information and apply it to a larger situation.

Evaluation as a critical thinking skill was defined as the ability, "...to assess the credibility of statements or other representations which are accounts or descriptions of a person's perception, experience, situation, judgment, belief, or opinion; and to assess the logical strength of the actual or intended inferential relationships among statements, descriptions, questions or other forms of representation" (Facione, 2010, p. 5). While evaluation may sound similar in

wording to interpretation and analysis, it must be noted that the phrase “assess the credibility” should focus one to assess the source of the evidence with respect to the authority and expertise of the individual as well as the logical strength of the information with regard to timeliness, implications, and other variables determined by the situation. Again, removing one’s biases is paramount, but not a given. It should also be noted that it may be impossible to remove all of our biases, so an analyst must constantly struggle to mitigate them. Further in this chapter, when this critical thinking framework is applied to intelligence analysis we will see techniques that can assist with removing biases in order to form stronger judgments.

Inference was, “...to identify and secure elements needed to draw reasonable conclusions; to form conjectures and hypotheses; to consider relevant information and to deduce the consequences flowing from data, statements, principles, evidence, judgments, beliefs, opinions, concepts, descriptions, questions, or other forms of representation” (Facione, 2010, p. 6). In exhibiting this skill, the analyst determines what may be concluded from the collective information. Developing initial hypotheses in order to test them in an unbiased and pertinent fashion is where the analyst should be focusing his or her efforts. It is challenging and detail-oriented work, but important for the analyst to ensure that they let the information speak for itself and consider multiple options specific to the problem or situation that exists.

Explanation was defined as, “...being able to present in a cogent and coherent way the results of one’s reasoning. This means to be able to give someone a full look at the big picture: both ‘to state and to justify that reasoning in terms of evidential, conceptual, methodological, criteriological, and contextual considerations upon which one’s results were based; and to present one’s reasoning in the form of cogent arguments’” (Facione, 2010, p. 6). For the intelligence analyst, the skill explanation was used to present conclusions and assessments that

were specific to the mission he was assigned. Providing explanation of the analysis of a situation which was not relevant or cogent to the larger task may be completely counterproductive. Also, the employment of a strong explanation may ensure that the analyst was not providing an assessment that was vague or more “strategic” than applicable to a particular mission.

Lastly, Self-Regulation was to, “...self-consciously monitor one’s cognitive activities, the elements used in those activities, and the resulted educed, particularly by applying skills in analysis, and evaluation to one’s own inferential judgments with a view toward questioning, confirming, validating, or correcting either one’s reasoning or one’s results” (Facione, 2010, p. 7). Self-regulation may perhaps be the most crucial cognitive skill for the intelligence analyst. It has been well-known that initial reports in the field were unclear and usually far from accurate, and routinely called “fog of war”. Therefore, it was imperative for the analyst to acquire a final and complete report, as well as update on all products and assessments resulting from incomplete reports. As aforementioned in the discussion of each critical thinking skill, self-regulation may be applied with each skill throughout the critical thinking process. By doing so, the information gleaned by each skill was questioned, confirmed and validated. Self-regulation was the step in which the analyst needed to ensure that various personal biases were removed as much as possible. Being aware of one’s biases was paramount to ensuring its presence is reduced.

The CTIAP method applies each of the six cognitive skills defined by Facione, and determines how they impact each step of the IPB process (Facione 2010). According to FM 2-01.3, there are four steps in the IPB process: 1) define the operational environment, 2) describe environmental effects on operations, 3) evaluate the threat, and 4) determine threat courses of action.

Intelligence Preparation of the Battlefield

Step one of IPB, define the operational environment, begins when the intelligence analyst studies the geographical area in which his unit has been assigned responsibility for a specific mission. The geographical area is identified by the specific Area of Operations, Area of Interest, and Area of Influence (FM 2-01.3). The area of operations is the specific geographical area that the unit has been assigned from their higher headquarters. The area of interest identifies the area that may impact the unit's area of operations, and finally the area of influence identifies the area that the unit may have a direct impact. During step one; the analyst will create databases identifying specific details ranging from demographics to infrastructure capabilities. Almost as important as the database that contain what analyst knows, the analyst also needs to identify what he does not know at this point. This is known as intelligence gaps, and these gaps are the foundation for the development of information to be collected. It was not necessary to discuss how the CTIAP differs from step one of IPB, as the CTIAP focuses on fusing the information ascertained from step one and step two.

Step two of IPB, describe the environmental effects on operations, ensues when the intelligence analyst studies the terrain and weather in relation to the impact on the unit's operations (FM 2-01.3). The analyst develops a comprehensive product known as the modified combined obstacle overlay (MCOO), which demonstrates the abilities of friendly and threat forces to maneuver and operate in the terrain. For instance, the analyst would identify the road network in the unit's area of operations, and determine how many tanks can move in an unrestricted, restricted, or severely restricted manner. In a COIN or urban environment, the analyst also needs to consider the likely locations of weapons caches, dense population areas,

commercial areas, and so on. Finally, the analyst attempts to determine how the weather may additionally affect operations in these areas.

The CTIAP method does not attempt to change the requisite analysis that needs to be conducted in the first two steps of IPB (Hess & Friedel, 2008). Rather, it focuses on how to add to it by fusing the information from both steps. The CTIAP process adds a construct that incorporates step one and step two (Hess & Friedel). The purpose of this fusion was to identify the significant operational impacts against the environment where found (Hess & Friedel). The end result of this process was to identify the key nodes that have a direct or indirect impact on the mission, see appendix 1 (Hess & Friedel).

Step three of IPB, evaluate the threat, proceeds when the analyst develops doctrinal templates or vignettes on how the threat organizes its forces and fights (FM 2-01.3). Other products that are part of step three include a pattern analysis wheel, depicting when events such as attacks typically occur; a study of threat capabilities, this typically identifies all weapons systems and their strengths, weaknesses, and ranges; and an association matrix; which identifies who may be associated to whom.

The CTIAP method utilizes the information developed in step three of IPB and builds templates or vignettes in relation to the nodes that were identified in the previous step of the CTIAP process (Hess & Friedel, 2008). The product subsequently produced incorporates all factors of the warfighting functions found in FM 3-0 (Hess & Friedel). The purpose of this effort is to identify all the assets or capabilities that the threat forces need to utilize to be successful in their operation.

Step four of IPB, determining threat courses of action, is where the analyst first tries to predict what the threat will attempt to do (FM 2-01.3). Taking into consideration all the data

from the previous three steps of IPB, the analyst builds courses of action that best reflect how the threat forces will attempt to attack a certain objective.

The CTIAP method adds to this step by including objectively analyzed data to help determining those objectives (Hess & Friedel, 2008). By assigning a simple one to five value based on the credibility of the source of the information, to reporting that the analyst receives, the analyst prioritizes the objectives based on the associated value (Hess & Friedel).

Conceptually, the utilization of the CTIAP was demonstrated in the following example. An intelligence analyst assigned to a Brigade Combat Team (BCT) deployed to Mosul, Iraq begins his IPB process by completing an interface of the operational environment and terrain variable (similarly to appendix A) (Hess & Friedel, 2008). Upon completion of the operational environment and terrain interface, the analyst would evaluate the insurgent groups operating within the BCT's area of operations (Hess & Friedel). He then would identify all the aspects from the interface that are essential for the insurgent groups' success (working them one problem at time) (Hess & Friedel). This nodal identification could provide immediate consideration for the analyst in determining future courses of action and collection requirements (Hess & Friedel).

As the analyst begins to receive information from the various sources that collect, he would assign a value (ranging from one to five) to each report (Hess & Friedel, 2008). This value would be based on the source of the information, and not specifically the information within the report (Hess & Friedel). After the analyst reviews the reports and assigns values to them, he would add up the information pertaining to what objectives the insurgent groups are focused towards (Hess & Friedel). These values could potentially tell the analyst at least two things; one, what objectives (or nodes) a specific insurgent group may attack or attempt to

influence, and two, where his collection efforts may be weak and need attention (Hess & Friedel).

Finally, the intelligence analyst can refer back to the operational environment and terrain interface to identify other aspects that could potentially impact or have a relationship to the node or objective that the insurgent group may be targeting (Hess & Friedel, 2008). The analyst then identifies ways to impact the related nodes favorably to the BCT's mission (Hess & Friedel). This could strengthen the operational environment against the insurgent's efforts to destabilize the environment, and build relationships that could provide information to assist in destroying or neutralizing the insurgent group (Hess & Friedel).

Summary of Research Findings/Results for Critical Thinking

Critical thinking has been considered a widely-used term with a very ambiguous meaning. However, some researchers have thoroughly studied critical thinking and developed some useable definitions. While it would be too laborious to discuss the various definitions, one researcher, Peter Facione (2010), developed a set of cognitive skills that can be applied to teaching, utilizing, and assessing critical thinking skills. These cognitive skills are interpretation, analysis, evaluation, inference, explanation, and self-regulation; defined previously in this chapter. Based on these cognitive skills, these reviews will focus on effective teaching of critical thinking, domain-specific application of critical thinking, and applying critical thinking to intelligence analysis.

Overall, teaching critical thinking in a deliberate and structured manner has produced tremendous results in the critical thinking abilities of students. However, teaching critical thinking in a domain-specific manner has a greater impact on students' ability to apply critical

thinking skills (McKown, 1997). And lastly, critical thinking taught using problem-solving, hands-on exercises or asynchronous group projects typically produces the best critical thinkers.

Learning Critical Thinking

For this study, it was important to identify effective ways of teaching critical thinking. By teaching critical thinking effectively, a deliberate methodology that incorporates tangible outcomes can be employed. Teaching critical thinking in an abstract and non-contextual manner may probably never truly demonstrate effective outcomes. Friedel, Irani, Rudd, Gallo, Eckhardt, and Ricketts (2008) studied the outcomes of students that were taught critical thinking skills overtly. This study demonstrated that those students that were taught critical thinking overtly demonstrated significantly higher levels of critical thinking.

Mazer, Hunt, and Kuznekoff (2007) conducted a study in a basic communications course, which demonstrated critical thinking may be fostered through student interaction. This study also found that an effective strategy for teaching critical thinking involved the instructor teaching critical thinking strategies, and then letting the students engage in interactive learning approaches, which enabled the students to become more involved in their own education. Schamber and Mahoney (2006) conducted a similar study in which students were taught to cultivate critical thinking skills through collaborative groups. They also found that group work enhanced critical thinking skills, and provided opportunities for students to assess their thought processes and ideas.

While it might seem that for interactive instruction or asynchronous learning to promote critical thinking, it needs to be conducted in small or manageable size classrooms. Yang (2007) conducted a study to determine if critical thinking skills could still be cultivated in large classrooms or online. He found that indeed critical thinking skills can be taught in large

classrooms, and specifically that asynchronous learning was a vehicle supporting that approach. Also, well-developed Socratic dialogues have been demonstrated as a tool to promote critical thinking skills. An additional note here, Astleitner (2002) conducted a study to determine the effectiveness of teaching critical thinking skills online. He found that there was no difference in critical thinking outcomes from either a traditional or online instruction.

The environment also provides a valuable asset to be considered when teaching critical thinking. A study conducted by Nelson Laird (2005) identified that students who were exposed to diversity and other various interactions demonstrate greater propensity toward critical thinking. Those students typically were found to be more open-minded, and therefore willing to exhibit greater flexibility when solving problems or understanding larger aspects of complex skills. Ernst and Monroe (2006) conducted a similar study on how the environment affects critical thinking skills and dispositions, and they arrived at a similar conclusion. Environments play an integral part of education, and indeed critical thinking skills can be cultivated through the use of incorporating the environment and aspects of it in instruction.

Teaching critical thinking through an understanding of student dispositions and the types of forums that need to be incorporated and leveraged. Stedman and Andenoro (2007) found that by engaging students through critical thinking focused exercises helps develop critical thinking dispositions. Furthermore, a certain maturity and deeper understanding of course material may be accessed through developing critical thinking dispositions. Yang, Newby, and Bill (2005) found a similar growth in critical thinking skills through the use of Socratic questioning in instruction. They found the Socratic-based instruction to be especially beneficial through the use of asynchronous forums. Also, Duphorne and Gunawardena (2005) conducted a study on the effects of utilizing computer designs and organizers on critical thinking skills. They found that there was

no significant difference of participants that utilized the organizers compared to those that did not. They evaluated three different computer models that would assist in organizing data and problem sets, and found that none of them increased the critical thinking abilities of participants.

There was research that suggests there was a relationship between critical thinking skills and critical thinking disposition. Facione and Facione (1997) conducted a five-year longitudinal study examining this relationship, and they found a low positive correlation between critical thinking skills and critical thinking disposition among different populations. However, as Friedel, Irani, Rudd, Gallo, and Eckhardt point out, given that Facione and Facione incorporated a large sample size, significant correlations should be expected (2008). Finally, it should be noted that effective critical thinking instruction motivates as well as incorporates critical thinking skills and dispositions (Facione, 1998).

Teaching Critical Thinking

I think that when it comes to teaching critical thinking, we need to examine the abilities of teachers and how well they understand critical thinking. Teachers should understand what critical thinking is, and how they can best teach it. Also, they need to be able to recognize critical thinking, especially since the ultimate goal of teaching critical thinking should be to improve cognitive skills that may foster flexible thinking, prudent judgment, and the ability to reconsider relevant information.

Genc (2008) conducted a study looking at critical thinking dispositions between male and female teacher candidates. He found that females demonstrated a higher aptitude toward critical thinking, while their male counterparts demonstrated a greater capability toward analytical thinking. I do need to point out that there was debate within the literature to whether or not females were better critical thinkers (Friedel, et al, 2008), but it has been an issue worth

consideration. Since intelligence analysts, in the U.S. Army as well, can be either male or female, I think this study may provide some valuable insights to strategies toward training critical thinking skills through heterogeneous analytical teams. Genc (2008) also argues that programs need to focus or continue to improve on teaching critical thinking in education programs, and focus more on specific aspects of critical thinking. Innabi and El Sheikh (2006) conducted a similar study targeting mathematics teachers in Jordan. They found that most teachers believed that they have taught critical thinking, but could not demonstrate an understanding of what it was.

Grosser and Lombard (2008) conducted a study on the development of critical thinking abilities and teachers. They found that newer teachers teach critical thinking skills around the 12th grade level. However, by incorporating strategies in how to teach critical thinking, especially courses that are taught critical thinking in a domain-specific method, would prepare teachers to more effectively teach critical thinking.

It has been alluded to that teaching effective critical thinking can best be accomplished through domain-specific application. Grauerholz and Bouma-Holtrop (2003) conducted a study that taught a Sociology course with critical thinking applied domain-specifically. They found students had a deeper understanding of the context of the instruction, and aptly demonstrated critical thinking skills. Conversely, Solon (2007) conducted a study that generically applied critical thinking to an introductory Psychology course. He found there was no statistical difference in the psychology aptitude tests taken by the students; however, there was an increase in the critical thinking scores on the corresponding test taken by the students. Davies (2006) looked at domain-specific applications of teaching critical thinking, as well as critical thinking as a stand-alone instruction and did not find any difference between them. Davies research, similar

to Solon (2007), found that critical thinking skills were generic and not domain-specific in nature.

A very comprehensive study conducted by Donald Hatcher (2006) found that there was a significant difference in critical thinking skills when critical thinking was tailored to a domain-specific application. He found that the groups that learned critical thinking as a stand-alone course did not score as well, and lacked clarity in their usage of critical thinking skills. He found that teaching critical thinking skills and then applying them through practice proves that domain-specific applications of critical thinking produce far greater results.

As to examining critical thinking and its applicability to intelligence analysis, there were several studies that have looked at critical thinking and its effect on problem solving. Since intelligence analysis is steeped in the concept of solving problems, this is a comparable evaluation for the purposes of applying critical thinking to intelligence analysis.

Colucciello (1997) conducted a very thorough study of nursing students and their dispositions toward critical thinking skills. She utilized Facione's (1990) initial Delphi Study, which resulted in the development of the aforementioned critical thinking framework, to develop her framework of skills to be tested. She found that through a domain-specific application of these skills, students' critical thinking skills could be assessed individually and more thoroughly. She found that critical thinking skills did indeed improve through a domain-specific application of instruction oriented toward this framework. In her conclusion, she was able to focus on specific ways in which they could develop strategies to improve on areas that were deficient.

Sungar and Tekkaya (2006) also conducted research on problem-based learning and its application to critical thinking. They found that students were able to perform at high order thinking levels, were more collaborative in learning, and that their critical thinking skills

benefitted from the problem-based learning approach. While this was not a study conducted specifically to evaluate domain-specific application of critical thinking, it does validate the theory that critical thinking skills can benefit greatly from problem-based applications.

A study authored by my advisor that will be published in an upcoming issue of *Journal of Agricultural Education*, Dr. Friedel (in press), was conducted to determine if a specific problem solving method increased the critical thinking dispositions of students. What he found was that there was no specific method that directly related to an increase in critical thinking abilities; however, critical thinking dispositions benefited from problem solving instruction. Also, he found that participants in this study were more adept to using various problem solving methodologies and styles in order to come to a solution. This in itself can significantly apply to critical thinking, and warrants further examination.

The final study was specific to U.S. Army Officers and how critical thinking instruction has been employed successfully. Schumm, Webb, Turek, Jones, and Ballard (2006) conducted a study at the U.S. Army's Command and General Staff College on the successful usage of critical thinking skills and reasoning. They found that students benefited from collaborative exercises, student diversity, and domain-specific application of critical thinking skills. They also found that students performed better when instructors were prepared and delivered the context of the class by utilizing the aforementioned instructional strategies. Therefore, Socratic-questioning, diversity of students, problem-solving methods, and domain-specific applications of critical thinking directly impacted these officers' ability to utilize and apply critical thinking skills.

Summary of Critical Thinking Research

The aforementioned studies overwhelmingly highlight the value of utilizing critical thinking in instruction. Students benefit in the areas of providing more objective and thorough

solutions or answers. Also, students have been found to benefit from domain-specific applications of critical thinking and problem-based applications. Intelligence analysis is a very demanding profession, in which the determinations that analysts produce will most likely never be completely correct (if at all), and potentially have a direct impact on operations that effect U.S. policy or operations. Providing intelligence analysts the cognitive tools that can assist their ability to develop more objective and thorough assessments can help mitigate the chances of their assessments completely missing the important indicators that could potential have devastating consequences.

First, intelligence analysts should be taught critical thinking in an effective manner, one that will help them develop critical thinking skills, and identify them in order to benefit from their application. These skills should be taught overtly, where the analyst is aware of what is being taught, and then can recognize his own strengths and weaknesses within a specific skill-set.

Next, the environment should be conducive for the analyst to effectively learn critical thinking. This means that classes need to be structured with diversity in students, exercises that are specific to the situations in which analysts find themselves, and using the tools that are available to them. Then analysts can learn through group collaborative efforts, that enable them to utilize the various knowledge and resources that the group possesses.

Instructors should be well versed in critical thinking terminology. If intelligence analysts are to learn critical thinking, then the instructors need to not only understand critical thinking, but be able to cultivate classrooms and environments that help promote the usage of critical thinking skills and be able to effectively evaluate its usage.

Critical thinking should also be taught in a domain-specific setting. While some studies do not specifically agree that domain-specific application of critical thinking benefit the further development of critical thinking skills compared to teaching critical thinking as a stand-alone course, it does appear in the studies that applied critical thinking as a framework to be applied domain-specifically that those students not only benefited, but the instructor could develop strategies to improve shortcomings. This benefit was definitely worth the effort of developing domain-specific applications of critical thinking, because student feedback and improvement was one impetus of critical thinking.

The counterinsurgency and counterterrorism environments may be very complex and challenging. An intelligence analyst needs to foment more versatile and agile cognitive abilities and problem solving techniques. The analyst needs to be able to hold multiple problems, and effectively evaluate indicators against the myriad of possibilities that they may apply. Therefore, an intelligence analyst will benefit greatly from the application of a domain-specific critical thinking framework that is taught effectively and specifically.

Historical Counterinsurgencies

The application of a critical thinking approach to intelligence analysis was also examined against historically successful counterinsurgencies as well as the principles that are presently being studied by various agencies. The focus of the historical studies will be on The U.S. Philippine War and the British counterinsurgency operations in Malaya.

The examination of historical counterinsurgencies was considered valuable to the study, because specific lessons were identified that explained how the CTIAP provided effective insight into operational consideration. The CTIAP was partially developed through the experiences I gained over the course of my military career; these experiences reflect a larger lesson that may

be explored through an examination of these counterinsurgencies. Further, it was important to understand how successful counterinsurgencies leverage the operational environment; one of the premises of the CTIAP (Hess & Friedel, 2008).

Brian Linn's *The Philippine War, 1899-1902* provided a valuable study of the U.S. Philippine War that examined the successful U.S. involvement against a Filipino nationalist insurgency. While Linn does discuss that the U.S. forces employed a heavy hand in the conflict, the more important lesson derived from this examination was how U.S. forces implemented a strategy that leveraged all aspects of the operational environment to defeat the insurgency while building trust and support from the Filipino populace.

The next historical study is the British counterinsurgency in Malaya. Retired U.S. Army Lieutenant Colonel John Nagl's *Learning to Eat Soup with a Knife, Counterinsurgency Lessons from Malaya and Vietnam* is an examination of the aspects that have led to success in counterinsurgencies. He also leveraged his own knowledge and experience gained from serving as a battalion commander during Operation Iraqi Freedom.

Richard Millet's *Searching for Stability: The U.S. Development of Constabulary Forces in Latin America and the Philippines* demonstrated the historical role of U.S. military forces in nation building post-conflict. While Millet's study examined both positive and negative aspects of the U.S. efforts at building or rebuilding a nation's security forces, it also highlighted the importance of incorporating the efforts of security within the larger context of improving the operational environment.

Furthermore, two recent and viable studies argue the importance of incorporating the political and economic efforts with the military effort during counterinsurgencies. Nadia Schadlow's *Organizing to Compete in the Political Terrain*, and Henry Nuzum's *Shades of*

CORDS in the Kush: The False Hope of 'Unity of Effort' in American Counterinsurgency were important arguments that need to be examined in the context of how intelligence analysts need to leverage and incorporate the entire operational environment into their analysis and considerations.

Summary

This literature review contained multiple studies that were focused on effective teaching strategies, environmental considerations, domain-specific applications, and the usage of problem solving strategies to develop and refine critical thinking skills. Most of these studies found that students greatly benefited from the utilizing of critical thinking skills, and the strategies that were employed to enhance them.

Teaching critical thinking effectively was paramount. In order to do this, many of the studies found that an effective environment needs to be created for the student. This environment consists of diversity in the student population, ensuring that the student understand what critical thinking is, and that they are learning it, and exercise that promote collaboration amongst the student population.

Also, teachers need to well-versed in what critical thinking is, and how to teach it. Some studies demonstrated that many teachers think they know what critical thinking is, and that they are using it, but the studies revealed that truly they did not know what it is or understand how to effectively teach it. In order for students to benefit from critical thinking instruction, the teachers need to learn what critical thinking is, and effective strategies to employ it in the classroom.

There were various studies on the usage of critical thinking in domain-specific applications. While some found that teaching critical thinking as a stand-alone course, the fundamental value of critical thinking is found in those studies that applied critical thinking in a

domain-specific manner. Also, it was demonstrated that strategies to improve critical thinking skills could be found when critical thinking was applied domain-specifically by utilizing a specific framework for employment.

Finally, teaching critical thinking in a specific problem-solving methodology also enhances the student's ability to utilize and understand critical thinking skills. This strategy along with the usage of effective environments will provide a very clear and concise example of how to apply critical thinking skills. It will also demonstrate the validity and benefits of learning critical thinking. To date, there has not been any research studies conducted on the benefits of incorporating critical thinking to intelligence analysis. Therefore, my study looked at a specific problem, the lack of a domain-specific application to intelligence analysis, without any previous literature to support it.

CHAPTER 3

METHODOLOGY

Introduction

In order to explain how a domain-specific application of critical thinking to intelligence analysis provides a more holistic, comprehensive, and non-biased assessment, a review of successful counterinsurgencies will be examined. These historical successful counterinsurgencies were compared to an intelligence analysis process that applied a critical thinking methodology that focuses the analyst to evaluate their holdings through the operational environment. The intelligence analysis process utilized critical thinking in a domain-specific application, which means that it was tailored specifically to the functions of intelligence analysis. This leads to my research question: How does a domain-specific application of critical thinking to intelligence analysis provide a more holistic, comprehensive, and non-biased assessment that may be pertinent to decision makers?

Research Design

This research was conducted utilizing the case study research approach and grounded theory. I began with a case study to examine the effectiveness of the domain-specific application of critical thinking to intelligence analysis; and then through grounded theory, I examined some commonalities of historical counterinsurgencies that contributed to success. The case study strategy was chosen since it best examines the how and why of a research topic, and focuses on contemporary issues (Yin 2009). The dependent variable for this research was the effectiveness of the analysis conducted by cadets at the United States Military Academy at West Point using a critical thinking based model applied to intelligence analysis. The study examined a group of cadets at the United States Military Academy at West Point that had been taught intelligence

analysis with the Critical Thinking Intelligence Analysis Process (CTIAP) (Hess & Friedel, 2008). The study also examined historical counterinsurgencies to examine why a domain-specific application of critical thinking is important, and how the CTIAP (Hess & Friedel) may improve the objectivity, completeness, and applicability of intelligence analysis through semi-structured interviews.

This study was conducted utilizing a qualitative research approach instead of a quantitative approach. I chose qualitative because it was better suited to explore and understand how and why something works in a real-world situation. Qualitative research is more interpretive in nature, and provides more depth and understanding of the interconnectedness of the variables rather than attempt to control or isolate them; such as the CTIAP (Hess & Friedel, 2008). Also, quantitative research is more systematical, typically mathematically or statistically-based, and provide validity that may be generalized to a larger population. Given this, my research question was not quantitative in nature, but rather more in line with the definitions of qualitative research (Merriam, 2009; Miles & Huberman, 1994; Rossman & Rallis, 2003; Yin, 2009).

I chose the case study method because it was well suited for studying real-life situations that involve processes and details that were not suitable for quantitative analysis (Yin, 2009; Merriam, 2009). Case studies typically deal with a specific phenomenon in contemporary events, and this study introduced historical studies, but these historical studies were analyzed in relation to their importance to contemporary events (Yin; Merriam). Furthermore, quantitative analysis tends to remove a specific phenomenon from its situation (Yin), and according to the U.S. Army's Counterinsurgency Field Manual (FM) (3-24) intelligence was an essential part of

any counterinsurgency operation. Therefore, the case study approach best suited the overall objectives of this study.

The case study research approach provided rich insight into the interconnectedness and complexity of the variables for this study. This strength of the case study approach provided the means to effectively evaluate the critical thinking framework applied in a domain-specific manner to intelligence analysis. A weakness in the case study approach is the subjective nature of the data collected. This limitation was managed through a control mechanism where a group of experts, former battalion or brigade commanders with counterinsurgency experience, were asked their opinions pertaining to the objectivity, completeness, and applicability of the responses from the two groups in order to mitigate any flaws in the study that may reflect that the intelligence analysis doctrine is relatively sound, and not in need of being completely replaced. Rather, this study focused on examining how and why the CTIAP (Hess & Friedel, 2008) method can improve intelligence analysis for all analysts regardless of their experience and meticulous attention to detail.

In utilizing the case study research method, I conducted ten interviews with the participants (five cadets and five former colonels who comprised the panel of experts). The interviews focused on answering questions that pertained to how they would conduct their analysis based on a situation that will be presented in a case-based scenario that attempted to reflect a contemporary counterinsurgency.

The case-based scenario presented had a detailed map of the area associated to a specific counterinsurgency problem. The scenario was a fictitious country that has appealed to the United States for assistance with an ongoing counterinsurgency. The cadet was the primary intelligence analysts for a combat infantry brigade that has been deployed to support the host

nation with their ongoing counterinsurgency. I then provided message traffic that detailed attacks conducted by the insurgents against the host nation's infrastructure and people. From this, the student built an analytical assessment detailing what the threat group(s) look like, what are their objectives, and what are they planning to do and when based on the Intelligence Preparation of the Battlefield process found in FM (2-01.3).

The design included historical studies as previously mentioned. The data analysis was conducted with the usage of Grounded Theory, where "the researcher begins with a[n] interview...and compares it with another incident...". (Marriam, 2009, pp. 199-200) By analyzing the details of the interviews, the usage of a critical thinking framework was examined in context of what factors contributed toward successful historical counterinsurgencies.

To ensure that the assessments received from the semi-structured interviews were focused toward successful mission accomplishment in a counterinsurgency, I utilized a panel of experts to ensure triangulation of the validity of the study. Five former battalion or brigade commanders reviewed the findings from the interviews, and also reviewed the aspects that they are compared to in successful counterinsurgencies such as the U.S. Philippine War of 1899-1902 (Linn 2000) or the British action in Malaya (Nagl 2005). I also conducted interviews with the group of experts in order to compile their opinions since the case-based scenario, as with real-life counterinsurgencies, did not have a specific or clearly defined outcome (Yin 2009).

Reliability and Validity of the Study

The reliability of this study pertains to the specific data collection procedures that I utilized (Yin, 2009). Since I studied a very specific problem with a very specific population, the reliability of this study was very important. The case-based scenario was a tool that I will utilize as the basis of the data derived through the interviews. The CTIAP (Hess & Friedel,

2008) was the method that the cadets utilized to solve the case-based scenario. So for a study to be conducted that can replicate this one with similar results, a requirement would exist to satisfy all these specific items.

The validity of this study may be ascertained through the three following aspects: construct, internal, and external (Yin, 2009). Construct validity ensures that my study is based on the correct measures utilized in research (Yin). Internal validity is utilized to ensure the environment of the study is controlled to ensure the data obtained from the participants that are not corrupted by factors that I did not attempt to control (Yin). External validity attempts to explain to whom the results can be applied to or generalized (Yin).

Because this was a qualitative research study, the aforementioned aspects of validity take on a different meaning in perspective to the goals of this study. I did not believe that I would find an all encompassing truth through this study, but rather provide a methodology that may improve the intelligence analyst's ability to provide more meaningful, objective, and specific recommendations that may be applied to a counterinsurgency or counterterrorism environment. The usage of a case-based scenario attempted to reflect a real-world insurgency that highlighted this challenge. I could create thousands of case-based scenarios, and most likely none of them will ever adequately reflect the next counterinsurgency the United States could find itself engaged. Therefore, I thought it was prudent to utilize the triangulation method that I discussed previously in the research design. Triangulation may help ensure the reliability, credibility, and validity of the research (Merriam, 2009). The panel of experts served as my means to ensure triangulation of the study.

Participants

There were five participating cadets selected from the course, Terrorism: New Challenges (SS465), which I taught during the Fall semester of 2010 at the United States Military Academy at West Point utilizing the CTIAP (Hess & Friedel, 2008) method. I ensured that all participants were taught the doctrinal intelligence process and CTIAP (Hess & Friedel) prior to completing the case-based scenario and corresponding interviews. The interviews were semi-structured questions that explored how the analysts conducted their analysis of the case-based scenario (Yin 2009).

The sampling strategy was nonrandom purposive sampling. The sampling was nonrandom purposive because according to Gay, Mills, and Airasian (2009) purposive sampling “is the process of selecting a sample that is believed to be representative of a given population” (p. 134). As mentioned in chapter 1, there was a finite pool of candidates that could be utilized for this study; therefore, I did not generalize the findings of this study to a larger population.

All participants were required to give their consent acknowledging participation in the study. Also, approval from the military chain-of-command was obtained prior to the beginning of the study. There were not any ethical standards that need addressed or approval. The entire study was approved in accordance with Louisiana State University IRB policies and procedures, E5369. (Appendix E)

The Case-Based Scenario

I utilized the case-based scenario for counterinsurgencies found in FM 34-130, and then wrote the message traffic, which were reports of events that had occurred during the scenario. The situation was one of an ongoing insurgency with various threat groups operating to destabilize a U.S.-friendly country. The participants received all the operational information,

military maps, and message traffic associated with the situation. The operational information consisted of a synopsis that discussed the history behind the conflict, the host nation response, and U.S. involvement. The maps were paper-based military maps that were typically used by the U.S. Army. The message traffic was information that was typically collected through various operations that detailed the insurgent's operations.

The case-based scenario was validated through multiple exercises with qualified instructors at the U.S. Army Intelligence Center at Fort Huachuca, AZ. These exercises were the instructors completing the scenarios themselves, and identifying and correcting any shortcomings. All exercises that were used for the case-based scenario were pilot tested with another group of instructors. The intent of the review was for content validity and clarity in the case-based scenario. If any ambiguities or other constraints were identified, the case-based scenario would have been updated and revalidated with the same instructors. An answer-key of sorts was developed that demonstrated what the threat groups were doing, and planning to do with detailed explanations outlining why. The collection of this qualitative data was examined against the answer-key developed through the pilot test.

While this case-based scenario did not have any contemporary studies to compare it to in order to evaluate its reliability, I did compare the findings in relationship to the historical counterinsurgencies aforementioned for triangulation (Yin 2009). In order to evaluate the effectiveness of critical thinking applied to intelligence analysis, the instrument needed to be reflective of what an analyst actually does. It would have been of marginal impact in order to demonstrate the effectiveness of critical thinking applied domain-specifically to intelligence analysis if the instrument did not represent the challenges of intelligence analysis. The instrument was evaluated for its trustworthiness by looking at the credibility of the data, the

transformability of the scenario to similar situations, and dependability of the collection procedures (Gay, et al, 2009).

The case-based scenario provided enough detail for the participants to apply the CTIAP (Hess & Friedel, 2008) in order to conduct their analysis. I reviewed the analyses to determine if the participants were able to apply the principles of the CTIAP, which provided details as to how the insurgents were trying to attack the operational environment (Hess & Friedel). Also, the participants were able to provide recommendations for what factors, or nodes, needed to be influenced in the operational environment that may lead to operational success (Hess & Friedel).

Data Collection Procedures

In order to conduct this study, the following process was followed. First, I coordinated with all the participants, and from there the interview timeline was established. To ensure thorough and detailed responses, the participants were given the case-based scenario one day prior to the interview. I utilized semi-structured interviews to ask questions pertaining to how they conducted their assessment, and what specific skills they utilized while conducting that assessment. I conducted the semi-structured interviews in one day attempting to control intersession reliability. I also directed the participants to not discuss the scenario or how they conducted their analysis prior to the interviews. Because the participants were cadets at the United States Military Academy, they followed a strict code that states that they will not lie or cheat.

All of the participants were present in the instruction of the CTIAP, and issuance of the case-based scenario to ensure the environment was controlled. Any ambiguities or confusion were discussed by the entire group until an overall consensus and common approach to critical thinking was taught and/or a complete understanding of the intelligence process was reached.

I administered all of the interviews, collected, evaluated, and analyzed the data. If there would have been any discrepancies, I would have had faculty members familiar with critical thinking, review and make a determination, but that was unnecessary, as that did not occur. Lastly, I conducted a member check, and reviewed the data with the participants individually so they could see what they did, and further I asked them if they felt more confident utilizing critical thinking skills, when applicable.

Treatment of the Data

All information was analyzed by the researcher and evaluated in relation to its relevance and completeness as determined by the group of experts. Also, the data were examined in context relating to the historical examples of successful counterinsurgencies. All final assessments were identified in order to assess if there was a significant difference in the detailed level of analysis focused against a specific problem through the use of critical thinking.

Grounded Theory

As previously mentioned, grounded theory was utilized to understand the findings from the interviews of the cadets. The findings were compared to aspects of successful counterinsurgencies that explained and provided insight to the data obtain through the interviews (Merriam, 2009). It has been determined that grounded theory may help the researcher determine meaning in a study where historical examples provide insight explaining a certain phenomena (Yin, 2009, Merriam, 2009). I think this study definitely fit that description.

I examined both the U.S. Philippine War of 1899-1902 and British operations in Malaya as my historical COIN studies since they were historical examples of successful operations, which targeted various aspects of the operational environment. Since the targeting of the operational environment was one of the premises of the CTIAP (Hess & Friedel, 2008), I

identified those variables and compared them to the data obtained from the interviews. This added depth to the ability of the CTIAP to provide meaningful analysis that is useful for commanders and decision makers.

I used grounded theory to guide my research through understanding why the intelligence analyst's assessments impact the successful accomplishment for a military operation in a counterinsurgency or counterterrorism environment. I then applied grounded theory to understand how those assessments impacted the operational environment of a counterinsurgency or counterterrorism operation. After I concluded the interviews, I evaluated all of the answers holistically. I was looking for the commonalities, and outliers, pertaining to how the cadets determined the threat courses of action, along with recommended targets consistent with the process for coding. I highlighted the key aspects of the operational environment that were identified from the products produced by the cadets and through the interviews. Then I created clusters based on the common aspects of the analysis (Miles & Huberman, 1994). These clusters were coded according to the operational environment variable that they answered. From these clusters, I examined them in relation to the historical COINs to identify common aspects of the operational environment contributing to successful COINs.

Criteria for Sources

My sources were primary, researched-based, quantitative sources, and historical studies that have specific focus on counterinsurgencies. Also, these sources may provide insight to how critical thinking may be taught, through integrated domain-specific methods, to improve the ability to utilize critical thinking skills in analyzing intelligence. All of the sources, except three, were written within the past five years, with the oldest ones dating from 1997. All articles were obtained from the Education Resources Information Center (ERIC) with the exception of the

historical and contemporary counterinsurgency studies. These studies on counterinsurgencies were obtained from the United States Army War College's Strategic Studies Institute at Carlisle Barracks, Carlisle, Pennsylvania, or the United States Army's Combined Arms Center's Combat Studies Institute at Fort Leavenworth, Kansas, and others are books published by historians or authorities in counterinsurgencies. I think these studies provided more insight into the aspects of why the counterinsurgency operations were successful, and were more specific to the focus of this study.

I chose the U.S. Philippine War of 1899-1902 and British operations in Malaya as my historical COIN studies because it was determined that they provided valuable insight into the factors that may lead to success in a counterinsurgency or counterterrorism operation. Both examples were relevant in terms of applicability pertaining to how the United States conducts warfare in terms of structure and civilian governmental oversight. They also demonstrate how the counterinsurgent forces learned and successfully evolved their tactics during an insurgency. I did not include counterinsurgencies that were not successful because the intent of this research was to identify the variables that contribute to successfully counterinsurgencies.

Researcher's Lens

I am very familiar with the field of intelligence analysis. I have over nineteen years of active duty military service, fifteen as an intelligence analyst. I am a senior military intelligence warrant officer, and have served in various positions throughout the intelligence community and in diverse situations during real-world deployments.

I enlisted in the United States Army in March of 1992. I was eighteen years old and had just completed one year of college. I enlisted as an infantryman, completed basic military training, advanced individual training for military occupational specialty (MOS) 11B (Infantry),

and then basic airborne school prior to being stationed at my first assignment with the 1st Battalion, 509th Airborne Infantry Regiment of the Joint Readiness Training Center (JRTC).

I served as a member of the Opposing Forces at the JRTC for four years as an infantryman. The JRTC trains United States military units and their allies in a realistic scenario-based exercise that examines a unit's ability to conduct its wartime mission. This assignment provided me with the foundation and desire to constantly seek ways to improve military tactics that can best accomplish the assigned mission. While assigned to the JRTC, I also served as a member of the Scout Platoon for the 1st Battalion, 509th Airborne Infantry Regiment. As a member of the Scout Platoon, my missions routinely were focused toward intelligence collection that would enable the main effort units to successfully achieve their objectives. This experience influenced my decision to become an intelligence analyst in the Military Intelligence Corps.

In 1996, after completing the Intelligence Analyst course (MOS 96B – now 35F), I was assigned to the 7th Corps Support Group in Bamberg, Germany. During this three year tour in Germany, I deployed in support of the ongoing missions in the Balkans three times for a combined two years. My first deployment was to Tazsar, Hungary, where I served as the senior intelligence analyst providing route analysis for units deploying and redeploying from Bosnia-Herzegovina.

My second deployment took was to Slavonski Brod, Croatia, where I served as the senior intelligence advisor for Task Force Pershing. My responsibilities ranged from studying the returning displaced persons, evacuees, and refugees from Bosnia-Herzegovina to providing intelligence support observing the withdrawal of the Yugoslavian National Army from Eastern Slavonia in Croatia back into Serbia.

My third deployment to the Balkans was to Albania, where I was a part of Task Force Hawk in Operation Noble Anvil. I was responsible for assessing the effects of the Task Force's targeting campaign, the air defense threat against coalition aircraft, and ran the interrogation of prisoners of war cell that interrogated two captured Yugoslavian Army Soldiers.

After my tour in Germany, I was reassigned to the 82d Airborne Division at Fort Bragg, NC. While assigned to the 82d Airborne Division, I served as the senior intelligence advisor in the 1st Squadron, 17th Cavalry. I participated in multiple war games and exercises while stationed at Fort Bragg, and was admitted into the Sergeant Audie Murphie Club for excellence as a Non-Commissioned Officer and leader.

In 2001, after being selected as a MOS 350F All-Source Intelligence Technician, I attended the Warrant Officer Candidate School at Fort Rucker, AL. Upon graduation as a Warrant Officer, I attended the All-Source Intelligence Technician Basic Course at Fort Huachuca, AZ. According to FM 7-0, a warrant officer is an officer that is tactically and technically competent in a specific field. They also serve as advisors to commanders inherent in their field of expertise, while providing development, guidance, and counseling to officers, non-commissioned officers, and Army civilians.

After completion of all requisite warrant officer training, I was assigned to the 2d Armored Cavalry Regiment at Fort Polk, LA. I served as the Analysis and Control Element (ACE) Chief for the Regiment, where I was responsible for all fusion and analysis of intelligence in order to support the commander's requirements. While assigned to the 2d Armored Cavalry Regiment, I deployed to Baghdad, Al-Kut, Al-Hillah, and An Najaf, Iraq in support of Operation Iraqi Freedom.

Upon return from Iraq, I became an Observer/Controller at JRTC where I was responsible for training units and evaluating their policies and procedures as they would prepare for upcoming deployments to Iraq or Afghanistan. As a part of my duties within this position, I also worked with the 1st Battalion, 509th Airborne Infantry Regiment in order to ensure a realistic threat was reflected in the training so the rotating units could experience how the insurgents in Iraq or Afghanistan fight against U.S. and coalition forces.

In August of 2005, I was reassigned to the United States Intelligence Center at Fort Huachuca, AZ. There I was selected to serve as a Small Group Instructor for the Military Intelligence Captains' Career Course, where I taught Military Intelligence Captains the requisite skills and knowledge of Intelligence Preparation of the Battlefield, Collection Management, and Intelligence Analysis. In April of 2007, I was selected to lead the 111th Military Intelligence Brigade's, the unit charged with executing the training mission for the U.S. Army Intelligence Center, main effort – The Enlisted Analyst Training Committee (EATC). As the committee chief for the EATC, I was responsible for the curriculum and training of over 2,000 intelligence analysts annually. I was also responsible for the professional development of over 150 instructors (military and civilian).

In August of 2009, I was reassigned to The United States Military Academy at West Point. I served as the Senior Intelligence Officer and as an Instructor. I taught the gateway course into the terrorism studies program, Terrorism: New Challenges (SS465), which is offered in the department of social sciences and is a requisite course towards a minor in Terrorism Studies that is offered at West Point.

As of July 2011, I was reassigned to the Headquarters, 82d Airborne Division at Fort Bragg, NC. I am currently the Intelligence Fusion Chief in the Analysis Control Element (ACE),

which is part of the G-2 (Intelligence) section. The division headquarters is preparing for a year-long deployment in Afghanistan.

My Philosophy of Intelligence Analysis

I strongly believe that intelligence is supposed to drive operations. This means that any operation should only be conducted when there is a high degree of certainty that there is a situation that deserves attention through some type of operation, whether military or other. I believe that operations that are conducted without intelligence providing the impetus for them are not effective and potentially put people's lives at risk for little or no reason. A fairly recent example is, in 2004 operations were conducted in Sadr City, Baghdad, Iraq. These operations were focused on shutting down the Hawza newspaper, which was essentially controlled by anti-American cleric, Muqtada Sadr, and closing The Sadr Bureau, a local administrative office that also served as a mosque. The outcome of these operations provided Muqtada Sadr a platform for his anti-American rhetoric, and also served to polarize some of the Shi'a population against coalition efforts.

I believe that intelligence analysis is the most crucial aspect of the intelligence warfighting function. Without sound analysis that applies important information in context, there is little doubt in my mind that any operation that is conducted with poor or limited intelligence will yield little positive results. The previous example serves as a good example of an operation that needed sound analysis conducted in order to understand possible outcomes prior to execution.

I also believe that for intelligence analysis to be effective, it needs to be objective and thorough in its assessment. Intelligence analysis should provide the commander enough detailed information that answers the 5Ws (who, what, when, where, and why or how), and if all that

information is not available then the analyst needs to highlight that in his assessment. I believe that focused analysis leads to focused operations, and in a COIN environment that is paramount. Since I believe that intelligence is so important in a COIN environment, I also believe that we need to spend the time to conduct thorough analysis taking into account all the variables of the operational environment. The only deviation from this should be for a time-sensitive situation, such as if we have vague information about a car bomb that is about to explode near a highly populated area of a town.

I also agree that the military is an instrument of foreign policy. Therefore, if the people of the United States feel strongly enough about a certain situation as to deploy the military instrument of policy, then the intelligence community has an inherent role to provide the best assessments possible for the success of the mission and safeguarding of American resources.

Summary

In summary, a diverse group of cadets that have been trained in intelligence analysis were assessed on how well they could solve a complex problem given exposure to a critical thinking framework that has been applied to intelligence analysis. The research design utilized case-study research that examined the conceptual framework known as CTIAP that I co-developed (Hess & Friedel, 2008). The CTIAP model was evaluated through a case-based scenario that examined how well the participants conducted their analysis through exposure to CTIAP, and then compared to historical COINs utilizing grounded theory.

CHAPTER 4

FINDINGS OF THE STUDY

Introduction

My research question for the study was: How does a domain-specific application of critical thinking to intelligence analysis provide a more holistic, comprehensive, and non-biased assessment that is pertinent to decision makers?

In order to explain how well critical thinking improves the holistic, comprehensive, and non-biased assessment of intelligence analysis, I presented a case-based scenario to five participants (cadets at the United States Military Academy) trained to use the CTIAP, and then conducted interviews with the cadets in order to answer my research question. I then presented the products resulting from the participants' analysis to a panel of experts consisting of five colonels. After their review, I conducted independent interviews with the colonels that have served in a capacity to provide insight and potential critiques to the study. Finally, I conducted a review of historical counterinsurgencies in order to provide a theoretical underpin regarding successful counterinsurgencies. This leads to the four major sections in which I presented the data; 1) Cadets' responses pertaining to using the CTIAP in the case-based scenario, 2) Panel of experts' responses of the cadets' products and analysis, 3) Historical counterinsurgencies providing insight to the effectiveness of the CTIAP, and 4) Review of cadets' products and analysis based on historical counterinsurgencies.

The research methodologies that were used for this study were case-study and grounded theory. According to Yin (2009) and Merriam (2009), case-study and grounded theory provide the best means to understand the depth of how and why the CTIAP process improves intelligence analysis in a COIN or counter-terror environment. I also felt that these methods were most

appropriate due to the qualitative nature of the research question. The case-study method provided me the ability to explore the interconnectedness and complexity of the variables being researched; while the grounded theory method allowed me to analyze the CTIAP through historical counterinsurgencies that have proven to be successful.

The specific manner in which I utilized the case-study method was through a case-based scenario and semi-structured interviews with the cadets. I utilized the case-based scenario as a means to replicate a realistic counterinsurgency that the cadets would analyze through the CTIAP. The interviews were conducted to explore why the cadets produced the products that they utilized for their analysis. After I completed the interviews with the cadets, I then conducted semi-structured interviews with the panel of experts in order to gain insight on their opinions as to why the CTIAP improves analysis. This was done in order to allow the panel of experts to review the cadets' products as if they were the commanders of a unit in the scenario, and for the panel to relate the usefulness of the cadets' analysis and products in driving subsequent operations. The data was presented, interpreted, and then explained for each topic.

The usage of grounded theory allowed me to explore successful historical counterinsurgencies and what commonalities can be extracted in order to understand how the CTIAP improves the intelligence analyst's abilities to provide holistic, comprehensive, and non-biased assessments. The U.S. Philippines War and British Malaya Emergency are examples of successful counterinsurgencies, and exploring the major themes of success was very important for an understanding of how intelligence can lead to success against an insurgency. I also included questions in the interviews that were conducted with both the cadets and the panel of experts that assisted in highlighted the themes that were identified through the examination of these successful counterinsurgencies.

Review of the Critical Thinking Intelligence Analysis Process (CTIAP)

The CTIAP was a framework that was built from the research of Dr. Peter Facione (2007). Facione conducted a Delphi study in order to formulate a consensus definition of critical thinking, and also to identify the cognitive skills that were essential for good critical thinking skills. The six cognitive skills that Facione identified are interpretation, analysis, evaluation, inference, explanation, and self-regulation (2007). The CTIAP framework focuses the analyst from the very beginning of the IPB process. Essentially, step one and two of IPB are fused together to identify all potential consideration of the battlefield through the study of the operational environment (Hess & Friedel, 2008). This then provides the analyst the ability to focus his analysis on any potential threat group or other entity that needs consideration pertaining to the way they conduct operations, and the potential areas that these groups need to influence (Hess & Friedel). Based on this analysis, the analyst can begin to provide predictive analysis based on those areas that are specific to the groups in question (Hess & Friedel). This process would then essentially provide a basis for a collection plan that the analyst can focus specifically to each group in question (Hess & Friedel).

Finally, the CTIAP framework provides the analyst the ability to effect the operational environment in which he is operating. As he identifies the areas or targets that a potential group needs to affect, the analyst can identify the corresponding factors that are effect the overall operational environment. This model may also provide the analyst the ability to assess the effectiveness of the operations that were and are being conducted.

The significance of the CTIAP process was that it has the potential to improve the way intelligence analysts are trained, and enhance their analysis. Too often analysts believe that they may not really be providing analysis or truly solving problems. Rather, it seems there was a

growing feeling from intelligence analysts that they were considered glorified reporters that have access to classified information (Johnston 2005). The CTIAP process, if utilized, may help the analyst build a product that not only focuses analysis, but also focused on providing a comprehensive and systematic way to make that analysis predictive in nature (Hess & Friedel, 2008).

Cadets' Responses Pertaining to Using the CTIAP

In order to fully understanding the depth of the data collected in interviews, I have evaluated the cadets' responses and products through five major themes: 1) Understanding the Operational Environment, 2) Familiarization with the threat groups present in the case-based scenario, 3) Details and completeness with the threat courses of action, 4) Comprehensive target list, and 5) Ease and comfort of using CTIAP.

The findings of my study were arranged by the five themes aforementioned. For each theme, I further broke down the respondents' answers specific to each point. All of the subsections were organized using the following format, an explanation of how that specific subsection builds to a holistic assessment, the cadets' responses that provide details on how the CTIAP ensured their products and analysis were comprehensive, and finally a summation for each subsection where I explain how the cadets' answers based on the CTIAP ensured that they remained objective and unbiased as possible.

Understanding the Operational Environment

When an intelligence analyst begins the Intelligence Preparation of the Battlefield (IPB) process, defining the battlefield environment or operational environment as it may now be more commonly known, was the first substantial step that the analyst conducted. The CTIAP organizes this step by combining both the geopolitical environment defined by the acronym

PMESII (Political, Military, Economy, Social, Infrastructure, and Information) with the physical environment defined by the acronym ASCOPE (Areas, Structures, Capabilities, Organization, People, and Events).

Reference to the first theme, Understanding the Operational Environment, my analysis focuses on both the participants' answers during the semi-structured interviews and an evaluation of the products that they produced. I conducted the analysis of their products, but I did so in context of what a doctrinal correct product was supposed to look like in relation to what the instructions were for utilizing the CTIAP.

Responses and my interpretation of their products were based on the following four discussions: 1) What did you utilize to understand the operational environment, 2) Explain how you derived the nodes for the insurgent groups, 3) Did the cadets produce a product that demonstrated their understanding of the CTIAP process in regards to detailing the operational environment, and 4) Cadets' response to favorability with utilizing the CTIAP in order to understand the operational environment.

Holistic evaluation of understanding the operational environment. The first major step the cadets performed was an evaluation of the operational environment of the case-based scenario; Counterinsurgency Operations. When utilizing the CTIAP, the evaluation of the operational environment was accomplished through building an interface of the geopolitical and physical environments. This interface was built with the PMESII/ASCOPE process (Appendix A).

The interface was holistic in its evaluation of the operational environment, because the cadets were required to fill the interface out with all available information in a cross-referenced format. This helps ensure that the information provided was as detailed as possible based on

available information, and that its relative worth was evaluative as the specific aspects of the environment that affected the local populace, insurgents, political leaders, or otherwise could be ascertained.

Cadets' utilization of PMESII/ASCOPE. All cadets responded that they utilized the PMESII/ASCOPE interface that was taught to them as a component of CTIAP. They all felt that it was easy to use, and was a tremendous aid to their analysis, especially since most felt that they were novices when it came to intelligence analysis.

One cadet related that he felt that since typically there are more urban areas in a counterinsurgency, the PMESII/ASCOPE interface provided the necessary details to help him visualize the battlefield. He stated that it was "...as if the town was highlighted and jumping out at me". Another cadet responded that the PMESII/ASCOPE interface "...just made sense, and seemed perfectly logical".

The reason for the logical simplicity that the cadets experienced through utilizing the ASCOPE/PMESII interface was that it was intentionally built as a simple step-by-step method for analysis. The ASCOPE acronym immediately focuses the analyst on the urban terrain in which he is operating. The PMESII acronym focuses the analyst on the geo-political environment. By combining them into a single product, the analyst is studying the geo-political environment in the context of the physical terrain he is operating in.

Deriving the nodes for insurgent groups. The cadets' responses were not all the same when it came to explaining how they derived the nodes or objectives for the insurgent groups from the case-based scenario. However, they were all similar in that they were focused on the operational environment of the scenario. There were two major themes that can be derived from the cadets' response, identifying threat nodes and identifying civil considerations.

The two respondents that focused on threat nodes were specific in that they were trying to identify what the insurgent groups needed to target or influence in order to further their goals. In doing so, they utilized their PMESII/ASCOPE interface, and highlighted all aspects that the insurgents need to influence based on the stated and assumed objectives of the insurgents.

The two respondents that focused on civil considerations were focusing their efforts on understanding and identifying what they believed to be the center of gravity in the insurgents' objectives: influencing the civilian population, and trying to win their support. While they focused on civil considerations, they also did indeed utilize PMESII to identify the relationship between the civilian population and all the other aspects of the operational environment.

The fifth respondent focused his efforts toward identifying all potential links of every aspect of the operational environment in a very holistic nature. While this was not in itself a bad thing, it would take additional effort to identify specific objectives that a specific insurgent group would target. In practice, what the fifth cadet did was attempt to ascertain which areas within each variable of the ASCOPE/PMESII interface that the insurgents would need to influence without identifying areas that the insurgents would not need to influence, at least in his interpretation. The problem that may arise in this type of analysis was that the analyst can easily miss indicators or potential interconnectedness between insurgent objectives and aspects of the operational environment that the local populace relies upon.

Pertaining to how the cadets identified the potential threat nodes, all respondents followed the basic premises of the CTIAP. Whether the focus was on the insurgents, the civil considerations, or an identification of all potential links, the analysis was sound and worthwhile. The best way to conduct this analysis was truly dependent on the individual and the situation one

finds himself in, but the more specificity that can be built into the product; the more useful the analysis will be when applied.

Detailing the operational environment. All of the cadets produced a product that resembled the PMESII/ASCOPE interface from the CTIAP, example found in Appendix A. They were all detailed and potentially useful for purpose of building sound threat models, which leads to specific courses of action and deliberate target nominations. Overall, the cadets demonstrated an understanding of the process and produced relevant products.

The cadets were able to produce products that highlighted all the known areas of the operational environment that could potentially be significant to both the populace and the insurgents. The identification of political areas, military and law enforcement, governmental structures and organizations, and areas of economic importance are just a few examples. The interface provides a detailed understanding of the operational environment for the analyst to apply for the purposes of benefit to the populace and areas that need to be influenced or controlled to deny the insurgents a capability.

Cadets' favorability towards utilizing the CTIAP. For each major subsection of the study, I asked the cadets about their favorability with utilizing the CTIAP. In regards to their favorability with the CTIAP and understanding the operational environment, all respondents reported high favorability. They all felt that it was much more useful and meaningful than the doctrinal process of *Understanding the Environment* (Step 2 of IPB).

Specifically, as they expanded on their responses, the cadets reported that the CTIAP process in relation to understanding the operational environment was “multidimensional”, “well-rounded”, “easy to use”, and “organized”. One cadet mentioned that the PMESII/ASCOPE interface created an almost three dimensional understanding of the battlefield without any

visualization aids. The three dimensional visualization of the battlefield analogy makes sense, as the ASCOPE/PMESII interface enables an analyst to examine all of the aspects of the operational environment simultaneously through a physical terrain and geo-political lens. Another cadet mentioned that he could never understand why someone would not use the process. The responses were consistent in that they felt that the CTIAP should be the U.S. Army's doctrinal process when it comes to understanding the operational environment. The cadets felt that the current doctrinal process was not specific or detailed enough for COIN or counterterrorism operations, but the CTIAP does provide the requisite details for both environments. This was not an uncommon sentiment among analysts, because current doctrine was not developed with the specificity for all potential environments, but rather as a framework that needs to be applied to certain situations. This aspect was one reason why it works well with a critical thinking framework; because existing doctrine has enough flexibility to apply it with relative ease.

Summary of understanding the operational environment. Based on the cadets' responses, they believe they built an objective and relatively bias-free interface of PMESII and ASCOPE. Since it appears that they did utilize the information from the case-based scenario as it was presented to them, and did not infer anything into their analysis that was not present, that they were successful at maintaining an objective analytical product.

It also appears that the main catalyst for their success with maintaining objectivity and bias-free analysis was indeed the CTIAP. The cadets demonstrated objectivity and bias-free analysis through the PMESII/ASCOPE interface, since the data presented were not subject to interpretation, but rather organized in a logical and meaningful manner. The cadets essentially

responded to that assumption when they felt that they understood and utilized the CTIAP for their ASCOPE/PMESII interface.

Familiarization with the Threat Groups

The second theme pertaining to the cadets' responses to the case-based scenario was familiarization with the threat groups. In order to determine if the respondents were familiar with the threat groups of the case-based scenario, again some major themes surfaced in the responses from the cadets, they are: 1) Identification of threat groups, 2) Identification of threat tactics, 3) Ability to build a threat model, 4) An explanation of how the tactics of the insurgent groups focused analysis, and 5) Cadets' response to favorability with CTIAP in order to familiarize themselves with the threat groups present in the case-based scenario.

Holistic evaluation of familiarization with threat groups. Similarly to my assessment of cadets' evaluation of the operational environment, these five cadets were able to understand the CTIAP's methodology when it came to evaluating threat groups. All of the cadets were able to determine what each group looked like, given the information in the case-based scenario, and built upon the information present in their PMESII/ASCOPE interface. They presented a coherent picture of the insurgent groups' capabilities, basic tactics, potential objectives, and limitations. This demonstrated that the cadets understood the holistic nature of understanding the operational environment and its aspects that were important to the insurgents, and in turn important to the U.S. forces.

The products that the cadets produced were specific enough to demonstrate that they could categorically identify indicators pertaining to one insurgent group vice the other one. Also, they were able to ascertain specific threat models that highlighted the potential objectives

that the insurgents would most probably attempt to influence. This understanding demonstrates that the cadets realize the interconnectedness of the CTIAP and the information that it derives.

Identification of threat groups. All five cadets were able to identify the two major insurgent groups present in the case-based scenario, and also made mention of individuals that could be potential threats. More importantly, all five cadets were able to associate specific objectives to each insurgent group. This identification helped ensure that their PMESII/ASCOPE was built specifically to each insurgent group. Interestingly, the one cadet who built his PMESII/ASCOPE interface based on all of the links he developed in his analysis, and then went back and updated his analysis to identify the links specific to each insurgent group. In other words, the cadet essentially reverse engineered his analysis of the insurgent groups. His effort was focused on identifying the potential objectives that the insurgents would like to influence, and then conducted his nodal analysis of the operational environment in order to understand how the variables were related to those objectives. During the interview with this cadet, I asked him why he preferred to reverse engineer his analysis, and he responded that “...developing actionable intelligence is more important time-wise than understanding the relationships of each insurgent group and their potential objectives”. The cadet’s answer was not wrong, but it could be misleading. By not understanding the interconnectedness of insurgents and their objectives in relation to their end state, the intelligence analyst may be providing actionable intelligence that was not relevant or could exacerbate another situation.

Cadets often found it preferable (as it was taught to them) to build the PMESII/ASCOPE interface specifically to each threat group from the beginning, as it can be modified as the analyst continues moving through the process. However, it was recommended to make it a habit of focusing specific analysis from the beginning, as an analyst can easily become rushed for time

and potentially forgetting or become overcome and never update the PMESII/ASCOPE interface. This specific analysis would identify those nodes that the insurgents would attempt to manipulate, and from there build the threat models that identify objectives.

Identification of threat tactics. When asking the cadets how they identified the tactics of the insurgent groups in the case-based scenario, I received one consistent answer – the operational environment. This answer highlights the point that the nodes that are identified through the evaluation of the operational environment with the PMESII/ASCOPE interface provide insight into the objectives that the insurgents would need to influence.

Specifically, the cadets provided more specificity in their answers. Three of the cadets reported that the operational environment provided them the ability to conduct detailed analysis. One cadet reported that he had a “better understanding of the insurgents’ objectives”, which provided him “...the details necessary to understand the insurgents’ tactics and goals”. Another cadet mentioned that he liked the interface as it provided him a methodology of determining “insurgent targets, resources, and infrastructure”. The other two cadets reported that they were able to ascertain the “nodes that we need to impact”, “links and connections”, and “non-lethal aspects” for consideration. All answers were within those two major observations, and were indeed focused through their PMESII/ASCOPE interface.

The responses were very important for the intelligence analyst to understand, as the operational environment provides aspects for the analyst to separate the insurgents from the population. When the intelligence analyst can identify specific objectives or areas within the operational environment that the insurgents need to control in order to be successful, it provides the analyst the ability to focus collection and operations in order to deny the insurgents those

areas. This information may also assist in identifying indicators to find the insurgents as they attempt to conduct reconnaissance or other preliminary operations against those objectives.

Ability to build a threat model. All of the cadets built threat models depicting how they believed the enemy conducted attacks against a specific objective. These objectives were all derived from the nodes that were identified through their PMESII/ASCOPE interface, and specific to each insurgent group.

The cadets felt that they had a good idea of how the insurgent groups would conduct the attacks against the objectives based on the analysis conducted of the operational environment. The cadets were also able to identify the weapon systems available to the insurgents, and built vignettes on how those objectives would be attacked according to the capabilities of the weapon systems.

All five cadets produced valid threat models, and provided substantive data to support the objectives that were utilized (Appendices C & D). While a threat model was not a course of action, it does demonstrate that the cadets were able to ascertain one insurgent group's signature of a specific attack versus a different insurgent group. This was important, as it demonstrates the ability to recognize the signatures present when there may be more than one threat group operating in a single environment.

An explanation of how the tactics of the insurgent groups focused analysis. At first the cadets had a hard time understanding how the insurgents' tactics focused their analysis. However, as the cadets began to explain what they produced and why, I found that they quickly realized that the tactics employed by the insurgents did have a significant impact on how they conducted their analysis. The products the cadets produced were specific to each insurgent group at this point, and the result was that they had different products for both insurgent groups.

For instance, a product known as a link diagram was produced to demonstrate relationships between people and events. Both insurgent groups had enough information to build a link diagram, but what the cadets found was that they needed to build three different diagrams to fully realize the complexity of the insurgent groups. The cadets built one link diagram for each group, and four of them produced a third diagram to highlight potential relationships outside of the groups, whether to the other insurgent group or civil organizations. While there was not an established doctrinal process to build additional diagrams for external relationships, what the cadets realized was that an insurgent group has far reaching arms where some of the members operate in licit and sanctioned careers (Appendices C & D). The interesting finding was that the fifth cadet did not produce an additional link diagram, but still made note of this challenge through an explanation or white paper discussing this paradigm (Appendix D).

Cadets' response to favorability with CTIAP. As was the case with the cadets' responses to the CTIAP toward the operational environment, the cadets were likewise very favorable of the CTIAP in relation to the details that they were able to produce for the threat groups. All of the cadets reported that they found the CTIAP an easy way to organize their thoughts, and found it very useful when trying to establish a system that would help them identify who was responsible for any specific attack or other reporting.

All of the cadets felt that the ability to organize the threat model through the CTIAP helped them determine and understand how they can recognize indicators of a specific group. By understanding and recognizing the indicators, the cadets began to speculate that they would be able to have more focused collection against the insurgents, and potentially nominate more meaningful targets (lethal and non-lethal). One cadet commented that "...I guess the things that

I don't know should be what I task [collectors] first", and another cadet mentioned "...this tells me how to find the insurgents".

The cadets demonstrated that they understood the value of building a threat model for all of the insurgents present in the case-based scenario. Their comments provide insight into two specific aspects of the CTIAP that maintain focus for the intelligence analyst; identifying and collecting on intelligence gaps, and focusing collection on indicators. The intelligence gaps were important to collect against, because the more we understand the operational environment, the more we can understand the relationships between the geo-political environment and the insurgents' goals. The indicators were important because they provide opportunities to find and then capture or kill the insurgents, or they provide a means for the counterinsurgent forces to influence the populace favorably in order to remove the insurgents' influence.

Summary of familiarization with the threat groups. As the above discussion demonstrates, the cadets were able to produce the requisite products that the CTIAP facilitates (as well as doctrine dictates). These products, which all inclusively are defined as the threat model, are the link diagrams, pattern analysis, doctrinal templates, and insurgent order of battle workbooks. The value of these products were that they provide a framework relating to the organizational, geographical, and warfighting capabilities (and limitations) of the insurgent groups. This was important for an intelligence analyst to understand, as it focuses the efforts of the analyst as he prepares to build the predictive threat courses of action.

The cadets demonstrated that they could produce all these products to a high level of proficiency. The products were detailed enough that they would benefit the cadets as they proceeded to build their courses of action. The cadets demonstrated that they had familiarity

with the insurgent groups, and could recognize specific indicators that are indicative of one insurgent group versus the other.

Details and Completeness with Threat Courses of Action

The third theme of the interviews conducted with the cadets that participated in the case-based scenario is the details and completeness with the threat courses of action. This section focuses on the ability to produce predictive courses of action based on the templates that the cadets had produced to this point. I have identified the following five themes from the interviews with the cadets, 1) How were the previous products utilized to prepare the courses of action, 2) How were the objectives validated through your analysis, 3) What criteria did you establish for evaluating reporting, 4) What did you use to focus your collection efforts, and 5) Cadets' response to favorability of utilizing the CTIAP when preparing threat courses of action.

Holistic evaluation of details and completeness with the threat courses of action. As noted in my summary of the threat model section, the cadets understood the value of the information that they previously produced and its relationship to building threat courses of action. As demonstrated with the following data, the cadets produced detailed courses of action that were specific to each insurgent group. Also, they typically recognized the fluidity of the battlefield, as they demonstrated the ability to build branches and sequels within their courses of action in the event the specific insurgent group modified or deviated during the operation (or if the course of action itself was not completely correct in its presentation of the operation).

The cadets continued to utilize their PMESII/ASCOPE interface, as well as to update it based on additional information, to focus their analysis toward the potential objectives and areas that were important for the conduct of both the insurgents and the U.S. forces' missions. Also, it was apparent that the threat model products were used according to their function, as the courses

of action provided details pertaining to time and organization. This demonstrates that the cadets continued to understand the holistic concept set forth through the CTIAP, and they were furthermore able to apply that information in a useable and meaningful way.

Products utilized to prepare the courses of action. All of the cadets reported that they utilized the products that they had prepared prior to developing the threat courses of action. They further responded that they believed that developing the courses of action proved to be quite simplified through the utilization of the products. One cadet responded, “Why wouldn’t you use them?” This cadet’s response, while simplistic, demonstrated an understanding of how important it is to constantly update your data based on new information. If an intelligence analyst was not using his previously produced products, then he would not even bother to continuously update them. When the analytical products are not used, then the analyst is simply guessing as to what the insurgents are trying to achieve, and he is not identifying indicators in order to find them.

As to how they used them, the general answer was the previously developed products provided the details that the cadets needed to build the threat courses of action. Furthermore, they reported that by leveraging the products they had developed, they felt that they could more accurately assess the quality of reporting. The reports they would receive provides information that helps confirm, deny, or requires updating of the courses of action, and the ability to evaluate them was recognized as of paramount importance (it is also part of the CTIAP).

Validating objectives through analysis. The cadets responded that they were able to identify the potential objectives that facilitated course of action development through the PMESII/ASCOPE interface and the threat models produced. By identifying those objectives, the cadets felt that their courses of action provided detailed locations that U.S. forces could collect

against in order to confirm the course of action or otherwise. Through utilizing their threat models, the cadets were able to draw conclusions on where insurgents would have to position themselves based on the capabilities and limitations of their weapon systems and other assets (Appendix C).

The cadets seemed to believe that the validity of the objectives was an issue of great difficulty. In order to thoroughly validate the objectives, they would need some collection that confirms or denies the course of action. However, they did recognize that they could leverage additional information from their PMESII/ASCOPE interface that provides potential key events, which aided their confidence in assessing the potential objectives.

Criteria for establishing and evaluating reporting. All of the cadets reported that they established the basis for evaluating their reporting prior to developing courses of action. They all utilized the concept brought forward through the CTIAP, which was to establish a numerical evaluative process based on the source of the reports. Specifically, one cadet mentioned that he “...used a 1 to 5 scale based on the reliability of the source”. The CTIAP proposes that the intelligence analyst should develop a numerical scale, and it provides a 1 to 5 scale based on the sources of data, to evaluate the credibility of each report. The CTIAP also addresses how to build this scale for each intelligence discipline, as each discipline is unique and therefore consideration for building a scale to establish credibility should be determined prior to conducting analysis.

All of the cadets appeared to be comfortable with the evaluative process from the CTIAP. One cadet specifically asked, “How do Soldiers currently evaluate the reports they receive?” This cadet’s question was rather difficult to answer, because based on my experience; this was not being done by the majority of intelligence analysts in the Army. Also, current doctrine does

not specifically call for an evaluative process to determine credibility of the information. The CTIAP provides examples, and the cadets' comments demonstrate that there should be a methodology to establish credibility of information.

Focus on collection efforts. The cadets stated that the primary focus for their collection efforts was based on confirming the insurgent groups' objectives that defined the threat courses of action. They believed that if they could identify the objectives, then the opportunity for successfully combating the insurgents would greatly improve. They also believed that through identifying the objectives, they could confirm or deny the overall courses of action (Appendices C & D).

Other aspects that the cadets used to focus their collection efforts were the operational environment and civil considerations. The operational environment aspects identified through the PMESII/ASCOPE interface not only provided the potential insurgent objectives, but also areas that could be influenced that have connections to those objectives. Also, the cadets felt strongly that building rapport with the civilian populace could benefit the intelligence collection abilities, as local nationals would be more prone to provide information if they felt that it would benefit their families and neighborhoods.

One cadet specifically mentioned that he would spend considerable effort to collect in the neighborhoods where they do not support either the U.S. efforts or the insurgents. "I would try to gain support by neutralizing insurgent activity in the neutral neighborhoods first." These neutral areas are important as they impact the ability of the insurgents to grow their numbers, the cadet believed. Furthermore, he felt that passive collection was more important in these neutral areas, as it would not draw the insurgents' attention to our activities. His assessment was valid, as the neutral areas may provide a source of valuable information since the residents may have a

significant amount of information pertaining to the insurgency, but they were not willing to become involved without reason.

Cadets' favorability of utilizing the CTIAP for preparing threat courses of action.

The cadets again responded overwhelmingly favorable toward the CTIAP when it came to preparing their threat courses of action. As previously mentioned, they felt that this should be the doctrinal process, because "it just seems right". Some of the cadets also mentioned that as they were progressing through the case-based scenario, their familiarity with the CTIAP also grew. All of the cadets provided a response of feeling very comfortable with using the CTIAP by this point in the case-based scenario.

Summary of the details and completeness of the threat courses of action. As I mentioned in the holistic section of the details and completeness of the threat courses of action, the cadets were able to effectively utilize the information that they had available when building their courses of action. As evident from their responses, they also had a firm understanding of the CTIAP, as well as why the CTIAP assisted their ability to build detailed and complete courses of action.

The fact that the cadets built their evaluative criteria prior to analyzing reporting further demonstrated that the cadets spent enough time to build a method that could assist them in limiting or even controlling their biases. By controlling biases as the intelligence analyst evaluates reporting was crucial to maintaining an unbiased approach while evaluating the courses of action. The cadets were able to demonstrate that they could establish the criteria and adhere to it.

Developing a Comprehensive Target List

After an intelligence analyst completes his analysis of the operational environment, builds threat models, prepares threat courses of action, and develops a collection plan, he then nominates potential targets for the commander to approve in order to defeat the insurgents. These targets may incorporate both lethal and non-lethal engagements, but typically the targets have been more lethal in nature. The CTIAP proposes to incorporate lethal and non-lethal targets comprehensively in order to have greater impact on the insurgency and the operational environment.

The cadets prepared a target list based on the aforementioned sequence. From the interviews with the cadets, the following themes have emerged: 1) Targets were incorporated both lethally and non-lethally, 2) Targets were PMESII driven, 3) Targets were prioritized, and 4) Cadets' response to favorability of utilizing the CTIAP when preparing their target list.

Holistic nature of targeting lethally and non-lethally. The CTIAP's greatest deviation from current doctrine is how targeting may be conducted. I am not referring to the actual method of delivering fires, regardless of whether those fires are lethal or non-lethal, but more so along the lines of incorporating all aspects of the operational environment into the targeting process. The CTIAP delineates all targets, lethal or non-lethal, as an element of the operational environment in which they are related. Therefore, a critical aspect of the intelligence analyst's job is to identify those aspects that are interrelated to a specific target, and determine how those aspects can be attacked or influenced.

The cadets utilized this aspect of the CTIAP, and demonstrated that they not only understood how the operational environment potentially influences the respective target, but also appreciated the relationship of the target and the operational environment. This further

demonstrates that the cadets were again able to continue building products that incorporated all of their previous work, and hence produce a detailed, all-encompassing, holistic product and assessment that provides more than just which insurgent should be captured or killed.

Targets were incorporated both lethally and non-lethally. All of the cadets followed the proposition set forward from the CTIAP; they incorporated lethal and non-lethal targets in their target list. All of the proposed targets were valid, and within the operational capability of a U.S. military unit to conduct.

There were two major variations for the proposed targets that the cadets produced. The first method, which was actually preferred in using the CTIAP, was identifying all aspects of the operational environment that may negatively affect the insurgents and nominate those as target (Appendix A). After the targets were nominated, identify any relationship from the selected targets to other nodes or links that may be influenced. The second method that was utilized by two cadets was to focus only on lethal targets, and then nominate non-lethal targets that were related to the stated lethal target (Appendix D).

Both methods were considered worthwhile, but I would still recommend utilizing the first. While the second method would ensure that non-lethal targets were incorporated, the fact that this method was lethal-centric may appear that the true focus was capturing or killing the insurgents. While there may be some truth in that aspect, if the U.S. was combating an insurgency or conducting counterterrorism operations, then a recognition that the local population as the center of gravity is of primary importance. Therefore, nominating all targets that affect the greater populace may be more holistic than only focusing on capturing or killing insurgents or terrorists.

Targets were PMESII driven. All five cadets developed their targets based on their PMESII/ASCOPE interface coupled with the threat model that they produced for each insurgent group respective to the specific objective driving the selected course of action. Most of the targets were offensive in nature, where the cadets were focused on capturing or killing the insurgents prior to the actual attack, or a non-lethal target that could negatively impact the insurgents; for example hiring unemployed local citizens that could watch the major highways and serve as an obstacle for an insurgent who might want to establish a hasty mortar firing position.

There were targets nominated that were defensive in nature based on the aforementioned processes. These targets were typically focused at defending the objective of the insurgents' potential attacks. For instance, one target nominated was built to where a company of U.S. Soldiers were guard the locations where political parties meet. These defensive targets were important, as it demonstrated the cadets' focus on identifying the insurgents' goals, and objectives that needed to be manipulated to reach those goals.

There was nothing inherently wrong with building both offensive and defensive target sets. In fact, it is logical given the nature of counterinsurgency or counterterrorism operations that one would want to focus some effort on protecting the operational environment. The important point here was that all of the targets were focused on the PMESII/ASCOPE interface that defined the cadets' operational environment picture.

Targets were prioritized. All of the cadets prioritized their target nomination list. There were two major ways in which they conduct this prioritization, one being based on the importance of the target to the insurgent's mission and the other being based on the importance of the target to its impact on the operational environment. For example, when prioritizing by

mission the insurgent leadership would typically be the most important targets. However, in COIN, the population is the center of gravity and therefore ensuring that targets are built to prevent the insurgents from manipulating the population is more important than just targeting insurgents.

Either method was acceptable, but there was a targeting prioritization method that would assist the cadets as they conduct their analysis of target importance. The U.S. Army's doctrinal targeting process recommends utilizing a system defined through its acronym, CARVER. CARVER stands for criticality, accessibility, recoupability, value, ease, and recognizability. CARVER (or variation, CARVER-SHP) was not specifically part of the CTIAP, as the CTIAP itself provides a way for an intelligence analyst to prioritize targets through a relative worth to the specific course of action.

It appears the cadets did indeed attempt to prioritize their target nominations by utilizing CTIAP, with some differing focus as previously mentioned. Based on the cadets' products and responses, the doctrinal process would have prioritized the cadets' target nominations. The cadets did not use the CARVER method, but interestingly the CTIAP's operational environment interface provided the cadets the ability to focus their targets. The cadets prioritized their targets sufficiently for either the CTIAP or CARVER methodologies.

Cadets' favorability of utilizing the CTIAP when preparing their target list. As previously seen with the favorability of utilizing the CTIAP for a specific part of the process, all of the cadets were very pleased with its relative simplicity and value of use. All of the cadets reported that they were extremely favorable towards the process, and they again expressed that this seemed like a method that they would favor to use over the current doctrinal process.

One cadet specifically responded that the focus on "...my previous products kept me focused as I nominated targets". The cadet was referring to how he utilized his operational environment interface to develop his target list. Another cadet mentioned that "...the operational environment is key, and my targets reflect that". Again, as the cadets continued to express that their confidence and comfort grew as they progressed through the process.

Summary of targeting lethally and non-lethally. Based on the products produced and the individual interviews conducted with the cadets, they understood what they were responsible for producing: a detailed targeting list that incorporated the operational environment both lethally and non-lethally. The fact that they maintained the evaluative criteria established prior the building of courses of action, and the focus on the PMESII/ASCOPE interface assisted them in controlling their biases, they routinely demonstrated that they let the information speak for itself.

The comments from the cadets also provide an insight to how this process works, as routinely we can see that the CTIAP maintained their focus, kept them organized, and it was frequently mentioned to make more sense than current Army doctrine. I should mention though that the CTIAP was built with incorporating doctrinal concepts, and then building a process that incorporated critical thinking methods into a domain-specific application. The cadets further mentioned that they believed the CTIAP provided a multidimensional view of the battlefield and their analysis, which further highlights the goals of the CTIAP.

Ease and Comfort of Using CTIAP

The last theme of my findings pertains to how the cadets responded to the ease of using the CTIAP, and their comfort with using it with the case-based scenario. The responses were specifically focused to the cadets' use of the CTIAP, and a comparison of the CTIAP versus the

current doctrinal process. There were a few mentions to the doctrinal process, but this study was not a comparison between the CTIAP and current doctrine.

There were four major discussions that surfaced through my interviews with the cadet participants. They were: 1) Did you utilize the CTIAP when conducting your analysis of the case-based scenario, 2) Do you believe your analysis was more objective and thorough with the CTIAP, 3) How effective do you feel that your analysis is for this scenario, and 4) How comfortable are you with using the CTIAP?

Using CTIAP when conducting analysis of the case-based scenario. All of the cadets reported that they used the CTIAP for the case-based scenario. I specifically asked if they deviated from the CTIAP at any time during the scenario, and all of them reported that they did not.

I further asked the cadets if they felt they understood the CTIAP well enough, or if they had any misunderstandings or additional need for clarity as they were going through the case-based scenario. Again, all of the cadets responded that they felt they did understand the CTIAP, and did not have any need for clarity or further guidance.

Objectivity and thorough using CTIAP. The cadets felt that the CTIAP ensured that they remain objective while they were conducting their analysis, and furthermore, they responded that they could see how the process maintained their focus on remaining objective. They felt that the way the operational environment was defined ensured that they were using concrete data to focus the threat model and courses of action, and that was a comfort as they progressed through the scenario and had to absorb all the information from the case-based scenario.

There was also a common theme from the cadets that the evaluative process of reporting was of tremendous added value. The fact that they predetermined a value based on the source of information ensured that they were maintaining objectivity throughout their analysis of their holdings.

All of the cadets felt that the CTIAP was a very thorough process. Again, not to compare the CTIAP to current doctrine, but a few cadets routinely responded that the CTIAP should be the doctrinal process for intelligence analysis. All but one mentioned that the CTIAP was logical and easy to follow, while the other one said that it was logical, "...just not that easy". When I asked him what was difficult, he felt that there was a lot of information to consider, and at times he felt overwhelmed. His response was not surprising, as intelligence analysts, even the most senior ones, frequently complain about information overload. While there were significant efforts ongoing to develop more user-friendly databases, the reality was that there were significant amounts of data to read and sort through in a counterinsurgency or counterterrorism environment.

Perceptions of effectiveness of analysis. I asked the cadets a relatively tough question. I think it was tough because it can be difficult to assess one's analysis without any data that provides answers to a specific situation. With this question, that was the case: How well did you conduct your analysis without knowing what ultimately happened in the scenario? Truth telling, this is a very real situation that intelligence analysts wrestle with quite often.

The cadets, on their own accord, responded with a numerical value ranging from 1 to 10 (1 being lowest – ineffective, and 10 being highest – most effective). The average response was a 7, with the lowest response being a 5 and the highest being an 8. The cadets also reported that they felt the major concern with answering this question was a lack of experience. They did not

know if their analysis would be effective or not. It was a simple admission of not knowing what they did not know when it comes to how the intelligence was assessed after operations are conducted.

Interestingly, the cadets' responses were a very real issue that I believe most intelligence analysts experience. Based on my experience, many times the intelligence analysts were not even aware when an operation has been conducted based on their analysis, and when they were, the intelligence analyst usually does not receive significant feedback on what happened compared to what was provided. Nonetheless, the cadets' responses were interesting and valuable when considering that despite their lack of experience that they knowingly disclosed, they felt that the CTIAP was assisting them in providing reasonably effective analysis.

Comfort with using the CTIAP. Again, as I asked this question pertaining to the cadets' comfort with using the CTIAP, the cadets responded with a numerical value. That value was again based on a 1 to 10 scale, with the same parameters (1 being lowest and with least comfort, and 10 being highest and with most comfort). The responses averaged an 8, with the lowest response being a 7 and the highest a 9. The cadets all responded that they felt they were very comfortable with the CTIAP, and reiterated experience with the process being the only hindrance with their comfort level.

Summary of the cadets' response. The research question for this study was: How does a domain-specific application of critical thinking to intelligence analysis provide a more holistic, comprehensive, and non-biased assessment that is pertinent to decision makers? Based on the cadets' products and answers from interviews conducted, it appears that we can see how a domain-specific application of critical thinking provides more holistic, comprehensive, and non-biased assessments.

The cadets routinely answered that the focus on the operational environment through the PMESII/ASCOPE interface proved to be essential for their baseline analysis. The baseline analysis was updated when they received further information identifying aspects of the operational environment that affected both U.S. forces and the insurgent groups (and local populace as well). The cadets further provide insight to how the operational environment assisted them in understanding their own mission, as aspects of the operational environment that are important to the insurgents are also important to the U.S.' successful accomplishment of the mission.

Next, the cadets demonstrated that they were able to build specific threat models pertaining to each insurgent group present in the case-based scenario. This demonstration highlighted to them the importance of understanding the capabilities of the insurgents, and began to help the cadets recognize potential indicators. Again the cadets were able to integrate their previous efforts from the PMESII/ASCOPE interface into the threat models, and they were able to identify potential insurgent objectives as well as areas that could be influenced.

With the cadets' threat courses of action; they established distinctive evaluative criteria that were utilized to assess incoming information. This criterion helped them update their holdings in a non-biased manner, which helped ensure that the courses of action were specific to the insurgents and not to a preferred course of action. I believe this was essential if an intelligence analyst is to provide that comprehensive assessment to a commander, which can then help drive the operations that the unit sequentially would conduct.

The target nominations further demonstrates that the cadets understood the purpose of the CTIAP, as they built a target list that integrated the operational environment with all targets, lethal and non-lethal. The cadets applied all previous holdings to recommend their targets, and

the results are focused and specific locations, people, and interests that could have tremendous benefits in the conduct of operations.

Panel of Experts' Responses of Cadets' Products and Analysis

I examined the responses of the panel of experts through the same five subsections that I utilized reporting the cadets' data: 1) Understanding the Operational Environment, 2) Familiarization with the threat groups present in the case-based scenario, 3) Details and completeness with the threat courses of action, 4) Comprehensive target list, and 5) Ease and comfort of using CTIAP. The panel of experts' answers were specifically focused on the data presented, with the exception of subsection five. I will be focusing on the panel of experts' opinion of the CTIAP, and its potential for inclusion with U.S. Army doctrine and operations.

Understanding the Operational Environment

The major themes that surfaced during the panel of experts' interviews pertaining to the operational environment are, 1) Value of the PMESII/ASCOPE interface, 2) Defining the battlefield environment, 3) Ability to understand effects, and 4) Favorability of CTIAP's approach to understanding the operational environment.

Holistic view of understanding the operational environment. One aspect of my research question is to understand how the CTIAP provides a holistic assessment to commanders. The panel of experts provide significant input to this, as each of them have served either as a Battalion, Brigade, or Deputy Commander of units that would not only understand the value of understanding the operational environment, but also need to use that information for the benefit of their assigned mission.

The panel of experts quickly pointed out that the PMESII/ASCOPE interface was very holistic and detailed. They expressed that this level of detail was important for commanders

since there was so much information coming in during counterinsurgency operations, a comprehensive and organized product such as the interface was invaluable.

Value of the PMESII/ASCOPE interface. All five experts immediately understood and expressed that the PMESII/ASCOPE interface provided a high degree of value to their ability to understand the operational environment. The panel of experts all reported that this was the first time they had ever seen this product, and it provided a very detailed and holistic view of the battlefield.

Some of the comments that came out of the interviews specifically mentioned the value of the PMESII/ASCOPE interface. First, one member stated that the PMESII/ASCOPE interface was “very valuable”, and he would definitely use such a product. Another member mentioned that he was very comfortable with the interface, as it provides “a sound baseline”, and it was applied to the environment in a realistic and useable fashion. A third member stated that he felt the interface understood the reality of “operations supersede boundaries”. This refers to how military units operate within boundaries that are defined by a higher headquarters, and it is possible that those boundaries may constrain a unit’s ability to conduct operations. The other two members’ comments were very similar to the ones already mentioned, with no significant additional points to consider.

The panel of experts’ comments here were important, as they were reminders to the intelligence community that unusable information was nice to know, but usability should be our primary focus. This has been a challenge for intelligence analysts some times, as we want to provide our commanders with information that we think is important. While the panel of experts was reminding us that the commanders should be considered as consumers of intelligence, analysts need to focus their efforts on what they need in order to be successful.

Defining the battlefield environment. All of the members of the panel of experts believed that the PMESII/ASCOPE interface provided a detailed view of the battlefield. They also stated that they felt it more than aptly defined the battlefield environment, and also there were unanimous responses that it did so more than the current doctrinal process.

Two of the panel members were so familiar with the intelligence doctrine and its efforts to define the battlefield environment; they immediately stated “this provides a familiarity that will help with collection”. While the CTIAP was not built to explicitly skip steps in the analytical process, it should be noted that a seasoned analyst or one familiar with the process could easily see how the interface can provide direction for collection at the very beginning of the intelligence analysis process.

Ability to understand effects. As previously mentioned, the panel of experts instantly recognized the effects of the PMESII/ASCOPE interface. There were multiple mentions pertaining to how they could utilize the detailed information the interface provides. From the beginning of my interviews with the panel of experts, there were comments discussing how the interconnectedness of the information provided keep insight to pressure points and effects. One expert commented that “...this highlights second and third order effects”, and another pointed out “...the environment is complex and intertwined”. Without a doubt, the entire panel of experts recognized that the data presented in the interface provided a unique way to visualize battlefield effects, and they were very favorable toward the process.

Favorability of CTIAP’s approach to understanding the operational environment. It was easy to see in the previous themes that the panel of experts’ remarks were very favorable toward the CTIAP approach to understanding the operational environment. The previously discussed comments specifically stated that they found the process to be operationally-based, a

sound base-line of information, and can easily focus collection. While these were not all of the comments that were made by the panel of experts, it was a concise synthesis of the many comments that essentially say the same. All of the experts found favor with the CTIAP's approach to understanding the operational environment.

I further asked the members of the panel of experts if they would use such a process in their units (assuming they would return to an operational unit after their assignment at West Point). Again, all of the members reported that they would definitely use this process, as they asked for copies of the CTIAP to retain for their personal records. The members of the panel of experts stated that they would spend time and effort to ensure that their staffs were trained in the CTIAP's process of creating an interface based on the geopolitical and physical environments.

Summary of understanding the operational environment. The panel of experts found the CTIAP process of understanding the operational environment to be very valuable, and a reliable way to ensure that their intelligence analysts were focused on providing relatively bias-free analysis. The members of the panel of experts were surprised at the level of detail and fidelity the interface provided, but they were very thoughtful toward the value of such details. The panel of experts' comments pertaining to focusing collection and operations demonstrated there was instant understanding of how to utilize the information presented in the PMESII/ASCOPE interface.

Familiarization with Threat Groups

The discussion pertaining to the familiarization with the threat groups present in the case-based scenario with the panel of experts was specifically focused toward how they, the panel of experts, understood the products that were presented and ability to use the information from an operational perspective. As stated, the themes were the panel of experts' understanding of the

products that were presented to them, and the panel of experts' ability to use the information from the products produced by the cadets within an operational capacity.

Understanding products of threat groups presented. All of the members of the expert panel related that they completely understood the threat models that were presented to them. These were the products that the cadets produced from the case-based scenario. One colonel specifically mentioned that these products “looked the work of a very seasoned analyst”. Another panel member first said “Wow”, and then asked me “These were produced by cadets?”

Ability to use information from products produced by cadets within an operational capacity. Again, all of the members of the panel of experts understood the products presented, and had a high level of appreciation for the details within. All believed that the information presented was easily useable for operational development. Three members of the panel even felt that the products presented were specific enough that they could already begin focusing collection efforts, and one member felt that the details were more comprehensive than completed courses of action that he had seen while in Iraq.

Summary of familiarization with threat groups presented. It was very apparent that the products the cadets produced, and presented to the members of the panel of experts, were well developed and provided significant detail. All of the members of the panel of experts reported that the products were easy to understand, and of value. There were also mentions of how valuable they were operationally, which further demonstrated the details presented.

It may be sufficient to say that the CTIAP provides tremendous clarity that can be utilized in various ways to support the operational mission. The panel of experts were extremely pleased with the way the Operational Environment interface guided the product development that portrayed the insurgent groups present in the case-based scenario. Similarly, the most telling

comment was the one that asked if a cadet produced these products. It appears as if the CTIAP provides detailed and substantive data that reflects the work of a highly seasoned and experienced intelligence analyst. This was the purpose of the CTIAP.

Details and Completeness with Threat Courses of Action

I asked the panel of experts two questions pertaining to the threat courses of action that were presented to them: Do these courses of action provide sufficient detail? And, how would you utilize the recommendations for collection? I received multiple answers, which will be presented in the following discussion, but some themes did emerge. Overall, all the members believed that the courses of action were very detailed and valuable for the purpose of focusing operations. They also felt that the evaluation criteria were interesting and a worthwhile effort.

The themes that emerged are 1) The threat courses of action were very detailed and useful, 2) Commander's intent is evident in the courses of action, 3) The courses of action focus lines of operation, and 4) Courses of action provide great focus for collection. These themes provide insight to what a commander is looking for in the threat courses of action. The fact that the members of the panel of experts refer to commander's intent and lines of operation demonstrate a message as well for the intelligence analyst: make these threat courses of action relevant.

Usefulness of threat courses of action. The members of the panel of experts were very specific in their answer to the threat courses of action being detailed and useful. Every single one replied "yes", and then they immediately began explaining why the courses of action were detailed and useful. The explanations were all very similar in content; they felt that the courses of action provided the necessary details to focus operations as insurgent objectives and goals were identifiable. Indeed, this is the major objective in developing threat courses of action, and

this point is important as the panel of experts certainly recognized the value that could be ascertained from the details within the presented courses of action.

The panel of experts also understood the reasoning behind the evaluative criteria that determined the importance of the information within the courses of action, and the method in which they were prioritized. One member stated that he had “never seen this concept, but I like it”. Another member stated, “this is something we’ve been missing” as he reviewed one of the cadet’s evaluative matrix. Overall, the members were unanimous in their support for the idea of developing an evaluative method that would help the intelligence analyst codify reporting, and they also seemed to favor one that provided a numerical system that helps avoid personal biases from becoming the bases for evaluating the relative importance of the information.

Commander’s intent evident in courses of action. One major factor that focuses commanders in their development of friendly courses of action was commander’s intent. Commander’s intent comes from the highest levels of command within any military mission, and is reinforced through each successive level of command, as well as additional specific intent is further refined. Intelligence analysts need to understand commander’s intent, as it defines a unit’s mission, as well as indirectly focuses the collection efforts that gather information pertinent to the mission’s accomplishment.

When the members of the panel of experts reviewed the threat courses of action, all of the members discussed how the courses of action supported the accomplishment of mission and commander’s intent. One member keenly observed that “since these courses of action are developed through an operational prism, then they are already focused along commander’s intent”. Another member mentioned that this methodology would support the development of friendly courses of action. These comments provide evidence that support an acknowledgement

to the focus that developing courses of action derived through the operational environment reinforces those aspects of the commander's intent.

Courses of action focus lines of operation. One doctrinal update that has arisen out of the U.S. Army's current counterinsurgencies in Afghanistan and Iraq was lines of operation. Lines of operation or LOO is a methodology to study the metrics involved with particular areas that a unit wants to impact in its mission. LOOs are operationally based, and usually derived from the specific mission assigned to a unit and commander's intent.

Three of the members of the panel of experts recognized that there was a parallel between the threat courses of action that were developed from the operational environment and the analysis conducted with the lines of operation. One of the members stated that "this is a great way to fuse intelligence and operations, as the operational environment and lines of operation and developed similarly". A fourth member stated that "this process provides another metric that can be assessed within the lines of operation". What the panel member meant was that the CTIAP was providing the operation's section of a unit to evaluate the successes and/or failures of operations that have been conducted. Since the insurgents' activities were typically based on influencing specific aspects of the operational environment, then the intelligence analyst may be able to identify when the insurgents are focused on objectives that are more or less relevant toward their end state. This type of an assessment could indicate that the counterinsurgent forces have been successful in denying specific areas to the insurgents.

All of the members felt that the threat courses of action complimented the operational evaluation that is conducted through lines of operation. They also all felt that this should be a doctrinal concept, as some mentioned too often intelligence can be disconnected when not focused along the lines of operation.

Courses of action provide focus for collection. All of the members of the panel of experts felt that the threat courses of action presented by the cadets provided great focus for collection. Specifically the comments ranged from specific information could be turned into collection requirements to specific assets that could be utilized to gather the information that could confirm or deny the course of action.

Of additional note, the panel of experts felt that they understood the value of the information based on the evaluative criteria, and could therefore understand what information needed more additional collection requirements over others. Also, there was an understanding that a lack of information could also mean that collection was not conducted, and therefore questions about the courses of action's lack of specifics also was a by-product of the need for additional collection.

Summary of details and completeness of threat courses of action. Throughout the panel of experts' comments, it is apparent that the CTIAP provides detailed and complete threat courses of action. The panel members routinely commented how it provided ample information that would assist them when accomplishing their assigned mission(s). The threat courses of action were well received and given high reviews from all the members of the panel of experts.

It may also be ascertained that the CTIAP provides holistic and potentially non-biased courses of action. As the panel members mentioned, the courses of action nested with the commander's intent and lines of operation that the operations sections evaluate in order to determine mission success. Also, as noted through the evaluative criteria process, the information was presented based on an evaluation of source credibility, and not that of the intelligence analyst's opinion. The members noted these aspects, as they provide necessary details to understand how the CTIAP focuses analysis in a holistic and non-biased fashion.

Holistic Nature of Targeting Lethally and Non-Lethally

The CTIAP facilitates focus on combining both lethal and non-lethal targets into a comprehensive and deliberate targeting process. The panel of experts recognized this point, and felt that this was a very important topic within the CTIAP. The panel of experts seemed to appreciate this aspect of the CTIAP more than any of the previous subsection, most likely because this is specifically where the intelligence process begins to turn into the operations process.

There were four major themes that I derived from the interviews with the panel of experts. They are, 1) the need to incorporate lethal and non-lethal targeting, 2) the benefit of utilizing the CTIAP for targeting, 3) ways in which the panel of experts would utilize the CTIAP for targeting, and 4) the panel members' favorability toward the targeting process outlined in the CTIAP.

The need to incorporate lethal and non-lethal targeting. All of the members of the panel of experts felt that more effort was needed in current Army operations when it comes to combining the lethal and non-lethal targeting goals. All five of them also favored the idea of combining these efforts into a single product that was focused along the lines of the unit's mission or the lines of operation.

The panel members did point out that currently units do conduct lethal and non-lethal targeting, but as one member commented, "...while the targeting meeting is going on, the non-lethal guys are meeting in another room". His point was well made; typically units do not integrate their lethal and non-lethal targeting efforts. All of the members felt that the CTIAP's focus on integrating lethal and non-lethal efforts should be joined, and it should be a complete staff effort.

The benefit of utilizing the CTIAP for targeting. All of the members of the panel of experts felt that there was tremendous benefit with utilizing the CTIAP's targeting methodology. Specifically, the point most often mentioned was the incorporation of the operational environment in the focus of the targets. Similarly as I have mentioned, the effects that the targeting focus has toward the mission objectives is clear when utilizing an approach that focuses on the operational environment.

Two of the members of the panel of experts commented that the CTIAP focuses operations "...in a way that doctrine should be, but doesn't". There was an overall consensus that the CTIAP's targeting method was useful and potentially very valuable in both counterinsurgency and counterterrorism environments.

Ways in which the panel of experts would utilize the CTIAP for targeting. The entire panel of experts mentioned that they would like to introduce the CTIAP's targeting methodology into their units. They also mentioned that they would like to spend the time to ensure the process was trained across the staff, and incorporate it into a few exercises in order to gauge the effectiveness of the process. One member remarked that "this would probably serve as my decision making process". His reference indicated the CTIAP ensures that the entire staff may be incorporated into a methodical process that not only evaluates the potential threat, but also can focus unit operations as well. The CTIAP process provides a commander or decision maker intelligence-driven operations, which an aspect appreciated by the panel of experts.

Another frequent comment was that the CTIAP provided a sure way to incorporate the entire staff into the decision making process. The panel members commented that this was important because "the entire staff has a lot of specialization", and incorporating the whole staff into the targeting process would definitely enable more resources.

The panel members' favorability toward targeting process outlined in CTIAP. From the previous remarks, all of the members of the panel of experts were very favorable toward the CTIAP's targeting methodology. There were comments from all members that this process was valuable and needed to be incorporated. There were also comments ranging from how to bring the staff into the process as well as how to train the staff to use the process.

The panel of experts' opinion of CTIAP, and its potential for inclusion with U.S. Army doctrine and operations. While this has been covered in the previous sections, it was deemed important enough to reemphasize the potential for the CTIAP's inclusion in U.S. Army doctrine. The panel of experts mentioned on multiple occasions that the CTIAP was a comprehensive methodology that incorporates both the intelligence processes with operational considerations, and that it should definitely be incorporated into doctrine.

The areas of considerable interest to the panel of experts are the PMESII/ASCOPE interface that incorporates the operational environment into all aspects of analysis and then subsequently the operations, the criteriological nature of how the information is evaluated in the threat courses of action, and finally the fusion of lethal and non-lethal operations into a joint and succinct product.

Summary of case study. The cadets and the panel of experts agreed that the operational environment interface that was created through an analysis of both PMESII and ASCOPE variables was the single most important aspect of the CTIAP that focused analysis in a comprehensive, holistic, and unbiased manner. The interface ensured that the cadets' analysis was focused toward the aspects of the operational environment that are essential for mission success. The products that were produced based on the interface were pertinent and relevant for operational use, as the panel of experts attested to numerous times.

Examining Historical Counterinsurgencies

Grounded theory was utilized to provide insight as to why the CTIAP provides a comprehensive, holistic, and unbiased assessment, two historical counterinsurgencies were examined; U.S. Philippine War and British Malaya. Because the operational environment proved to be the most important basis for the analysis that was conducted with the CTIAP, my analysis of these two conflicts likewise focused on the operational environment. Specifically, I examined how the counterinsurgent forces' focus on influencing the operational environment contributed to the successful outcomes of these counterinsurgencies.

Both conflicts, U.S. Philippine War and British Malaya, were examples of a conventional army that deployed to suppress an insurgency. Both conflicts also demonstrated how traditional military powers deployed against belligerents alone had little to no success against an insurgency. Further both conflicts demonstrate that when military power is applied against the entire operational environment, the chance for success improves dramatically; as both of these successful counterinsurgencies illustrate.

U.S. Philippine War

The U.S. Philippine War, 1899-1902, began when the United States annexed the Philippines after the U.S.' victory of Spain in the Spanish-American War, and armed revolutionaries fought for Filipino independence. The United States initially sent a small contingent of 5,000 Soldiers to secure the island in 1898, this action was met with resentment and frustration by the Filipinos. By February 1899, armed conflict broke out between the Filipino revolutionaries and the United States.

Initially, the United States conducted the military action in the Philippines in a very conventional manner, but quickly moved to a counterinsurgency operation under the leadership

of Major General Elwell Otis. MG Otis did not effectively integrate all subordinate efforts, which allowed subordinate commanders to wage the counterinsurgent fight in their own manner. After limited success in fighting the Filipino insurgents, the U.S. Army transitioned to a more robust counterinsurgency based way of conducting warfare. Brigadier General Arthur McArthur refocused the strategy to not only fight the insurgents, but also improve the overall environment for the population. One of the main strategies used during the U.S. Philippine War in the revised counterinsurgency phase was the creation of zones of protection. The zones of protection were areas that the U.S. Army established to separate average citizens from the insurgents. While this strategy had its critics, overall it proved successful and was a significant counterinsurgency effort that helped realize the eventual end of the war in the United States' favor.

The operational environment in the U.S. Philippine war. The successful conclusion of the U.S. Philippine War should be recognized as a demonstration of leveraging the operational environment toward the objectives of the military mission. U.S. forces recognized the need to focus on improving the operational environment as a whole, and benefitted accordingly.

Brigadier General Samuel B. M. Young, initially was not a supporter of providing for the greater good of the society. He mentioned in September 1901 that "...what was required were 'the remedial measures that proved successful with the Apaches'". (Linn, p. 211) In other words, Young wanted a harsh campaign against insurgents and civilians alike. However, by March of 1901, Young realized the benefit of focusing on improving the operational environment that affected both insurgent and civilian, when "...he had established 203 schools serving 10,714 students...there was a strong element of enlightened self-interest...". (Linn, p. 258).

Young did not just stop with building schools, he eventually focused his efforts on rebuilding the entire civil structure, or what was his operational environment. “Young and his brilliant chief of staff, Maj. John G. Balance, embarked on a comprehensive effort to build roads and schools, establish financial solvency, and bring order and good government to the population.” (Linn, p. 261) It is rather clear that Young truly began to grasp that insurgents thrive due to a lack of effective legitimate governance, and by focusing on building or maintaining societal norms for the populace at large, the operational environment benefits favorably toward the counterinsurgents as the insurgents lose the ability to manipulate the people.

It should also be noted that reconstruction efforts not only help the operational environment, but support the counterinsurgent military effort as well. “Maj. Carter P. Johnson urged the construction of roads, both because they were ‘productive to the civilization of the country’ and because they would allow troops to move rapidly.” (Linn, p. 263) When counterinsurgent forces improve the operational environment in which they are conducting operations, the operations also improve as freedom of movement improves; this is true in both physical as well as civil improvements. “Americans could not force the guerrillas into battle, but...through the capture of lists of contributors, [they were able] to dismantle the guerrillas’ supply organization.” (Linn, p. 265)

Ultimately, the U.S. Army was able to effectively fight and destroy the Filipino insurgents through the various counterinsurgency operations they conducted. The insurgents began to run out of safe havens, and they were unable to maintain logistical bases as well. Less than a year (November 1901) of implementing the various actions toward improving the operational environment...”the Americans counteroffensive was in full swing as district

commanders pursued the guerrillas into previously inaccessible area.” (Linn, p. 273) Six months from full implementation of this counterinsurgency strategy, Filipino President and strongman, Aguinaldo, was captured in April of 1902, thus effectively ending the U.S. Philippine War.

Summary of U.S. Philippine war. The U.S. Philippine War provides great insight to how effective counterinsurgency strategy can defeat an insurgency. The strategy that the U.S. Army employed, while we would could some of the methods harsh by today’s standards, were focused and enabled a succinct method to separate guerrillas from non-combatants. The strategy also improved the operational environment for the benefit of the counterinsurgents, and ultimately strangled the insurgents and their ability to fight.

One valuable lesson that was learned from studying the U.S. Philippine War, and the American strategy, lies in how effective strategy can have dual-uses. This duality within the strategy of denying the insurgents their ability to effectively conduct operations, while improving the counterinsurgents’ freedom of movement was no small detail. This lesson was not only important to understand, but also highlights how imperative it may be to deny the operational environment to the insurgents. Insurgents and terrorists alike exploit the weaknesses within the operational environment, and the most effective strategies address that aspect and focus on combating and/or denying the insurgents or terrorists’ ability to utilize the operational environment in their favor.

British Malaya

The British Malaya conflict, also known as the Malayan Emergency, grew out of post-WWII economic collapse in Malaya. Britain, which had strategic interests in Malaya as it was their primary source of tin and rubber, soon found itself in the middle of an uprising due to the

economic unrest. Britain responded in 1948 by sending 13 battalions under the command of Sir General Harold Briggs to suppress the uprising, which quickly adopted the communist ideology.

The conflict lasted for 12 years, 1948-1960, with British and Malayan forces eventually defeating the communist insurgents. Initially Sir General Briggs imposed a counterinsurgency doctrine that Britain used during the Boar Wars, where they created guarded camps or “New Villages” in order to separate the insurgents from the populace. Unfortunately Brigg’s counterinsurgency strategy effectively ended there, as he did little to improve the operational environment and used the British forces in a very conventional manner. The British conducted large movements-to-contact in order to engage the insurgent forces in the jungles of Malaya. The found very little success, as the insurgents simply avoided the loud and cumbersome effort. 1951 and 1952 Britain realized that they were making little progress, and as a result Britain reviewed its strategy, replaced the commander, and began to fully implement a holistic counterinsurgency strategy.

The operational environment in British Malaya. After the first three years of the conflict, the British strategy was essentially one of conventional forces fighting conventionally. However, British commanders realized that they needed a change in strategy, and this can be best summarized by David Lloyd Owen’s remarks: “”They [British Soldiers] were flogging the jungle with enormous sweeps and that kind of thing, which is completely useless in this sort of war, and wasting a tremendous amount of effort.”” (Nagl, p. 80)

In 1952, Britain selected a new commander of the British conflict in Malaya, General Sir Gerald Templer. Interestingly, amongst his experience commanding traditional combat arms units, Templer also served as the Director of Military Intelligence on the Imperial General Staff of the Eastern Command just prior to taking command of British forces in Malaya. Templer

approached the job with an understanding that insurgents, or combatants, had to be removed from the civilian populace if the British counterinsurgency operation would succeed.

One of Templer's first directives was to "impose a twenty-two hour daily curfew..." (Nagl, 89), as well as informing the civil leaders that insurgent or terrorist attacks must stop. Shortly after this directive as well as message to the civil leaders, information was supplied that lead to "...arrests of some forty Communist supporters..." (Nagl, p. 89). Templer understood that he must include the operational environment into his strategy if the Malayan Communist insurgents were to be defeated. His efforts had immediate impacts on the communist forces, and he began to form trusting relationships with the local populations through these efforts.

Templer furthered his strategy by incorporating essentially a general order for his subordinates. Templer appeared to understand that all Soldiers and the way they conduct themselves has strategic impacts in a counterinsurgency. Templer's directive was important and rather simple: "1. Get the priorities right. 2. Get the instructions right. 3. Get the organization right. 4. Get the right people into the organization. 5. Get the right spirit into the people. 6. Leave them to get on with it." (Nagl, p. 90)

It is rather apparent that Templer understood sound counterinsurgency concepts. He successfully separated combatants from the populace, was hard but fair with the local leaders, and insisted on imparting effective standards for his subordinates. "Perhaps Templer's greatest contribution to the conduct of the counterinsurgency campaign was his ability to coordinate all of the efforts – social, political, economic, police, and military to move Malaya forward..." (Nagl, p. 100) Templer understood that the operational environment was his center of gravity, and it is reflected in his actions and reflections as well. "Military force cannot change opinion. It can

only create a framework in which economic reform and good government can take effect.’’
(Nagl, p. 101)

Summary of British Malaya. Similarly to the U.S. Philippines War, British Malaya was a conflict that demonstrated the following key points: Conventional forces need to be cognizant of their role and strategy when fighting an insurgency, normal conventional operations are not sufficient when fighting a counterinsurgency. Separating the combatants from the larger population is effective, although a substantial effort in itself. Counterinsurgent forces focusing on improving the operational environment for the population, while denying the insurgents the ability to manipulate it for their purpose is essential, facilitates the ability to employ lethal counterinsurgency operations.

Britain’s efforts in Malaya were successful due to the realization that they needed to change from a conventional to a counterinsurgency-based effort. General Sir Gerald Templer brought a rich and capable set of experience to the conflict, one where he was able to understand that insurgencies needed to be fought differently than normal army versus army operations. He employed the key points that were aforementioned when conducting counterinsurgency operations, and was successful in defeating the communist insurgents. Britain’s efforts reflect a tremendous success story, one where Malaya was ultimately able to realize independence and ultimately form Malaysia.

Summary of historical counterinsurgencies. Both historical examples of successful counterinsurgencies reflect the use of conventional military forces and their ability to transform into an effective counterinsurgency. These examples demonstrate that the composition of military forces were not necessarily the key in defeating an insurgency, but rather the strategy used that employs the military forces needs to be sound.

Both examples also demonstrate how the military strategy needed to evolve to combat an insurgency, and when the strategy did evolve, the counterinsurgent forces were very effective against the insurgents. Also, both counterinsurgencies demonstrate how important it was to focus a counterinsurgency strategy by leveraging the operational environment. The operational environment was necessary to both insurgents and counterinsurgents, and the main effort or center of gravity of the conflict lies in controlling the operational environment.

Interestingly, both examples demonstrate the value of separating the insurgents from the populace. While both examples separated the insurgents by building effectively concentration camps, this strategy is obviously rather extreme. As demonstrated, this extreme implementation of concentration camps worked, but more humane means can be found in current operations in Iraq or Afghanistan, where Coalition Forces live and work amongst the population. Regardless of the method, denying the insurgents the ability to manipulate while safeguarding the population is the lesson to be learned in these examples.

How the Cadets' Responses Relate to the Historical Counterinsurgencies

In order to demonstrate how the cadets' responses relate to the historical counterinsurgencies, I will examine them in context of the three major lessons' that have been learned through the examination of the U.S. Philippines and British Malaya. These three lessons include: 1.) Conventional forces need to be cognizant of their role and strategy when fighting an insurgency, normal conventional operations are not sufficient when fighting a counterinsurgency. 2.) Separating the combatants from the larger population is effective, although a substantial effort in itself. 3.) Counterinsurgent forces focusing on improving the operational environment for the population, while denying the insurgents the ability to manipulate it for their purpose is essential, and facilitates the ability to employ lethal counterinsurgency operations.

Conventional forces need to be cognizant of their role and strategy when fighting an insurgency, normal conventional operations are not sufficient when fighting a counterinsurgency. The cadets did recognize the difference between conducting operations in a COIN environment vice a traditional force-on-force conventional battlefield. The PMESII/ASCOPE interface was the first definitive understanding that the COIN environment was different. In a traditional force-on-force environment, the cadets would have produced a product that highlights where formations of armor and infantry can and cannot go on the battlefield. The PMESII/ASCOPE interface highlights the unique operations of an urban battlefield, and while a traditional force-on-force battlefield can exist in an urban environment, the usage of PMESII is certainly more applicable to the COIN environment than the traditional force-on-force. The cadets fully recognized this aspect, as they all made mention that the PMESII/ASCOPE interface provided them a clear understanding of the environment that the insurgents operate within.

The cadets also demonstrated an understanding that conventional military forces will not typically be engaged in significant force-on-force fighting with insurgents. This resonated in the interviews, as the cadets appeared to value the data highlighted through their PMESII/ASCOPE interface, which they routinely referred to when approaching both collection and targeting efforts.

Separating the combatants from the larger population is effective, although a substantial effort in itself. A major point that was highlighted in both historical counterinsurgencies was the separating of the insurgents or combatants from the larger populace. It was important to point out that the way this was conducted in both the Philippines and Malaya, was not likely the way it would ever be conducted again. In both conflicts, the separating of

insurgents from the populace was conducting in a rather brutal manner, and while it was ultimately effective, it was completely contrary to the manner in which most western militaries conduct themselves today. Furthermore, with the tremendous explosion of media coverage on today's battlefield, harsh methods of yesterday have little chance of being viewed as an acceptable part of modern strategy.

In my interviews, it was apparent that the cadets did understand that they still needed to find a way to separate or identify the insurgents for successful deliberate operations to be conducted. Truly this is one of the intelligence field's greatest challenges in the modern counterinsurgency environment. These type of surgical operations need to have tremendous fidelity in the information that drives subsequent missions. The cadets commented that the CTIAP does indeed provide strategies to assist in separating the insurgents through both the PMESII/ASCOPE interface, and the evaluative method of qualifying reporting.

Counterinsurgent forces focusing on improving the operational environment for the population, while denying the insurgents the ability to manipulate it for their purpose is essential, facilitates the ability to employ lethal counterinsurgency operations. An important axiom in counterinsurgency operations worthy of discussing was the battle for the hearts and minds of the population. There were certain to be significant areas of concern that affect the populace, or the insurgent forces would not be able to find willing recruits. Truly the counterinsurgent forces were conducting operations in order to combat the insurgency's ability to manipulate the population for their own cause.

The cadets also readily understood this issue, as they conducted their analysis and highlighted the significant issues within the operational environment that had the largest impacts

on improving the overall welfare of the population. Furthermore, they nominated targets that could deteriorate the insurgent's ability to influence the population.

Summary of how the cadets' responses relate to the historical counterinsurgencies.

The cadets demonstrated through both their responses in the interviews and the products they produced during the case-based scenario that they understood how the CTIAP affects the insurgent's ability to conduct operations in a COIN environment. They demonstrated a certain understanding that conventional military forces need to be focused on improving the operational environment rather than conducted large force-on-force engagements. Also, they understood that there really was not a specific conventional operation that will be conducted in order to defeat an insurgency. Rather it was a larger effort of removing the insurgents from the population, denying their ability to manipulate the operational environment, and improving the welfare of the populace.

The separation of the insurgents from the populace has been challenging in today's environment. This calls for clarity of analysis, focused collection, and meaningful targeting that incorporated both lethal and non-lethal capabilities in a united effort to improve the operational environment. The CTIAP provides ways to identify potential insurgents and criteriologically evaluate reporting in a manner that can not only lead to better targeting, but furthermore deny the insurgent's logistical efforts.

Finally, the most significant aspect of a counterinsurgency is removing the causes of the insurgents. Improving the operational environment in a manner that provides for the populace-at-large denies the insurgents the ability to recruit, and ultimately impacts the motivation of the insurgent's goals. Removing the insurgents' ability to manipulate the population was an important effort that simultaneously improves the operational environment. There was a natural

inverse relationship between the insurgents' goals and the counterinsurgents' efforts when battling over the hearts and minds of the people.

The Panel of Experts' Responses and Historical Counterinsurgencies

The panel of experts provided insight to how the CTIAP would be effective in counterinsurgencies. I will highlight and discuss these insights in relation to the historical counterinsurgencies previously discussed. The three major themes that arose from the panel of experts, and they seemed to all agree on the issues, were 1) the PMESII/ASCOPE interface helps ensure intelligence analysts are focused on the operational environment and its impacts on the insurgents, 2) integrated targeting, lethal and non-lethal, ensures all aspects of the warfighting functions are focused toward improving the operational environment, and 3) the focus of the CTIAP's process needs to be applied at the right level of command.

The PMESII/ASCOPE interface helps ensure intelligence analysts are focused on the operational environment and its impacts on the insurgents. All of the members of the panel of experts were in complete agreement that the single largest contribution of the CTIAP was the PMESII/ASCOPE interface. All respondents felt that the interface ensured that the cadets' analysis originated and was maintained through an understanding of the operational environment. They further went on to explain that the unit commander should be providing direction that was in synch with the goals of the accomplishing the assigned mission, which in turn should allow the intelligence analysts the ability to maintain their focus while analyzing the operational environment. They all felt that the PMESII/ASCOPE interface was the best product that they have seen to date that helped ensure that intelligence effort was focused along these lines.

The one area that the panel of experts expressed any concern with was that the intelligence analyst must constantly update their information in the PMESII/ASCOPE interface, as the COIN battlefield is very fluid and dynamic. This was an area in which many of the panel members felt that intelligence analysts frequently dismiss when they are busy and challenged by the daily rigors of combat.

Integrated targeting, lethal and non-lethal, ensures all aspects of the warfighting functions are focused toward improving the operational environment. A common theme that was expressed by all of the members of the panel of experts was that units frequently fail to integrate lethal and non-lethal targeting into the larger objectives of the unit. One member described his experiences relating to this concern, "...the targeting meeting had all the typical lethal fires members present almost daily, while the non-lethal effort met once a week in the far corners of the headquarters without key members of the staff". All of the members described similar situations, and few related any positive experiences when discussing their experiences with integrated lethal and non-lethal efforts. This was an extremely important finding, as one of the key functions of the CTIAP was to enable lethal and non-lethal targeting integration into operations.

The focus of the CTIAP's process needs to be applied at the right level of command. One of the key aspects of the CTIAP was that lethal and non-lethal targets should be executed as simultaneously as possible; in fact, many lethal targets should have non-lethal operations built into them in order to maximize the impact of the operational environment. During my first interview with one of the panel of experts, the member stated that in his opinion the CTIAP requires a significant amount of forces available to execute properly. While we discussed what this strength requirement was, he stated that he felt a battalion could conduct up to three targets

given their personnel authorizations, but to fully realize the value of the CTIAP a brigade-sized unit would be more suitable.

I added this as a question for the remaining interviews with the panel of experts, and all agreed that a brigade did seem to be the most appropriate level for full implementation of the CTIAP, but that a battalion or even lower still could focus on utilizing the process. Furthermore, one of the members mentioned that it is pretty rare for a battalion to conduct more than three operations in one day anyway, or that a company would conduct more than one a day. So while the CTIAP seems to fit best with a brigade or above sized unit, this did not seem to be an issue that the panel felt would hinder its implementation at any echelon.

Summary of the panel of experts' responses relating to how the CTIAP is effective in counterinsurgencies. The panel of experts' responses relating to how the CTIAP is effective in a COIN environment was reflected in both historical counterinsurgency examples. The PMESII/ASCOPE interface provides the counterinsurgent forces the ability to separate the insurgents from the population by identify key nodes that are essential to the insurgents that can be influenced by the counterinsurgents. Another example from the historical counterinsurgencies was that the insurgents need the local populace for logistical support, and denying those resources have led to desperation by the insurgents that the counterinsurgent forces can leverage to engage the insurgent.

The integration of lethal and non-lethal targeting was very clearly demonstrated. The building of infrastructure that provides benefits to the local populace was an example of how counterinsurgent forces can gain the trust of the people, which leads to intelligence gathered from grateful citizens that do not want the violence that comes along with insurgencies. Many targets also contain both lethal and non-lethal implications to the operations that are conducted

executing the targets. As the British Malayan conflict demonstrated, insurgents can also hold key or high ranking positions in the community. If an insurgent, whom is also a key member of society, is targeted, then the counterinsurgent forces need to identify someone to fill the vacated licit role of the targeted insurgent.

A key insight provided by the panel of experts was the identification of the right unit echelon that the CTIAP could be fully integrated. The panel of experts unanimously agreed that the brigade was the lowest level that has the personnel to execute all targets near simultaneously. This is an important aspect, as previously discussed with targeting that there could be multiple actions that would require specialized skills that can only be found at the brigade and above. For instance, a civil affairs section is typically found at the brigade and above, and when a unit is targeting an insurgent like one that was previously used as an example, the civil affairs section can assist the unit commander in identifying perspective candidates.

Summary

This study has demonstrated that a critical thinking based framework can improve intelligence analysis in order to provide more holistic, comprehensive, and non-biased assessments. Specifically, the CTIAP is the process that was utilized by a group of five cadets from the United States Military Academy at West Point who conducted analysis of a case-based scenario, and produced the corresponding products. Semi-structured interviews were conducted with the cadets, and the products were presented to a panel of experts, and then subsequent semi-structured interviews were conducted with them. What all of the interviews specifically expressed was that the CTIAP did indeed improve intelligence analysis in a holistic, comprehensive, and non-biased manner.

The cadets unanimously agreed that the CTIAP provided an organized and meaningful way to understand the operational environment, conduct predictive analysis, and build specific and integrated lethal and non-lethal targets. The panel of experts reflected the same opinion that the CTIAP was a tremendous improvement over current doctrinal processes, and they routinely mentioned that the products the cadets produced reflected the work of a very seasoned intelligence analyst.

The study of successful historical counterinsurgencies further provided tremendous insight into how the CTIAP works. The historical counterinsurgencies highlighted how the operational environment is a key factor for the counterinsurgent forces to control in order to defeat the insurgents, and separating the insurgents from the populace is essential. The separation of insurgents from the rest of the population can be achieved through controlling the operational environment, and incorporating a dynamic and comprehensive targeting strategy that attacks both lethally and non-lethally.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Summary of the Study

My research question for the study was: How does a domain-specific application of critical thinking to intelligence analysis provide a more holistic, comprehensive, and non-biased assessment that is pertinent to decision makers? Based on my findings, intelligence assessments can be improved; specifically a critical thinking framework can be applied to the intelligence analysis process to provide more holistic, comprehensive, and non-biased assessments that may be pertinent to decision makers. This research has demonstrated that the Critical Thinking Intelligence Analysis Process (CTIAP) can and does provide intelligence analysts a tool to provide those invaluable assessments. Furthermore, this research demonstrates that intelligence analysis can be improved to provide deeper and richer focus in a counterinsurgency or counterterrorism environment.

Various studies have demonstrated that critical thinking skills can be taught more effectively, and that they can be applied domain specifically to enhance the critical thinking skills of those individuals engaged in specific disciplines. Research in the area of critical thinking has provided evidence that specific cognitive skills may be honed to improve an individual's ability as a critical thinker, and that these skills can develop frameworks that can be applied to specific domains or disciplines.

Through working with Dr. Curt Friedel, I developed the CTIAP model to determine if critical thinking skills could be incorporated into the present framework of intelligence analysis (Hess & Friedel, 2008). Dr. Peter Facione's research was utilized to provide a definition, and identify specific cognitive skills found to exhibit effective critical thinking (Facione, 2010). The

six cognitive skills are interpretation, analysis, evaluation, inference, explanation, and self-regulation (Facione, p. 5). These skills were applied to the U.S. Army intelligence analysis process found in FM 2-01.3 Intelligence Preparation of the Battlefield (IPB). The focus of this study was to examine the utilization of the CTIAP with a sample of cadets at the United States Military Academy as they, apply the process in a case-based scenario.

The CTIAP framework focuses the analyst from the very beginning of the IPB process. Essentially, step one and two of IPB were fused together to identify all potential consideration of the battlefield through the study of the operational environment (Hess & Friedel, 2008). This then provides the analyst the ability to focus his analysis on any potential threat group or other entity that needs consideration pertaining to the way they conduct operations, and the potential areas that these groups need to influence (Hess & Friedel). Based on this, the analyst can begin to provide predictive analysis on those areas that may be specific to the groups in question (Hess & Friedel). This process would then essentially provide a basis for a collection plan that the analyst may focus specifically to each group in question (Hess & Friedel).

Two methodologies were incorporated to complete this study; a case study and grounded theory. Utilizing case study, cadets were asked to complete their analysis and corresponding products. Five cadets volunteered for this study; they completed the case-based scenario, produced associated products, and then participated in a semi-structured interview. The semi-structured interviews that were conducted with each cadet, explored how well and why the CTIAP provided more holistic, comprehensive, and non-biased assessments. After the interviews, I presented the cadets' products to a panel of experts, and conducted semi-structured interviews with them in order to gain their opinion to if the cadets' analysis and products achieved the goal of providing holistic, comprehensive, and non-biased assessments that may be

valuable for decision makers. Five colonels served as the panel of experts; they reviewed the cadets' products and also participated in a semi-structured interview.

The next methodology I utilized was grounded theory. I completed a study of two historical counterinsurgencies in which the counterinsurgent forces were successful in defeating insurgents. This study allowed me to explore greater insight as to how the CTIAP provides focus for intelligence analysts to conduct their assessments as holistically, comprehensively, and non-biased while examining those aspects that historically facilitated success in a counterinsurgency.

In design, the CTIAP framework provides the analyst the ability to affect the operational environment in which he may be operating. As he identifies the areas or targets that a potential group needs to affect, the analyst can identify the corresponding factors that may affect the overall operational environment. This model was also designed so that it may provide the analyst the ability to assess the effectiveness of the operations that were and are being conducted.

The CTIAP was taught to the cadets based on the lessons identified in Chapter 2, Review of Literature. The underlying critical thinking cognitive skills were taught overtly, as it has been demonstrated that overt instruction of critical thinking leads to significantly higher levels of critical thinking (Friedel et al, 2008). I was lead instructor in teaching the CTIAP to the cadets utilized as a sample for this study, and I was able to frequently question them to ensure they understood all the aspects of the cognitive skills and the CTIAP. This effort was in line with research by Mazer, Hunt, and Kuznekoff (2007), which found that interaction during instruction, was a very effective strategy to ensure understanding of material as well as effective in learning critical thinking skills.

The two historically successful counterinsurgencies that were examined included the U.S. Philippines War and The British Malaya Emergency. This study of these two counterinsurgencies provided valuable lessons of successful counterinsurgencies that highlighted how intelligence can provide more comprehensive and focused analysis to assist commanders and decision makers.

Conclusions

The case study revealed five major themes from the products the cadets produced and from the individual interviews I conducted with them. These themes are reflected in the interviews with the panel of experts, and are pertinent to the research question: How does a domain-specific application of critical thinking to intelligence analysis provide a more holistic, comprehensive, and non-biased assessment that is pertinent to decision makers? The case study five major themes: 1) Understanding the Operational Environment, 2) Familiarization with the threat groups present in the case-based scenario, 3) Details and completeness with the threat courses of action, 4) Comprehensive target list, and 5) Ease and comfort of using CTIAP.

There were three major lessons that were identified through the study of the historical counterinsurgencies, which led to success in both conflicts. The strategy was more important than the composition of forces, in fact, both conflicts showcased that conventional military forces could effectively fight an insurgency. The operational environment is center of gravity for both the insurgents and counterinsurgent forces. And finally, insurgents need to be separated from the population in order to effectively defeat them.

Finding 1 and conclusion 1: Understanding the operational environment. The cadets were able to build specific and detailed analysis of the operational environment through the ASCOPE/PMESII interface. They provided products that demonstrated specificity and

understanding of the complex battlefield of the counterinsurgency or counterterrorism environment. The panel of experts agreed that the cadets' products were produced to a high level of proficiency and detail, and that it was perhaps the most valuable product produced.

Ernst and Monroe (2006) examined how the environment affects critical thinking skills and dispositions, and found that critical thinking skills can indeed be cultivated through the use of incorporating environmental considerations into instruction. The CTIAP provided a means of incorporating specific environmental considerations, and with a case-based scenario reinforced those critical thinking skills. The products produced as well as the responses in the interviews of both the cadets and panel of experts confirms that these critical thinking skills can be honed and applied in a domain-specific manner.

Finding 2 and conclusion 2: Familiarization with the threat groups. The cadets demonstrated the ability to organize and understand the threat groups present in the case-based scenario. The products produced as well as the interviews conducted demonstrated a thorough understanding of the tactics that the insurgents utilize. The panel of experts also responded very favorably with the cadets' products, and felt that the cadets presented the threat as if they were seasoned analysts.

In a study conducted by Sungar and Tekkaya (2006), it was found that problem-based learning enabled students to perform at high order thinking levels. This was definitely found to be true in this study, as the cadets were able to correlate the information produced from their PMESII/ASCOPE interface into usage and detailed products that demonstrate how the insurgents conduct operations. This is extremely valuable if an analyst is to effectively utilize this type of data and transform it into actionable intelligence.

Finding 3 and conclusion 3: Details and completeness with the threat courses of action. The major findings for the details and completeness with the threat courses of action were reflected in the details of the products and responses in the interviews with the cadets. The cadets had developed a holistic evaluation of the operational environment and threat models of the insurgents, and produced courses of action on what they expected the insurgents to do next. They also established criteria in order to identify objectives and potential areas that they would need to focus collection. The panel of experts agreed that the cadets had provided considerable detail and useful information as to what the insurgents were targeting, and potential collection efforts to confirm or deny these indicators.

The study conducted by Schumm, Webb, Turek, Jones, and Ballard (2006) that was conducted at the U.S. Army's Command and General Staff College found that students benefited from collaborative exercises, Socratic questioning, and domain-specific applications of critical thinking skills. The cadets' products and responses agree with the findings, as in the instruction Socratic questioning was utilized, and there was considerable collaboration as vignettes were discussed during the instruction. The CTIAP reaffirmed domain-specific application of critical thinking skills, and by the time the cadets were preparing threat courses of action, they were leveraging information that was built upon layers of data that was produced through the CTIAP process.

Finding 4 and conclusion 4: Comprehensive target list. The cadets produced comprehensive targeting lists that prioritized and organized lethal and non-lethal targets. This was extremely important as the targets developed become operations that have a direct impact on the overall success or failure of the mission. The cadets' targets were specific to whom or what they believed had specific impact on the insurgents' objectives. The panel of experts agreed that

the targeting methodology was useful, and the recommended targets were worthwhile. The cadets also recognized the importance of reviewing the successes and/or failures of targeting and those impacts on the mission objectives.

A study conducted by Facione (1998) found that effective critical thinking instruction motivates as well as incorporated critical thinking skills. The targeting strategy and responses of the cadets demonstrated that they were indeed motivated in learning the CTIAP as well as participating in the case-based scenario. All five cadets were willful participants, and recognized that they were learning skills that were far advanced for their experience level, as well as level of responsibility. The cadets and the panel of experts all recognized that targeting is one of the most important aspects of the CTIAP and operations in general, and they spent considerable time understanding and incorporating the value of both lethal and non-lethal targeting.

Finding 5 and conclusion 5: Ease and comfort of using the CTIAP. The cadets reported in the interviews that they felt the CTIAP was relatively easy to learn and utilize during the case-based scenario. The cadets responded that the CTIAP was organized, and very sensible in its approach of conducting intelligence analysis. The cadets were novices when it came to intelligence analysis, and they had very limited training in intelligence as a whole compared to an intelligence analyst that has ten or more years of experience. Interestingly, the panel of experts made comments that they felt that they were looking at products produced by analysts with years of experience, and in some cases, they liked the cadets' products better than anything they had seen before.

A study of nursing students and their dispositions toward critical thinking skills conducted by Colucciello (1997) utilized Facione's Delphi Study (1990) to develop her own framework for domain-specific application of critical thinking skills. She found that critical

thinking skills improved and could be assessed more thoroughly through individual evaluations. Colucciello's research, along with Facione's (1998) research on motivation in critical thinking instruction demonstrate how students not only develop critical thinking skills, but they can be improved, assessed, and provide motivation through domain-specific application of cognitive skills that are built into usable frameworks. Evidence from the cadets' products and interviews confirmed this research, as they demonstrated significant motivation, as well as producing products at the level of a seasoned analyst.

Finding 6 and conclusion 6: Strategy focus on insurgents (or terrorists). Both the U.S. Philippines War and The Malayan Emergency demonstrated how important it was to develop an effective strategy to fight an insurgency. In both historical examples, conventional forces were utilized, and finally understood how to utilize them effectively to fight in a counterinsurgency operation. The strategy was tailored to fight the insurgents in relation to their objectives, and the conventional forces were utilized in a manner consistent with the goals of the strategy. The conventional forces were not necessarily trained and organized to fight an insurgency, but as the right commanders ensured the appropriate strategy was communicated, then the counterinsurgent forces became very effective in deny the insurgents the ability to achieve their goals.

In Schadlow's (2010) study of organizing the political terrain, she argues that military forces need to incorporate effective efforts when fighting insurgents. She further argues that political and economic factors need to be incorporated in the military effort, but recognizes that military forces need to adapt in order to deny insurgents' their goals and objectives. Schadlow's arguments were very important and were reflected in both historical examples, and reaffirmed the necessity to develop sound counterinsurgency strategy with the forces they have available.

Finding 7 and conclusion 7: The operational environment is the center of gravity.

Both historical examples completely highlight the importance of the operational environment, and also confirm that it is the center of gravity to the success of the insurgents. In both examples, the counterinsurgent forces denied the insurgents their ability to target governmental functions (after an effective strategy was in-place), and other areas that supported the insurgents' goals. By focusing on the operational environment, the insurgents lost their ability to manipulate the situation that affected both the populace and the government, as counterinsurgent forces denied the insurgents' freedom of movement and ability to continue disrupting necessary goods and services. Members of the panel of experts pointed out that the strategy was immensely important, and even to the detail of what echelon the CTIAP should be implemented. The general consensus was that the CTIAP can be implemented partially at all echelons, but for full implementation, it would need to be at the Brigade and higher levels.

Henry Nuzum (2010) argues this same point when he examined the Vietnam War. He found that intelligence analysts need to understand and leverage the operational environment in their analysis, and then the goals of the insurgents become clearer. The historical examples completely agree with Nuzum's argument, as the operational environment is indeed the center of gravity, and the analysis should focus on was to deny or influence the insurgents' objectives.

Finding 8 and conclusion 8: Separate the insurgents from the populace. Perhaps the most important finding in both historical counterinsurgencies was the separation of insurgents from the population contributed to the successful war efforts. In both examples, after the insurgents were physically separated from the populace, the counterinsurgent forces were able to effectively find them, and ultimately defeat them. It was also important to note that the manner

of which the insurgents were separated would not necessarily be readily embraced today, but the lesson still remains – the insurgents need to be separated from the population.

In both Schadlow's (2010) and Nuzum's (2010) research, they argue the importance of leveraging factors of the operational environment to combat an insurgency. As previously noted, their arguments were sound, but they can also provide an intelligence analyst the ability to find indicators on insurgent activity. The CTIAP specifically focuses on establishing criteria in reporting in order to assess the quality of information based on sources of data. This may prove effective for an intelligence analyst when he recognizes the insurgents' objectives, and focuses collection on those indicators. The separation of insurgents from the populace can be found in aspects of the operational environment that need attention and constant deliberation in order to build those indicators and recognize them.

The cadets were able to identify these lessons in their conduct of the analysis produced in the case-based scenario. Their focus on the operational environment demonstrated that they recognized that influencing the PMESII and ASCOPE factors in the counterinsurgent forces favor provided those forces a marked advantage. Further, the cadets built their objectives and enemy templates through areas within the operational environment that the insurgents would attempt to control, influence, or manipulate based on their modus operandi.

The cadets were also able to focus on arguably the most important aspect learned from the study of the historical counterinsurgencies – separating the insurgents from the populace. The assessments that were produced provided various techniques that could either physically separate the insurgents from the populace, or potentially highlight indicators that could be collected on in order to separate the insurgents. Through the separation of the insurgents, the intelligence analyst gains a position of advantage, as precision targeting would naturally be more

effective as it maintains a separation from the populace at large. Finally, the separation of insurgents from the population allows a greater ability for the counterinsurgent force to apply both lethal and non-lethal targeting operations more effectively, and allows a more coherent way to assess achievement.

The CTIAP, an analytical framework built from the six critical thinking cognitive skills identified through Dr. Facione's Dephi Study (2010), provided the cadets the ability to incorporate critical thinking skills into a more holistic, comprehensive, and non-biased assessment that could be very useful to decision makers. The CTIAP effectively incorporated the operational environment into a single product that can be used to focus successful counterinsurgent strategies that have been demonstrated through historical studies. A panel of experts received the products of the analysts with great praise, and acknowledged that the CTIAP was a significant improvement in the conduct of intelligence analysis. Finally, all these aspects demonstrate that effective counterinsurgency is fought over the operational environment where the insurgents and their goals can be combated both lethally and non-lethally.

Recommendations

There were many recommendations that I could focus on in order to continue both improving the CTIAP or more effective ways to build critical thinking frameworks that may benefit intelligence analysis. There were two areas that I recognized over the course of my study that probably need the most attention: proper echelon where the CTIAP could be fully integrated real-world application and assessment of the CTIAP, and conventional warfare aspects that could be improved through the CTIAP or similar model.

One issue that came out during my interviews with the panel of experts was the echelon that the CTIAP should be implemented for full effect. This issue arose during my very first

interview with a member of the panel of experts, and was addressed during my second interview. I quickly added it as a discussion in the last three interviews. All five members of the panel felt that this indeed was an issue that needed further exploration. Also, all five also felt that they believed the Brigade level would probably be the lowest level for full implementation. They did believe that the Battalion level could implement the CTIAP, but for full implementation, where all targets could effectively be influenced by all aspects of military capabilities (lethal and non-lethal), Brigade was the lowest level that could accomplish that feat.

The final area that needs additional research in order to fully evaluate the CTIAP's usefulness and potential will be applying the process to a conventional force-on-force scenario. The CTIAP was specifically built for application in either a COIN or counter-terrorism environment. The specific build of the PMESII/ASCOPE interface to define the operational environment would not apply to a conventional scenario. There may be methodologies for the conventional environment, but that would indeed require additional research, testing, and evaluation. I believe it would be important to conduct an evaluation of the CTIAP or another critical thinking based process that could provide more holistic, comprehensive, and non-biased assessments in a conventional environment.

I speculate one area needing special attention in the conventional environment may be the aspect of time. In a conventional environment, events on the battlefield may be fluid and rapid, with little time to second guess or spend considerable amounts of time trying to determine what a specific indicator might mean. Further, there may also be little time to evaluate conducting one operation over another. Regardless, incorporating critical thinking skills have shown to be effective in the CTIAP. For military intelligence instructors, a framework incorporating critical thinking skills in a domain-specific manner applied to the conventional environment may prove

to be worthwhile and a valuable way to train intelligence analysts. This additional research would be worthwhile, and may result in saving lives.

An additional consideration needs mention, and that is of the study of historical counterinsurgencies. This study examined two successful counterinsurgencies in order to understanding factors that could lead to understanding the value of the CTIAP. Additional studies should be conducted that examine unsuccessful counterinsurgencies in order to identify the lessons that could be incorporated for future counterinsurgencies.

If future intelligence analysts would utilize the CTIAP in the future, they need to consider a few issues prior to initiating their analysis. First, the CTIAP was built for counterinsurgency or counterterrorism operations. If an intelligence analyst finds himself in a conventional war, or peacekeeping operation, then that analyst should understand that the CTIAP may not provide the level of detail that it does for a counterinsurgency or counterterrorism environment. Another issue for an intelligence analyst to consider is that the CTIAP is built to be flexible. The process may need to be modified for a specific mission, and the analyst needs to understand the value of defining the operational environment prior to building insurgent or terrorist templates. The CTIAP may prove to be a worthy process that may focus operations, which may result in more specific operations.

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APPENDIX A: ASCOPE/PMESII INTERFACE

PMESII / ASCOPE INTERFACE								
	P	M	E	S	I	I	P	T
A	Villages / Towns Province (Dahuk) Districts Tribal Boundaries Political Districts Border Control	Garrisons FOBs Zones Training Area (Academy)	Commercial District Agriculture Manufacturing Mining Tourist / Historic Areas Oil field	Neighborhoods Villages / Towns Tribal Boundaries Displaced Civilian Camps Religious / Ethnic Districts	Newsprint Coverage Area Radio / Television Coverage Area	Fire / Police Districts Power Grids COMMs Service Areas Public TRANS Routes Road Network	Linear Urban Pattern Grid Street Pattern Key Commercial Zones Underlying Terrain Construction Materials Agricultural Area Flood Plains	TBD
S	City Hall Courts Tribal Council Municipal Bldgs	HQs Barracks DFACs PVs Offices Classrooms (Academy)	Buildings Shaan Tourist Hotel Aestika Resort Farms Plants Stores Mazi Super Market Tourist Shops Banks Grain Storage (Warehouses)	Dual Bridge Mosques / Church Madrasahs Restaurants / Cafes Cultural Centers	Dual Radio Station Print Plant COMMs Towers	Water Towers / Dams / Treatment Power Plants / Lines Bridge Structures Hospital Fire Station Police Station / Substation	Buildings Over Certain Size Displaces Civilian Camps Subterranean Passages Road Composition	TBD
C	Elections Sharia Law Fawa Tawing (Zakaah) Laws Treaties	C2 Fires Intel Mine & Mawner Sustainment Protection Training / Education	Products Services Tourism Grain Production & Distribution Oil	Religious Services Demonstrations Fawa Cultural Services	Telephone Cell Phone Internet Television / Radio Religious Services (word of mouth) Printed Materials	Fire / Rescue Law Enforcement Health Services Power Distribution Water Distribution Sanitation	Sand Storms Torrential Rainfall Mountain Snowfall	TBD
O	Parties Tribes Clans	2nd SCR (Zakaah) Iraqi Army Training Group Ansar al-Islam Kongra-gel	Treasury / Dept (Provincial) Agriculture Dept (Provincial) Labor Unions Commerce Commission Tourism Bureau	Religious sects School Groups Clubs Gangs Tribes / Clans	Kurdish Regional Government Regional/International News Agencies	NSCs UN / International Agencies (UNHCR) Public Works Department Fire / Police Departments	Criminal Enclaves (UN / International Agencies (UNHCR))	TBD
P	Personalities (Names + Positions) Major: Sheik Akhr Sakh Jamal KQP Branch Chief: Al Amiri Town Administrator: Qays Saqliq	Commanders Leaders LTC Sakh (Commandant)	Personalities (Names + Positions) Town Administrator: Qays Saqliq	Personalities (Names + Positions)	Personalities (Reporters / Journalist) Local Religious Leaders	Fire Chief Police Chief Town Administrator: Qays Saqliq	Religees Town People Farmers Tourists	TBD
E	Elections Debates Rallies Campaigns Conventions	Relief in Place Redeployments VIP Visits Soft Change MEDDEVAC Staff Call Formation Chow Time MMR Parades Training Events	Prayer Tax Period (Zakaah) Harvest Sale Border Crossings (Tourism)	Holiday's (Religious & Community) Gatherings Celebrations Rallies / Demonstrations Friday Prayer Christian Services	News Broadcasts (TV / Radio) Religious Services	Civil Disturbances (Riots / Demonstrations) Power Disruption Epidemics Health / Disease Issues Natural / Man-made Disasters COMMs (Outage / Disruption)	Natural / Man-made Disasters	TBD

APPENDIX B: CASE-BASED SCENARIO

FM 34-130

Scenario Three: Counterinsurgency Operations

The 2d Battalion, 99th Infantry (Light), is conducting counterinsurgency operations within the rural country of Forgotonia. The host nation is plagued by an insurgency which is sponsored by Metropolania, the country that neighbors Forgotonia to the east.

The advance party for the 2d Battalion, 99th Infantry, has just arrived at the capital city staging base. The staff of the 99th Regimental Combat Team has issued an OPORD at the arrival airfield.

The battalion executive officer (XO) initiates the command estimate process. The XO informs the S2 that he must present the initial set of IPB products to the battalion staff in 6 hours.

The regimental S2 and several intelligence experts from the host nation present the battalion S2 section with a 15-minute overview of the division and regimental level intelligence situations. They also leave several boxes of intelligence reports that may be pertinent to the battalion mission.

The S2 reflects upon the briefings he has received. He realizes that the regimental S2 developed good IPB products for the regimental level of focus. However, their level of detail will not support planning at the battalion level of focus. As he sifts through the stack of intelligence reports, he realizes that these files contain raw information in enough detail to support battalion planning, but they must first be analyzed within the context of the battalion's mission.

In order to produce the IPB products necessary to support staff wargaming, which starts in 5-1/2 hours, the S2 sets the following schedule for the section:

- 10 Minutes: Define the Battlefield Environment: Determine the types of information that need to be extracted from the intelligence files and define the limits of the battlefield.
- 2 Hours: Process the stack of intelligence using the filter procedures established in the "Define the Battlefield" step.
- 30 Minutes: Describe the Battlefield's Effects: Evaluate the battlefield's effects on military operations. Develop overlays that depict the effects of the battlefield on enemy and friendly COAs within the AO.
- 30 Minutes: Evaluate the Threat: Identify the organization, composition, and tactics of the enemy that the 2d Battalion, 99th Infantry (Light), is likely to face within the AO.
- 1 Hour: Determine Threat COAs: Although he has studied the "doctrine" of insurgents operating in this region and the tactics of light infantry, the S2 will "bounce" the IPB products against the battalion personnel who best understand the tactics of dismounted infantry; that is, the S3, the C Company commander, the A Company first sergeant (ISG), and the scout platoon sergeant (PSG). These "second opinions" help the S2 ensure that he has considered all possibilities. Meanwhile, the remainder of the S2 section will re-process the stack of intelligence reports to find any pertinent information they may have overlooked during the initial processing.
- 20 Minutes: Determine the most effective methods for presenting the IPB products to the battalion staff.
- 1 Hour: Conduct rehearsal briefing and refine wargame materials.

Using the resulting time schedule, the S2 section "[jumps]" into the IPB process.

3-55

DEFINE THE BATTLEFIELD ENVIRONMENT

As usual, the AO is established by higher headquarters. The S2 examines the characteristics of the battlefield and determines that the populace as well as terrain and weather will have a significant effect on friendly and threat force options and operations. He also determines that the complicated ROE included in the brigade's OPORD are a significant characteristic of the environment. Not only will they affect friendly options but, once the threat learns of their nature, they are likely to influence threat COAs as well.

Because the insurgents are getting some assistance from Metropolitan military units (the "Nuevo Metropolitano Ejército" [NME]), the S2 notes the nearby NME regiment as an additional significant characteristic of the battlefield.

Based on these considerations, the S2 recommends the AI depicted in Figure 3-3.

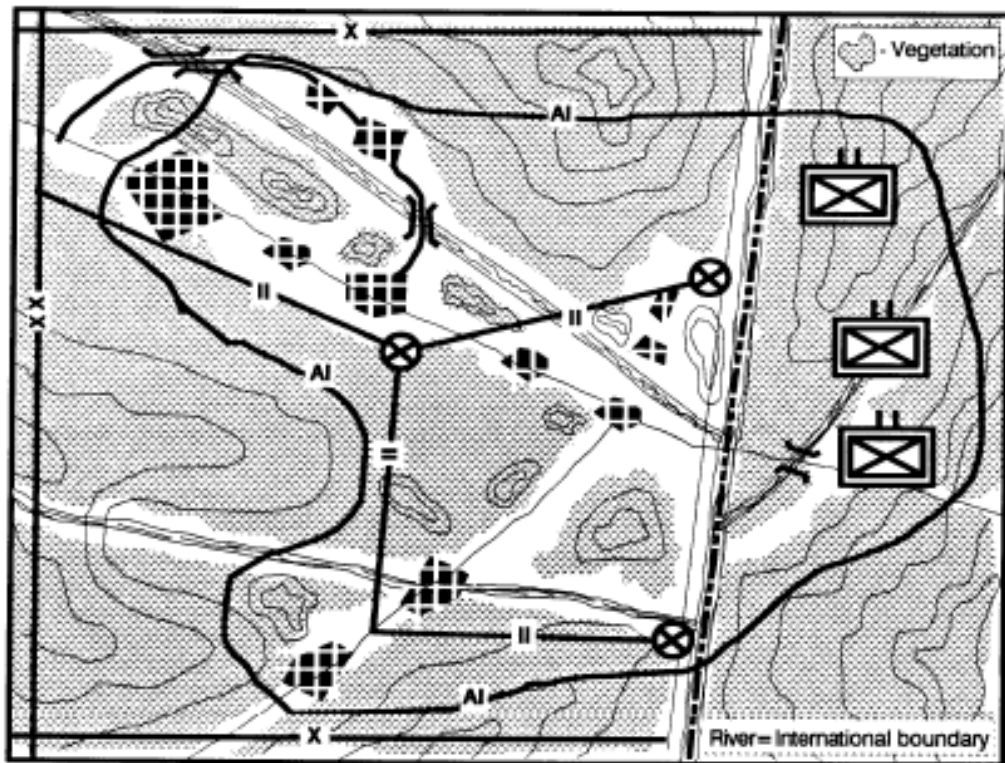


Figure 3-3. AO and AI.

DESCRIBE THE BATTLEFIELD'S EFFECTS

The S2 decides that the population is one of the most important characteristics of the battlefield, likely to have a major influence on both friendly and enemy COAs. Accordingly, he prepares a population status overlay depicting their political sympathies (Figure 3-3-1). He will use it later in determining enemy COAs. Other staff sections will use it while developing potential friendly COAs.

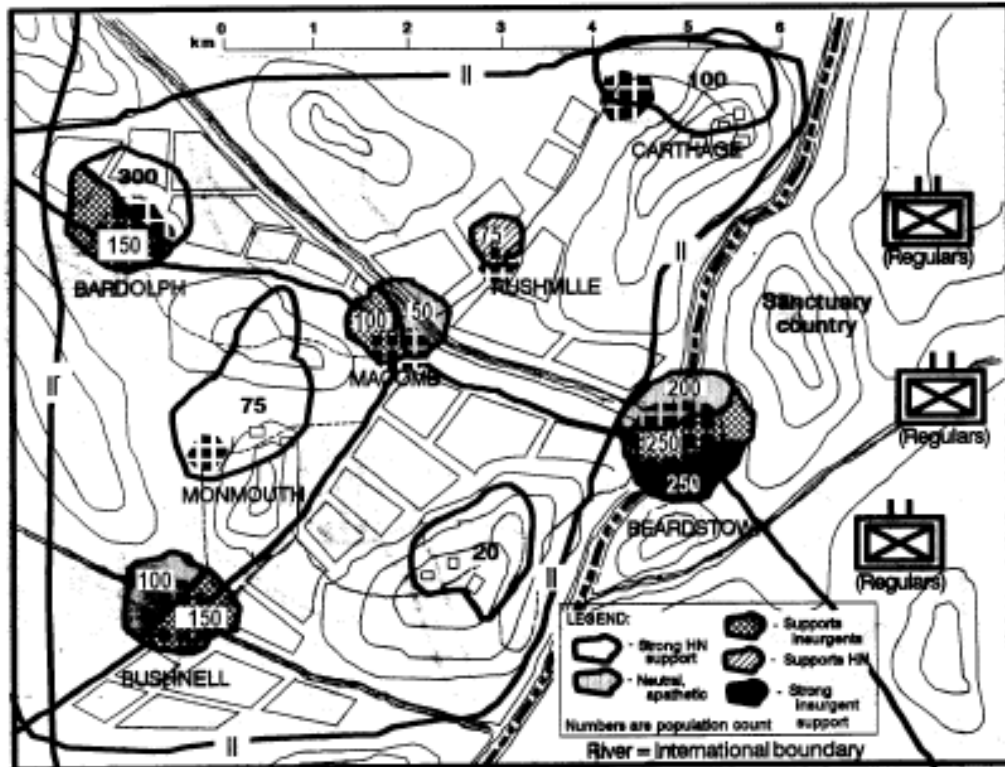


Figure 3-3-1. Population status overlay.

Although unusual, the S2 decides to prepare a legal status overlay (Figure 3-3-2) that considers ROE. In this case, the host nation has established an elaborate Status of Forces Agreement (SOFA) which drastically alters the rights and authority of the 2d Battalion, 99th Infantry (Light), as it moves through the AO. These varying sets of restrictions and ROE obviously affect the COAs open to the friendly command. Similarly, since the enemy will no doubt learn of these restrictions on the friendly force, they will probably influence enemy COAs as well. The S2 will use this overlay to integrate the effects of friendly ROE on threat COAs as he develops them.

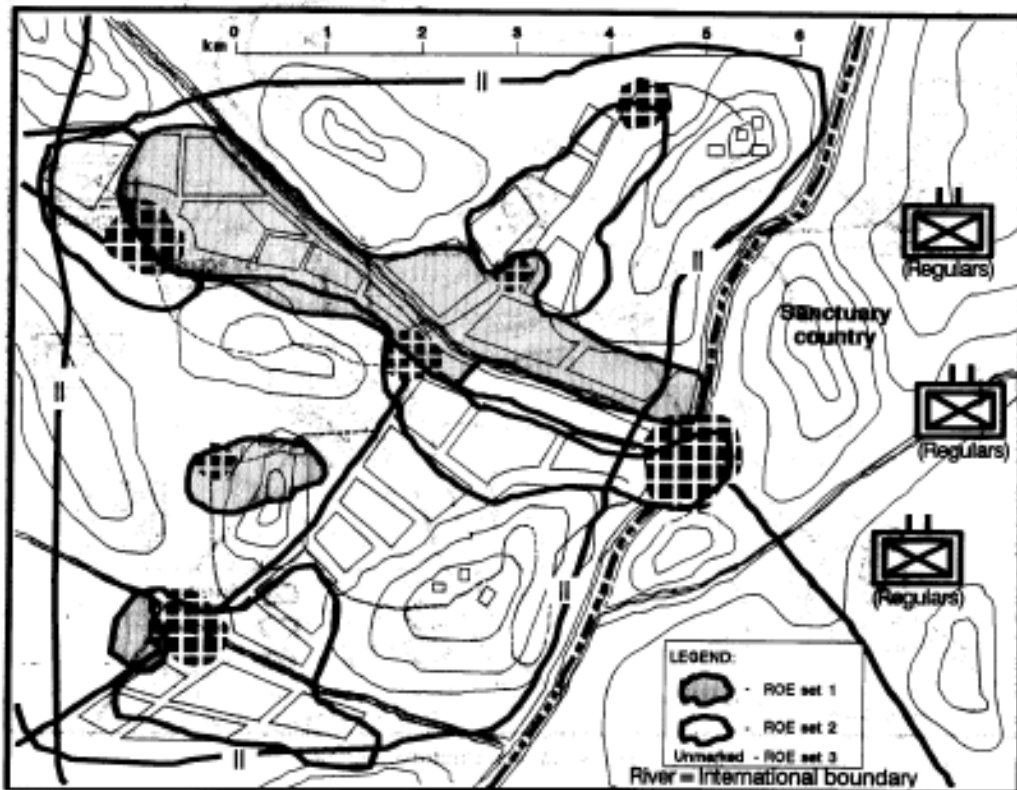


Figure 3-3-2. Legal status overlay.

The S2 section also developed a logistics sustainability overlay (Figure 3-3-3). Separate battlefield environment effects overlays are often developed for food, water, and military resupply. In this case, however, the S2 felt that the proximity of the sanctuary nation simplified military resupply to the point where it could be included onto the overlay depicting the availability of foodstuffs. The nature of the AO makes water resupply no problem for either friendly or enemy forces.

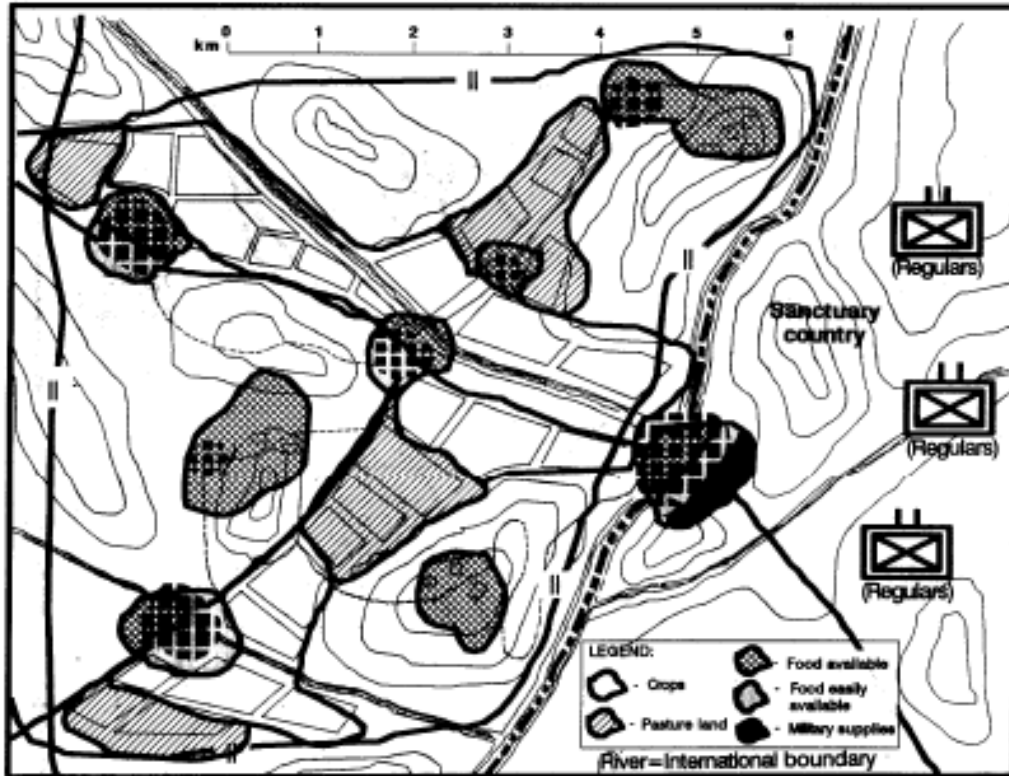


Figure 3-3-3. Logistics sustainability overlay.

The S2 decided that the staff would not need an IPB product predicting cache sites during the initial planning session, but that it might be required later. He made a note in the section's "pass-on" journal to ensure that they started work on one after the initial issue of the battalion OPORD.

After logistics, the analysts in the S2 section determined that the next consideration the insurgents would have would be concealment and cover. Accordingly, they evaluated the effects of the agricultural and grazing land in the AO on this military aspect of the terrain (Figure 3-3-4).

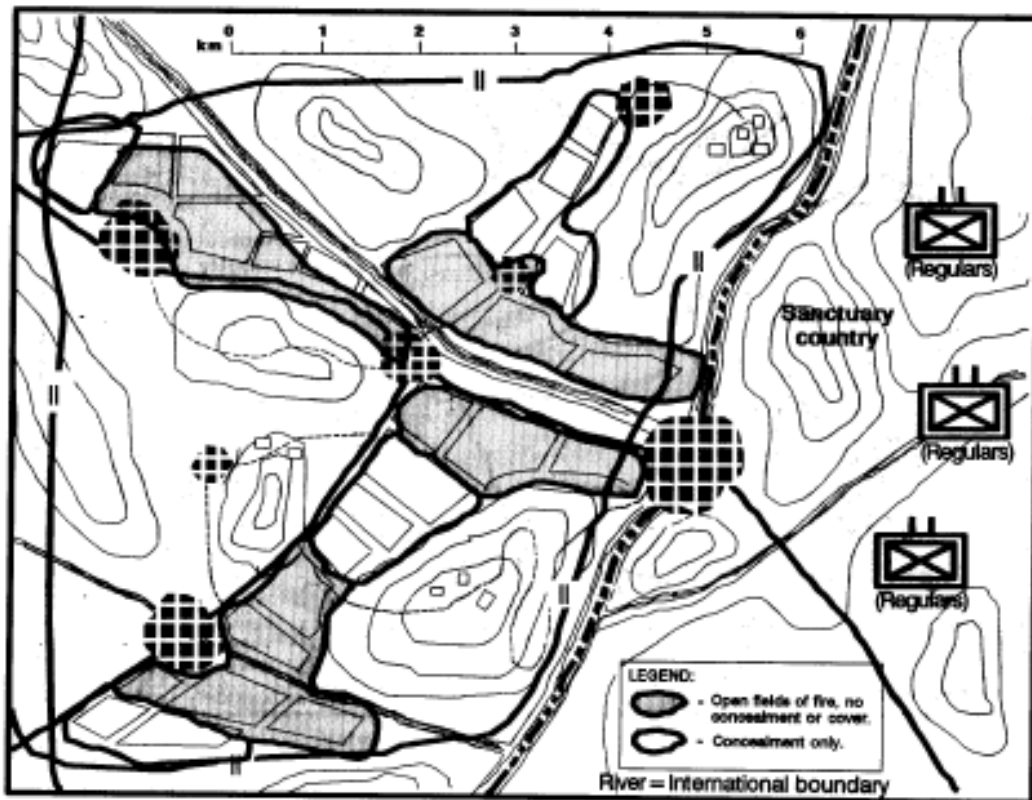


Figure 3-3-4. Concealment and cover overlay.

The S2 section then prepared an overlay depicting LOCs within the AI. After evaluating the effects of the various military aspects of terrain, the S2 section identified the areas along each LOC that best lend themselves for use as ambush sites (Figure 3-3-5).

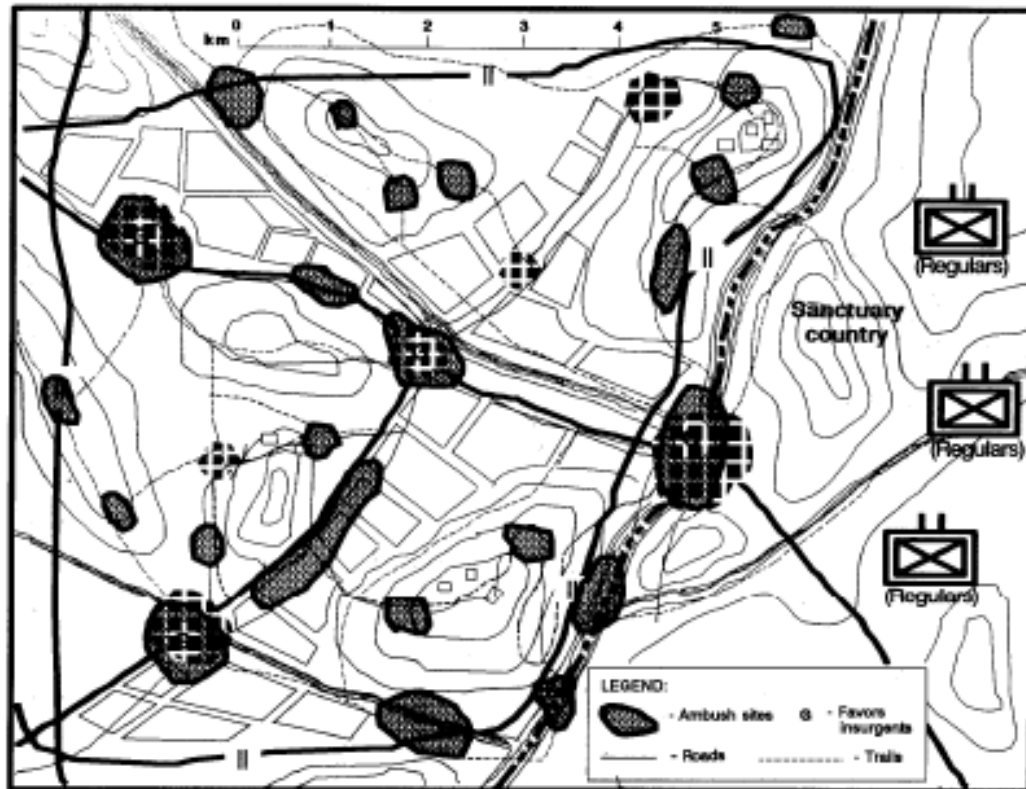


Figure 3-3-5. LOC and likely ambush sites.

EVALUATE THE THREAT

The S2 section begins evaluating the threat by reviewing the common understanding of the battlefield. They examine the organizations of the nearby NME Infantry regiment as well as that of the insurgents operating within the AO (Figure 3-3-6). Neither the insurgents nor the Metropolitanians have any significant air power capabilities.

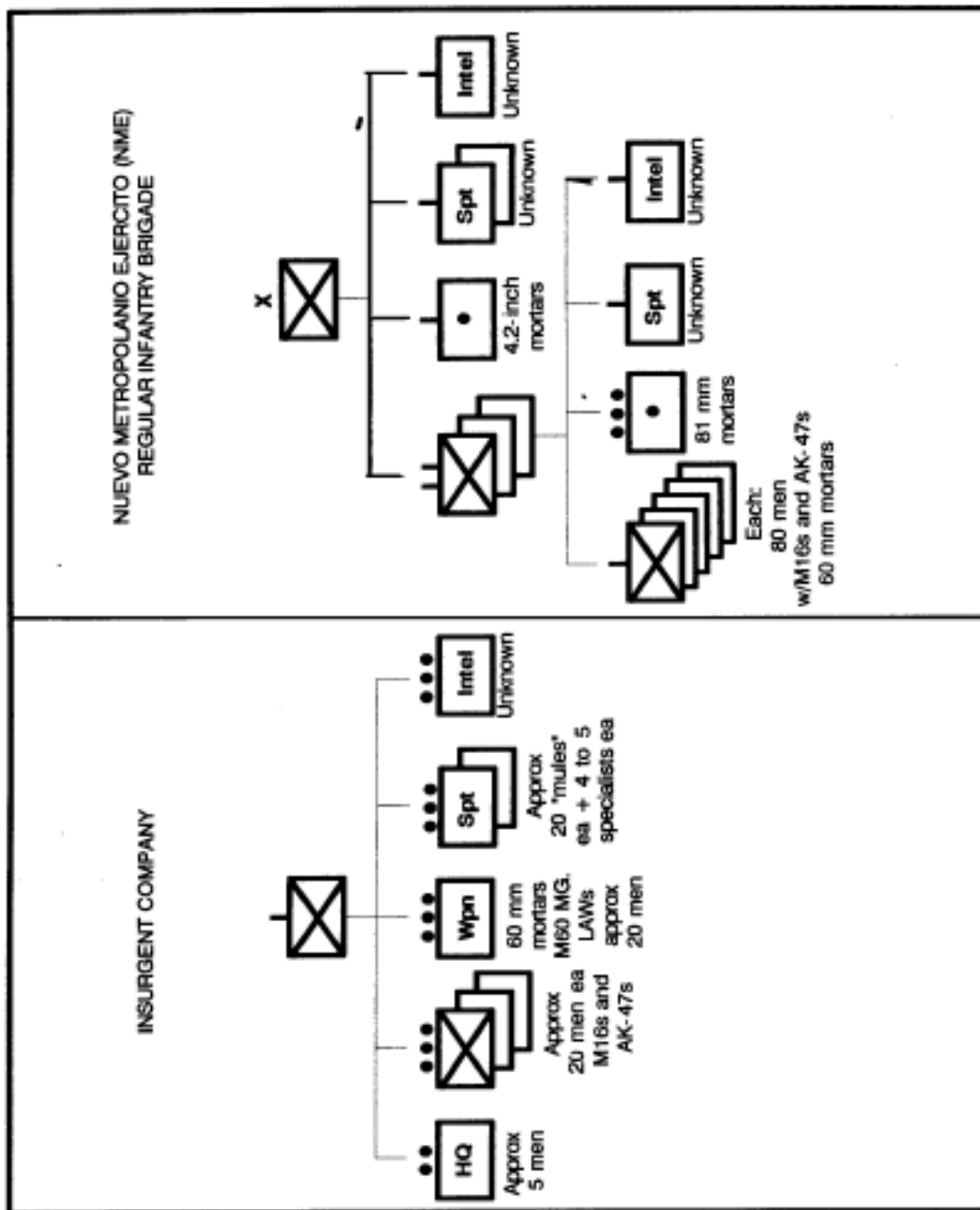


Figure 3-3-6. Enemy organizations.

The S2 section started to plot a SITMAP in order to record the mass of available information, but realized that a time event chart described the general intelligence situation in the AO more effectively (Figure 3-3-7). Instead of a SITMAP, they decided to use coordinates registers to track activity within selected areas.

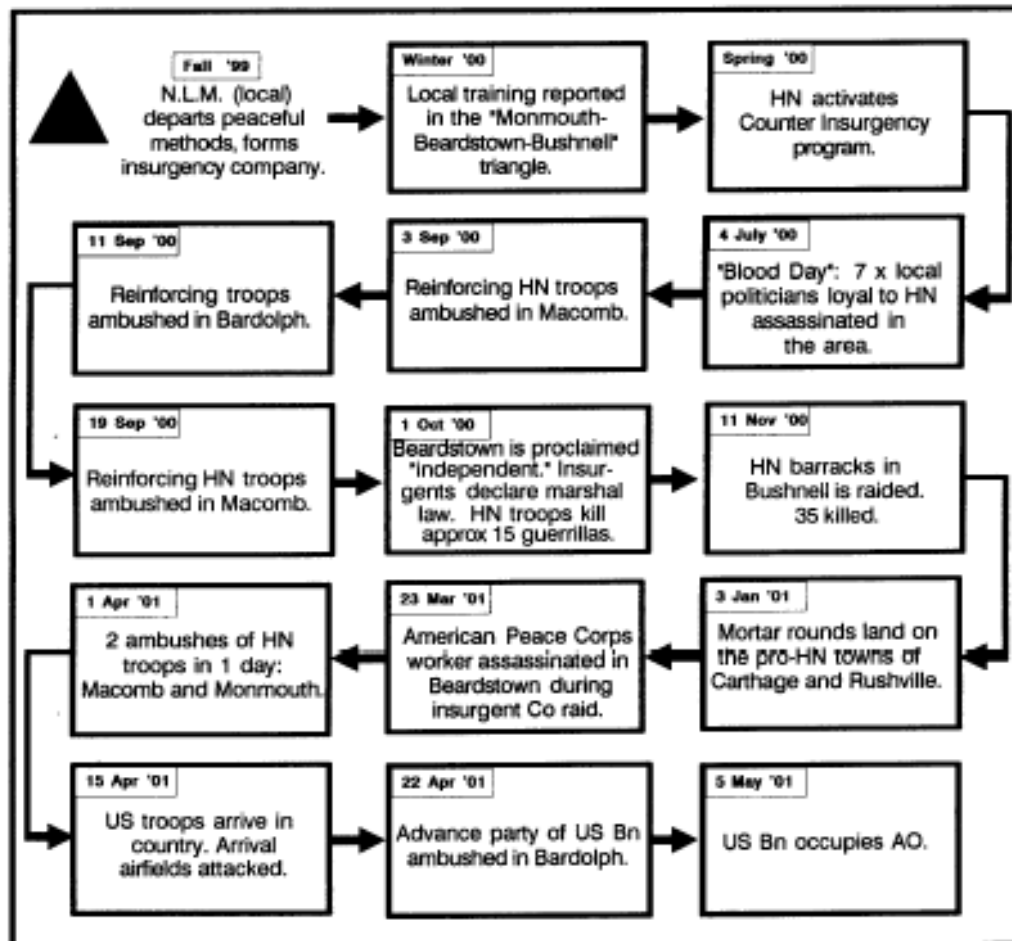


Figure 3-3-7. Time event chart.

While processing the stack of intelligence reports, the S2 section noticed certain recurring names. The S2 section established an activities matrix to quickly display which prominent personnel within the AO were related to each organization or type of activity (Figure 3-3-8).

<div style="border: 1px solid black; padding: 5px; width: fit-content;"> LEGEND: ● - Confirmed ⊕ - Probable ○ - Possible </div>									Name of Individual	
		Christian Reform Party (good guys)	Society for the preservation of order (right wingers)	Farmer's alliance (unk peasant group)	People's Democratic Society (peaceful moderate)	Insurgent Company	New Liberation Movement (political front for N.M.E.)	N.M.E.		
Remarks										
Warrant outstanding	Leader in the insurgent co. Possible pit cdr or co cdr.					●	●	●	Johnston, S.D. alias "The Red"	Bardolph
	Possibly linked to death squad activities.	●	⊕						Garra, N.A.	
	Mayor, ineffective due to war-torn town.	●							Mulvihill, P.	
	Possible pit leader.	○		●	⊕	○	○		Daniels, P.	
	Regional governor.	⊕	○	⊕	●				Jenkins, T.L.	
Warrant outstanding	Tactical genius, principal trainer of insurgent co.					●	●	⊕	Cormier, J.	Macomb
				○		⊕	⊕	⊕	Webb, C.	
					●	○	○		Seipel, B.	
	Leader in the insurgent co. Pit leader or XO.			○		⊕	⊕	⊕	Trollinger, L.	Beardsdown
	Possible head of intelligence.					○	●	●	Ahearn, E.	
	Probable pit leader.					●	○		Timoney, J.	
Warrant						●	●		Thompson, J.	
Warrant	Probable hvy wpn pit leader.					●	○	●	Bridgeford, R.	
	Possible liaison between insurgent co and the N.M.E.			⊕	○	○		○	Halbleib, M.	Bushnell
	"Doctor of Death" leads the SPO.	●	●	○	○				Mueller, H.	
Warrant						●	⊕	⊕	Martinez, E.	

Figure 3-3-8. Activities matrix.

The intelligence reports also revealed that certain of these individuals associated with others. The section used an association matrix to show the relationships (Figure 3-3-9).

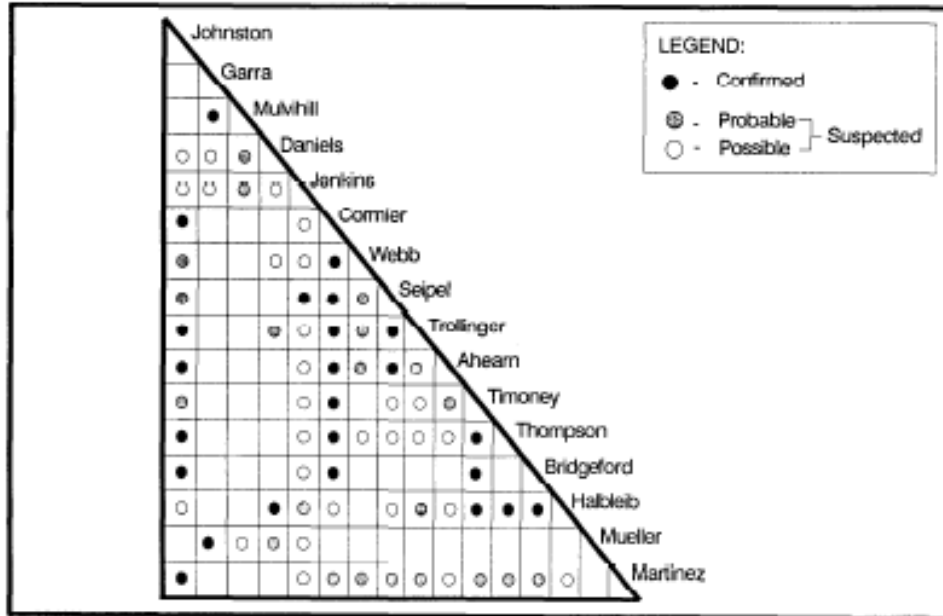


Figure 3-3-9. Association matrix.

Using all the information shown in the products above, the section then developed a link diagram to show the interrelationship of individuals, organizations, and activities (Figure 3-3-10).

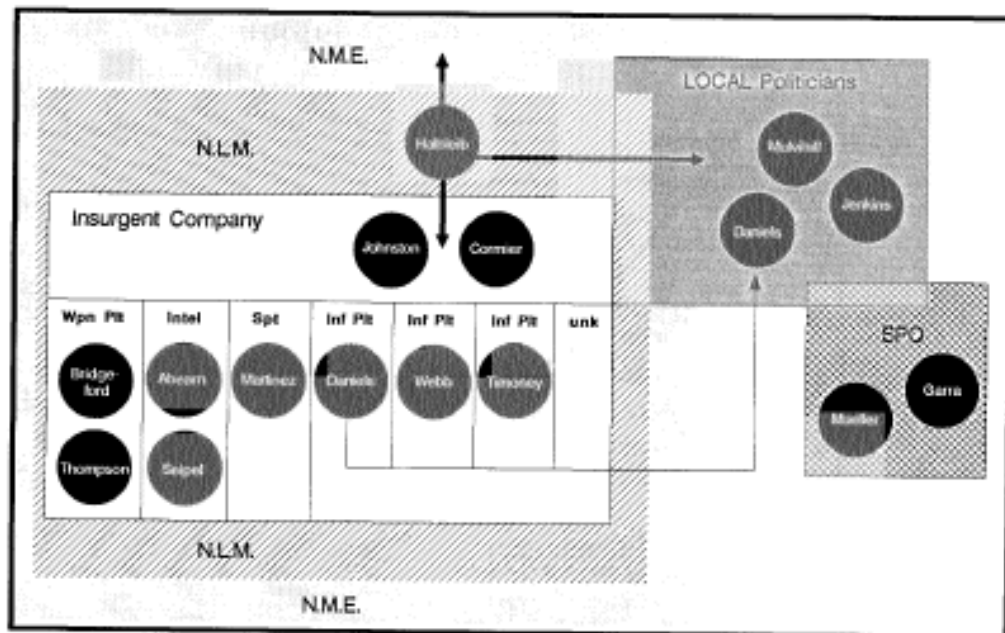


Figure 3-3-10. Link diagram.

To better illustrate the events that have occurred within the AO, the S2 section established a set of coordinates registers. Coordinates registers aid in pattern analysis and help build doctrinal templates from scanty intelligence data bases. This coordinates register page shows activities around the town of Macomb, one of the biggest "hot spots" (Figure 3-3-11).

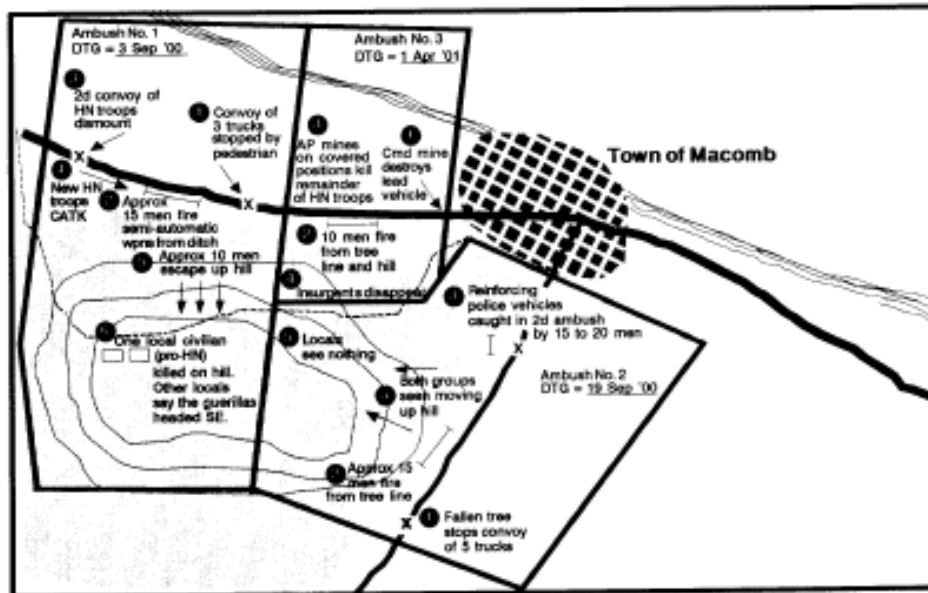


Figure 3-3-11. Coordinates register.

The S2 section also constructed a time pattern analysis worksheet to record the date and time of each serious incident. The rings depict days of the month, the segments depict hours of the day. Similar tools help distinguish patterns in activity that are tied to particular days, dates, or times (Figure 3-3-12).

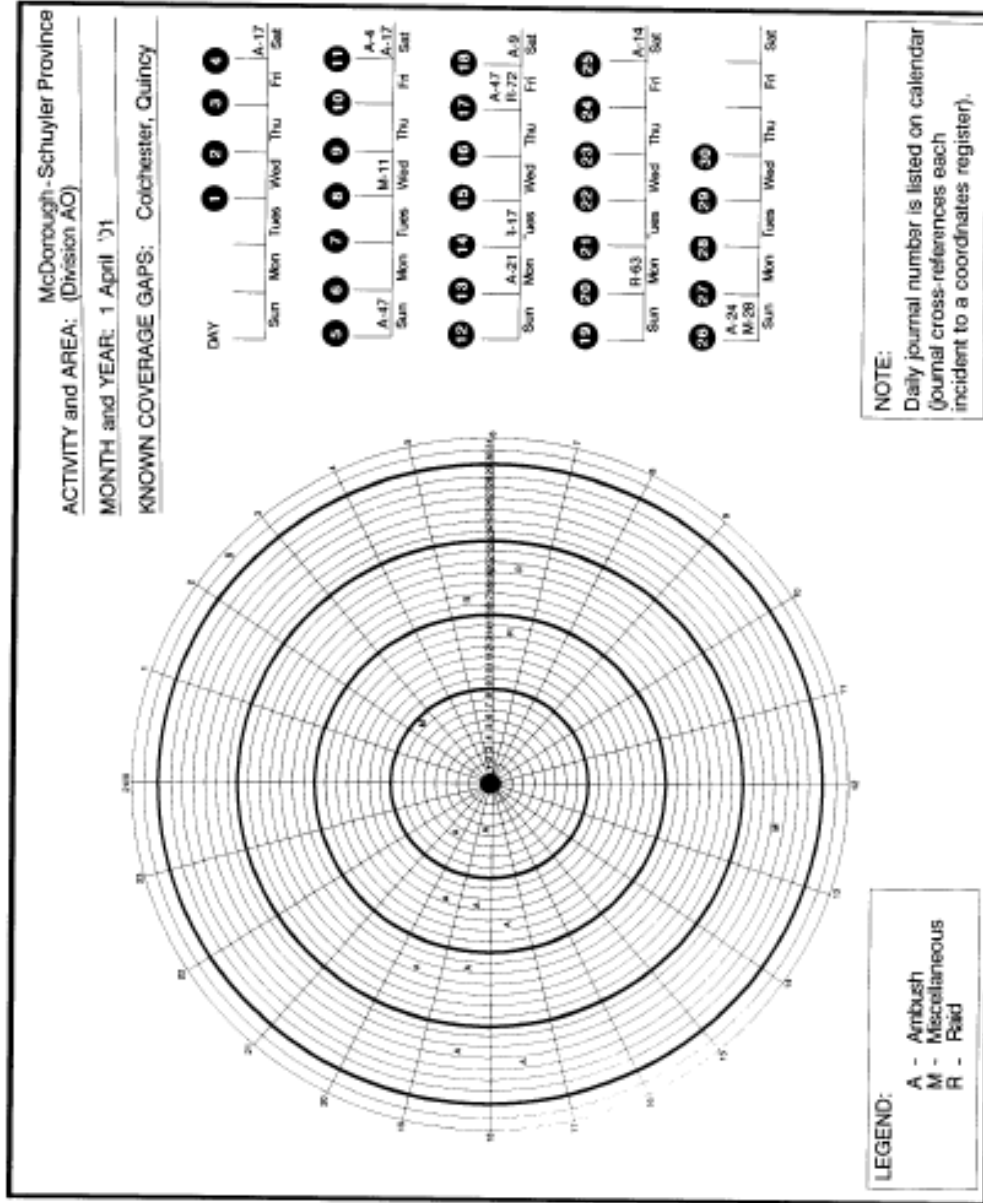


Figure 3-3-12. Pattern analysis plot sheet.

After studying the coordinates registers, time pattern analysis worksheets and the associated intelligence reports, the analysts realize that the insurgent techniques for conducting ambushes have evolved over time. Each operation is more sophisticated than those that preceded it as the insurgents learn from their mistakes. To reflect the most current "standard" techniques, the section prepares doctrinal templates. The doctrinal template at Figure 3-3-13 shows the section's best assessment of the current procedures used by the insurgents during ambushes.

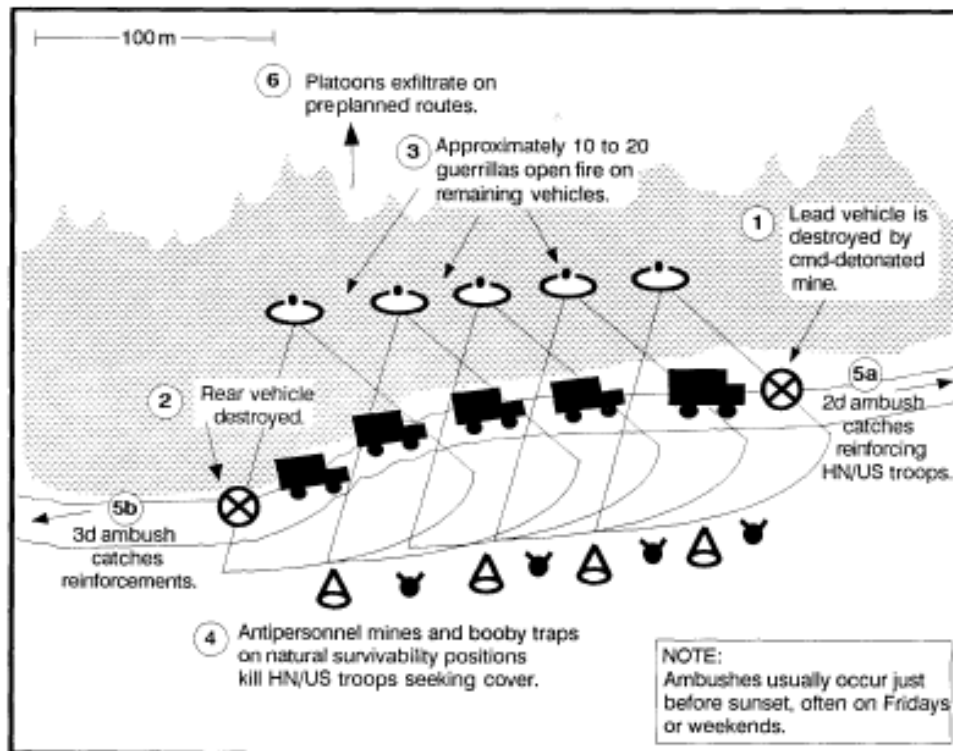


Figure 3-3-13. Doctrinal templates depict the enemy's normal or preferred tactics.

The section does the same for insurgent raids. The result is a doctrinal template that depicts current "standard" techniques for raids on facilities or installations (Figure 3-3-14).

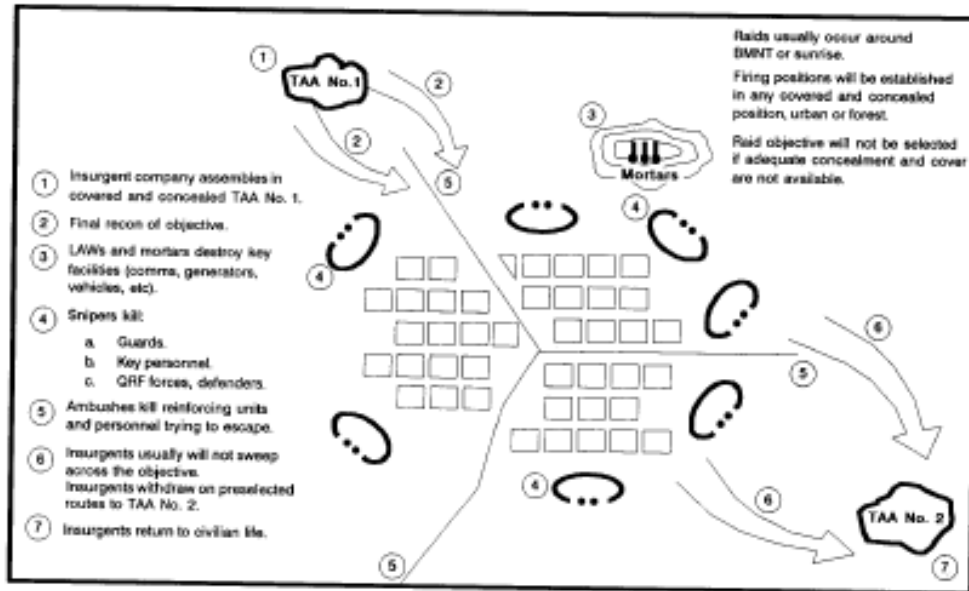


Figure 3-3-14. Doctrinal template for insurgent raid.

To study the Metropolitanian threat the S2 section only received an 8-year-old Defense Intelligence Agency handbook, some sketchy reports on recent training exercises, and some educated assessments by analysts at the division and regimental levels. The battalion S2 integrated the results of his analysis of these products into the doctrinal template (Figure 3-3-15).

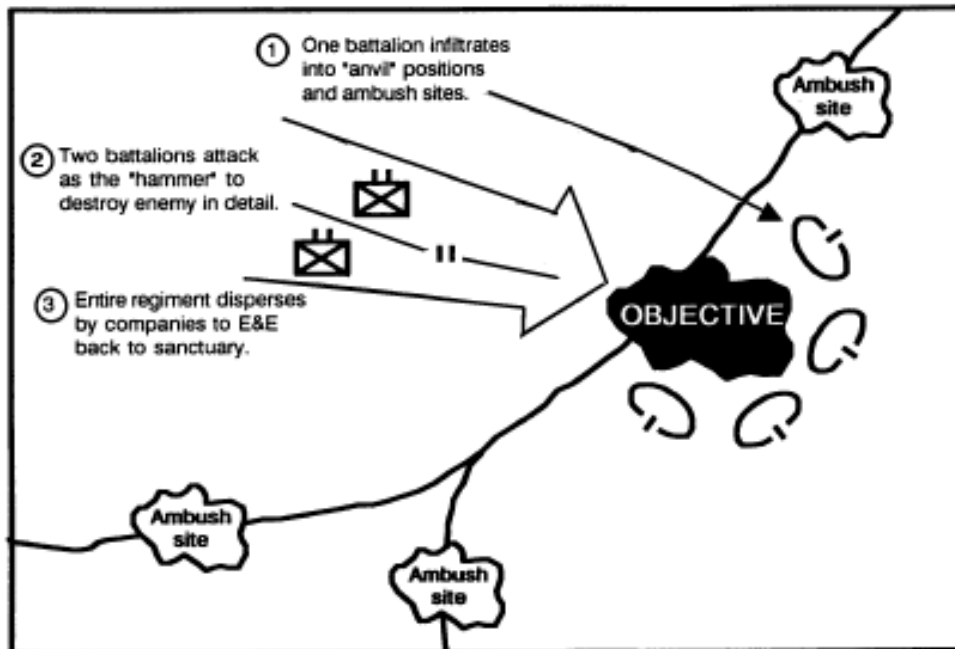


Figure 3-3-15. Doctrinal template for Metropolitanian attack.

DETERMINE THREAT COURSES OF ACTION

Having finished the initial three steps of IPB, the S2 section turned to determining enemy COAs. The section focused its efforts around a reliable and credible intelligence report that narrowed guerrilla targets down to incoming US Army personnel and government forces within areas sympathetic to the host nation.

The S2 prepared a situation template depicting likely insurgent COAs. He did this by integrating his IPB products depicting population status, availability of concealment and cover, and potential ambush sites with the threat model developed in the previous step.

In this case, the situation template takes the form of a key facilities and targets overlay, sometimes known as a "trap map," which shows likely targets for the insurgents (Figure 3-3-16). The S2 also included in the situation template the areas most likely to be used by an assembling insurgent company, and the infiltration routes between the objective sites and the assembly areas. This situation template also shows the safehouses that "wanted" personnel will probably use between insurgent operations.

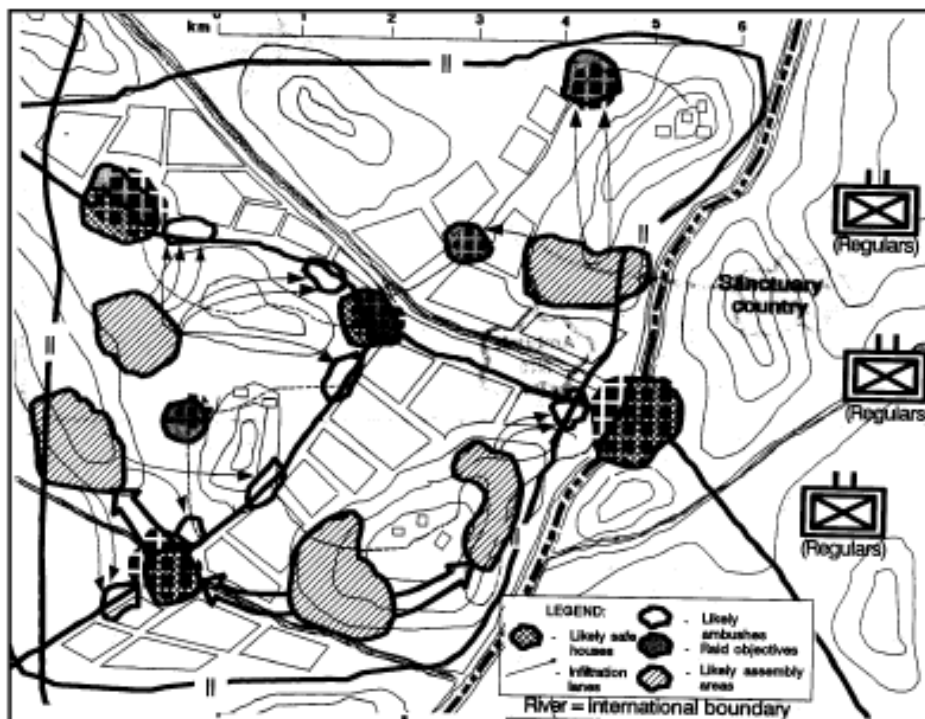


Figure 3-3-16. Situation template for insurgent ambushes.

Although an attack by the Metropolitan Infantry regiment is unlikely, the S2 must evaluate all reasonable threats to mission accomplishment. He develops a situation template showing three COAs available to the NME Infantry regiment should it decide to attack (Figure 3-3-17). All three COAs are predicated on the assumption that the friendly battalion will locate itself in one of the three objective areas and that the destruction of the battalion will be the Metropolitan objective (Figure 3-3-17).

In all three COAs the Metropolitan attack will be preceded by the infiltration of one battalion to establish "anvil" blocking positions. The remaining two battalions will attack abreast as the "hammer" to destroy the 2d Battalion, 99th Infantry (Light) forces within the objective areas.

The S2 section develops an event template that supports intelligence collection against the insurgent COAs and those of the Metropolitan Infantry regiment (Figure 3-3-18). The

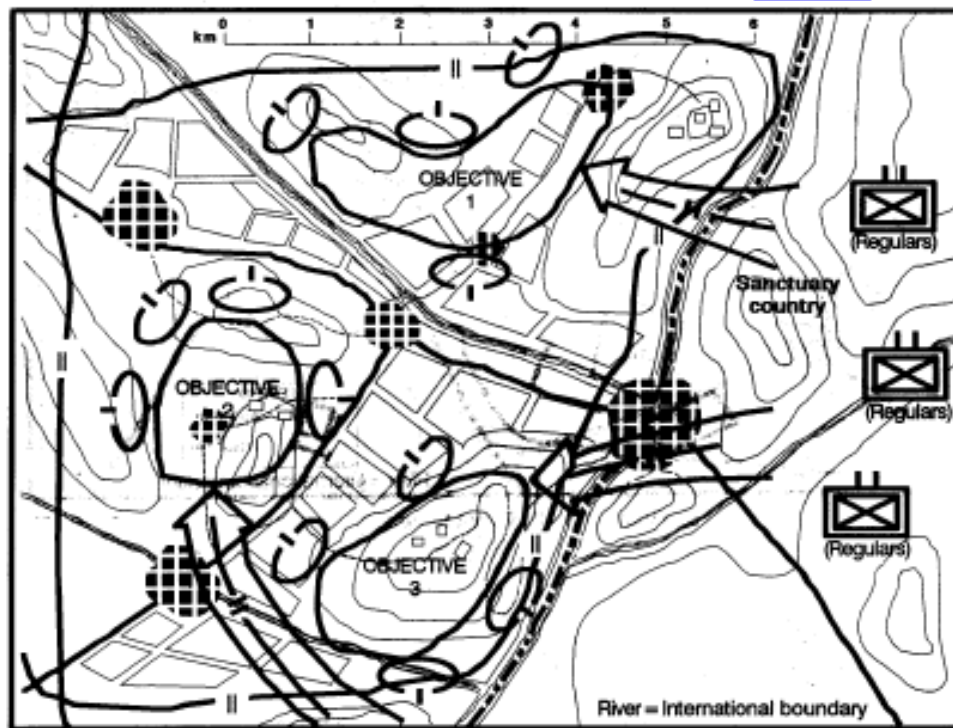


Figure 3-3-17. Situation template for Metropolitan attack.

relatively limited number of NAIs made this possible. Alternatively, the S2 could have used a separate event template for each type of enemy threat.

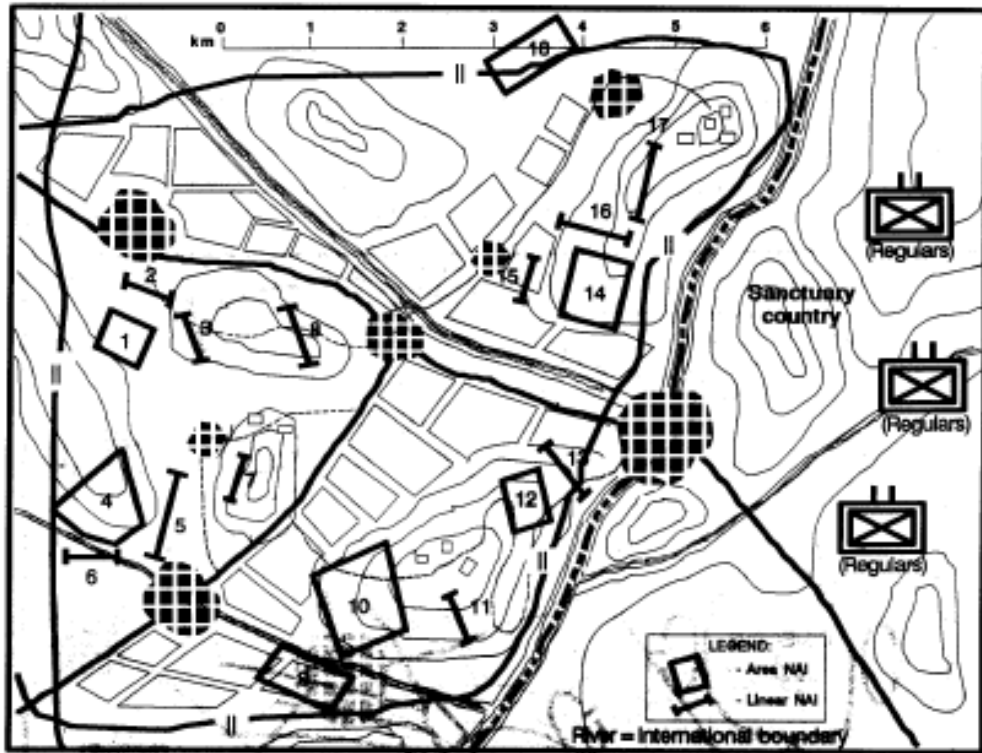


Figure 3-3-18. Event template.

To further aid collection planning, the S2 developed an event matrix indicating the type of activity in each NAI (Figure 3-3-19). Cross-reference to the COA that each NAI and activity indicates allows the S2 to quickly determine which COA the enemy has adopted.

NAI	EXPECTATION	
	Insurgent Company	Regimental Attack
1	Insurgent TAA	
2	Infiltration/exfiltration lanes	
3	Infiltration/exfiltration lanes	
4	TAA	
5	Infiltration/exfiltration lanes	
6	Infiltration/exfiltration lanes	
7		Movement corridor for attack on objective 2
8	Infiltration/exfiltration lanes	
9	Movement corridor for assembling platoons	Movement corridor for attack on objective 2
10	TAA	
11	Infiltration/exfiltration lanes	
12	TAA	
13	Infiltration/exfiltration lanes	Movement corridor for attack on objective 3
14	TAA	
15	Infiltration/exfiltration lanes	
16	Infiltration/exfiltration lanes	
17		Infiltration lane for attack on objective 1
18		Possible "arvil" BP for attack on objective 1

Figure 3-3-19. Event matrix.

DISSEMINATE, USE, AND REFINE IPB PRODUCTS

Based upon the initial set of IPB products, the battle staff completes the decision making process. As planning for the operation continues, the S2 continues to update his IPB products based on the intelligence received. As intelligence confirms or denies his initial evaluations, the S2 refines and updates his IPB. As necessary, members of the staff meet to reevaluate the developing friendly COA in light of the S2's updated IPB and intelligence estimate.

APPENDIX C: EXAMPLE CADET ANALYSIS

Scenario 3: Counterinsurgency Operations

Target 1 (Non -Lethal): Bardolph – This town is divided in its support, but appears to have the most potential for significant gains in supporting the home nation. It is also a main entry point into the area that can serve as a solid base of support for operations further into the area of operations.

Political: Provide neutral support to the political system, but find ways to encourage and facilitate legitimate political development and operations (i.e. security at multi-party political meetings, interaction with heads of each political group, US forces remain neutral in political dialogue and actions). The insurgency appears to be accessing the people via political parties, so, while neutrality must be enforced, violent dialogue or political actions meant to provoke violent conflict must be limited.

Military: A possible insurgent TAA is located to the south of the town with several available approaches to either conduct attacks on friendly military and on the civilian populace. They could possibly occupy the high ground to the southwest and southeast of the town. Clearing NAI 1 and denying enemy access to NAI 1 and the surrounding high ground should be the primary military target for friendly forces. NAI 3 and the high ground to the east of the town (easily accessible to enemy from NAI 3) should be the primary secondary target because this high ground offers control of the local road.

Economy: The town is located near crops and pasturelands, as well as being located near the main road in the region, suggesting that the economy functions on trade of agricultural products. The town must be allowed to maintain control of its lands and the road in order to continue economic sustenance. The enemy must be denied access to these lands and be prevented from

conducting ambushes on the roadway in order to continue economic access to the remainder of the country and the other local towns in the region.

Social: The town is divided decently clearly between supports of the home nation in the north and supporters of the insurgency in the south. This is likely due to the insurgency's increased access to the southern half from TAA 1. Friendly forces must maintain peace throughout the town, but most heavily along the boundary between the two areas in order to facilitate stable interactions and ease of movement between parts of the town. There must be no noticeable difference in treatment between populations of the two halves in order to avoid frustrating either side from perceived preferential treatment.

Infrastructure: The main road passing east of the town must be secured for civilian and friendly travel. This is the most valuable infrastructural asset to not only Bardolph, but the entire region. The road facilitates ease of movement for trading, social connection, access to the rest of the country. The road must be protected from possible enemy ambushes on friendly forces or civilian forces. Maintenance of the road is also vital to usability.

Intelligence: Friendly forces should focus on tracking possible connections between political members and insurgent leaders. We should aim to cut off any funding or monetary/supply exchanges between the two groups.

Target 2 (non-lethal/lethal): Bushnell

Political: Support for the home nation is limited, but a sizeable part of the population remains neutral (100), although a majority classify as strong supporters of the insurgents (150). Because a neutral population is more vulnerable to change and sensitivity to friendly interaction, the main targets must be social, economic, and infrastructural in order to establish a positive regard toward friendly troops. Political facilitation should follow the same procedure as Target 1

Military: The enemy has access to Bushnell from TAA 1 (north) and TAA 2 (east) with no significant land barriers. Priority is to clear and deny enemy access to these two areas (TAA 1 primarily due to its close proximity to the neutral population). The insurgents must not be allowed to conduct raids or ambushes from these locations.

Economy: Bushnell lies at an important intersection between two roads, two of the three that allow the best access to the home nation and each other. These routes, along with the availability of crop and pasture land, indicate that mobility and trade are the key economic pieces to this town. Security on these two main roads and in marketplaces is a top priority.

Social: Similar makeup to Target 1. Must facilitate peaceful interaction between the two sides of the city and allow great food access to southern region. Neutrality vital.

Infrastructure: As noted in Economy, maintenance of the roads and intersection are imperative to allow the town to continue stable everyday living and trade.

Intel: Targeting of civilians for intelligence gathering should be limited due to the fragility of the population, meaning that sources must be allowed to come to us. Intelligence gathering must be low-key and peaceful, with a particular ear for the public's reaction toward friendly actions and techniques.

APPENDIX D: EXAMPLE CADET TARGETING MATRIX

SCENARIO THREE ANALYSIS

Reference: FM 34-130 (pgs: 3-55 to 3-75)

Primary Area Target: Beardstown (The portion on the friendly side of the river)

P: Neutralize major access point to EN supporting nation

M: Destroy main military supply node – limit capabilities across all of HN

E: Destroy ability to easily access food and other sustainment

S: Neutralize the efficiency of a heavy social support area

I: Major production area and key transportation link to sympathetic border nation

I: Neutral support areas can be used to gain high quality intel due to their close proximity to major EN operational areas – only if we can prove we can provide safety

Personnel Targets:

LETHAL TARGETS	NON-LETHAL TARGETS
CORMIER – kill – no major civilian associations and confirmed major EN leader and relationship node – radical groups only	JENKINS – associated with groups we can use to pressure him socially and politically
MARTINEZ – kill – same as above	HALBLEIB – strong ties to important agricultural class – exploit methods to turn but do not kill despite heavy EN associations – possible heavy influence at grass-roots level
JOHNSTON – kill – same as above	

EN COA: After the sequence of strikes, insurgents will collapse back into Beardstown and away from Macomb and other high threat areas as Beardstown is a central node for political, military, and sustainment. We will be able to isolate them and inflict at least noticeable casualties when they mass. Emphasis will be on key leaders. This move will shift pressure off the population and give us a period of time to secure the inward regions of the HN and gain trust before the EN can re-adjust. We will have successfully taken the initiative from the enemy in a full-spectrum, sequential purge. Emphasis will be on combined and rapid effects on multiple targets at once if possible.

APPENDIX E: INSTITUTIONAL REVIEW BOARD APPROVAL

Application for Exemption from Institutional Oversight



Institutional Review Board
 Dr. Robert Mathews, Chair
 131 David Boyd Hall
 Baton Rouge, LA 70803
 P: 225.578.8692
 F: 225.578.6792
 irb@lsu.edu
 lsu.edu/irb

Unless qualified as meeting the specific criteria for exemption from Institutional Review Board (IRB) oversight, ALL LSU research/ projects using living humans as subjects, or samples, or data obtained from humans, directly or indirectly, with or without their consent, must be approved or exempted in advance by the LSU IRB. This Form helps the PI determine if a project may be exempted, and is used to request an exemption.

-- Applicant, Please fill out the application in its entirety and include the completed application as well as parts A-E, listed below, when submitting to the IRB. Once the application is completed, please submit two copies of the completed application to the IRB Office or to a member of the Human Subjects Screening Committee. Members of this committee can be found at <http://www.lsu.edu/screeningmembers.shtml>

-- A Complete Application Includes All of the Following:

- (A) Two copies of this completed form and two copies of part B thru E.
- (B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1&2)
- (C) Copies of all instruments to be used.
 *If this proposal is part of a grant proposal, include a copy of the proposal and all recruitment material.
- (D) The consent form that you will use in the study (see part 3 for more information.)
- (E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB. Training link: (<http://phrp.nihtraining.com/users/login.php>)
- (F) IRB Security of Data Agreement: (<http://www.lsu.edu/irb/IRB%20Security%20of%20Data.pdf>)

1) Principal Investigator: Rank:
 Dept: Ph: E-mail:

2) Co Investigator(s): please include department, rank, phone and e-mail for each

IRB#	<input type="text" value="E5369"/>	LSU Proposal #
<input type="radio"/>	Complete Application	
<input type="radio"/>	Human Subjects Training	

3) Project Title:

Study Exempted By:
 Dr. Robert C. Mathews, Chairman
 Institutional Review Board
 Louisiana State University
 203 B-1 David Boyd Hall
 225-578-8692 | www.lsu.edu/irb
 Exemption Expires: 2-9-2014

4) Proposal? (yes or no) If Yes, LSU Proposal Number

- Also, if YES, either This application completely matches the scope of work in the grant
 OR More IRB Applications will be filed later

5) Subject pool (e.g. Psychology students)

*Circle any "vulnerable populations" to be used: (children <18; the mentally impaired, pregnant women, the aged, other). Projects with incarcerated persons cannot be exempted.

6) PI Signature Date (no per signatures)

** I certify my responses are accurate and complete. If the project scope or design is later changes, I will resubmit for review. I will obtain written approval from the Authorized Representative of all non-LSU institutions in which the study is conducted. I also understand that it is my responsibility to maintain copies of all consent forms at LSU for three years after completion of the study. If I leave LSU before that time the consent forms should be preserved in the Departmental Office.

Screening Committee Action:	Exempted <input checked="" type="checkbox"/>	Not Exempted <input type="checkbox"/>	Category/Paragraph
Reviewer	<u>Mathews</u>	Signature	<u>Robert C Mathews</u> Date <u>2/10/11</u>

VITA

James Hess is from Harrisburg, Pennsylvania. He is the youngest of five children, and the only one to choose the military as a career. James is a graduate of Bishop McDevitt High School in Harrisburg, Pennsylvania. After skipping his senior year of high school and attending Elizabethtown College, he decided to join the U.S. Army as an Infantryman because he wanted to jump out of planes. Ten years later, he graduated with his bachelor's degree in general studies (with a concentration in social sciences and a minor in management) from Northwestern State University. He then earned a Master of Arts in Liberal Arts (with a concentration in military history) from Louisiana State University, and is currently pursuing his doctorate in human resource education and workforce development also with Louisiana State University. He also received an Associates in Applied Science in Intelligence Operations from Cochise College in Sierra Vista, Arizona.

James is currently a Chief Warrant Officer Four, and an All-Source Intelligence Technician. He has over nineteen years of service, with over fifteen in military intelligence. He has deployed four times in various combat and operational theaters, and is preparing to deploy again; this time to Khandahar, Afghanistan, with the 82nd Airborne Division.

James is married to the former Donna Richardson. Donna is also an active duty Military Intelligence Officer, a major, who teaches Arabic at the United States Military Academy at West Point. They have four children: Aaron (15), Robert (4), Jordan Ann (3), and James Michael (1).