DOES THE FORCE XXI HEAVY BRIGADE NEED AN ORGANIC RECONNAISSANCE AND SECURITY ELEMENT?

A thesis presented to the Faculty of the U.S. Army Command and General Staff College in particular fulfillment of the requirements for the degree

MASTER OF MILITARY ART AND SCIENCE

by

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B.S., Presbyterian College, Clinton, South Carolina, 1983

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This study investigates the need for an organic reconnaissance and security element (RSE) in the heavy brigades of Force XXI. The study shows the reasons future brigades need RSEs. The following areas were used to compare brigades with organic RSEs to brigades without organic RSEs: control of battlespace, battle command, information, protect the force, and tempo. Information from doctrine, studies, white papers, Master of Military Art and Science theses and School of Advanced Military Studies monograms, and briefings were used to make this comparison. Although there are no current brigades with RSEs to compare with the current brigades without RSEs, there is a large amount of evidence that documents the abilities and problems of current brigades without RSEs. Simulation-based tests have directly compared brigades with organic RSEs. Simulation-based tests have directly compared bridges with organic RSEs to brigades without organic RSEs. All evidence clearly shows that future brigades of Force XXI will need organic RSEs.

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ABSTRACT

DOES THE FORCE XXI HEAVY BRIGADE NEED AN ORGANIC RECONNAISSANCE AND SECURITY ELEMENT?, by MAJ. William J. McKean USA, 93 pages.

This study investigates the need for an organic reconnaissance and security element (RSE) in the heavy brigades of Force XXI. The study shows the reasons future brigades need RSEs. The following areas were used to compare brigades with organic RSEs to brigades without organic RSEs: control of battlespace, battle command, information, protect the force, and tempo. Information from doctrine, studies, white papers, Masters of Military Arts and Science theses and School of Advanced Military Studies monograms, and briefings was used to make this comparison. Although there are no current brigades with RSEs to compare with the current brigades without RSEs, there is a large amount of evidence that documents the abilities and problems of current brigades without RSEs. Simulation-based tests have directly compared brigades with organic RSEs to brigades without organic RSEs. All evidence clearly shows that future brigades of Force XXI will need organic RSEs.

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The good Lord, for he has made all things possible.

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CHAPTER 1

INTRODUCTION

You can never do too much reconnaissance.[1]

General George S. Patton, Jr., War As I Knew It

Purpose

This paper defines the requirement for an organic reconnaissance and security element (RSE) in the future Force XXI brigade. It shows how an organic RSE can increase the effectiveness of the brigade. The brigade gains increased effectiveness from an organic RSE at the brigade level. This increased capability comes from the organic RSE giving the brigade greater capability to accomplish critical reconnaissance and security (screen) missions. The accomplishment of these reconnaissance and security missions does many things for the brigade. It can make the brigade more capable of operating independently, fighting as part of a division and reducing risk. It also makes the brigade more capable by expanding the brigade's battlespace, improving battle command, increasing the brigade's ability to get information, protecting the force, and increasing the tempo. Based on the new threat and expanded missions, this increased ability is even more important. With information age technology, an organic RSE would "increase the volume, accuracy, and speed of battlefield information available to commanders"[2] of a Force XXI brigade. By increasing the maximum capabilities of the

brigade to find and engage the enemy, an organic RSE could increase the brigade's battle space. An organic RSE can increase a Force XXI brigade's lethality. The RSE does this by providing the brigade commander with real-time information on the enemy. With this increase in information on the enemy, the brigade can synchronize all the systems available (direct fires, indirect fires, CAS (close air support), and Army aviation). The brigade can also better use those systems where and when they can best destroy the enemy. An organic RSE can increase a Force XXI brigade's survivability by increasing the brigade's ability to protect the force. RSEs can increase the brigade's capability to gain early warning of any enemy action against the brigade. With this early warning, the brigade can take action to avoid the enemy's efforts. Brigades could also take actions against the enemy to preempt his actions. The organic RSE could increase the brigade's ability to operate at a greater tempo. The RSE can do this by giving the brigade a separate unit to handoff enemy units and go to its next objective. This would keep the brigade from dealing with each mission sequentially. Instead, the brigade could begin influencing follow-on battles and completing the current fight. With the increased early warning, the brigade will increase the momentum of its operations and suffer fewer casualties. The Force XXI brigade can better dominate an expanded battlespace with this increased lethality, survivability, and tempo provided by an organic RSE.

Background

This problem, of no organic reconnaissance and security element, arose when the Army-of-Excellence reductions in 1984 deleted

the brigade scout platoon to generate more positions for Military Police. Studies and investigations reveal that without an organic RSE, maneuver brigades were less effective. Unfortunately for the Army's heavy brigades, there has been no change in the doctrinal or tactical requirements for reconnaissance and security tasks. Brigades have become less effective because of the requirement to conduct reconnaissance/security tasks without the assets to do these tasks. This drop in effectiveness is critical now because the Army's heavy brigades must accomplish additional missions with fewer resources and more new threats. The Mobile Strike Force used in the latest experiments at Fort Leavenworth is experimenting with a brigade RSE.

Brigade commanders fight combined arms battles and engagements employing all tactical means available. They integrate and coordinate different types of maneuver battalions, field artillery, aviation, engineer, ADA (air defense artillery), tactical air support, and sometimes naval fire support. All this is done to accomplish the brigade mission.[3] Brigade commanders get battalions to the right places at the right times and in the right combinations to defeat the enemy decisively.[4]

Currently the brigade is the only tactical unit in the Army without an organic RSE. Force XXI brigades need an organic RSE "to find the enemy, develop the situation, and to provide the commander with the reaction time and security."[5]

Although not doctrine, TRADOC PAM 525-5 describes how the Army plans to fight in the future. Maneuver forces must expand their battlespace to achieve three distinct advantages over the enemy: first

by a variety of reconnaissance means, identify, disrupt, or destroy enemy forces before they can effectively engage friendly forces; second, protect the force by finding the enemy, finding out his capabilities, and conducting effective security operations; and third, attack the enemy in depth and simultaneously. To accomplish these new tasks, the future FORCE XXI Brigades need an organic cavalry organization.

Statement of the Problem

A review of the literature about brigade reconnaissance and security elements shows a need for further study of these inadequacies and how the Army can resolve them. The present brigades need an organic RSE; and, even more important, future Force XXI heavy brigades will have an even greater need for an organic RSE.

This paper explored two areas to answer the thesis question, "Does the Force XXI Heavy Brigade Need an Organic Reconnaissance and Security Element?"

First, why do most of the studies show that the current heavy brigade needs an organic RSE? This paper analyzed the reasons to see which apply to future brigades in future situations.

Second, based on future threats, doctrine, and current experimentation/studies on future operations and units, does the Force XXI heavy brigade need an organic RSE?

Assumptions

This study made three assumptions. First, current budget and personnel reductions will continue to negatively affect the force structure of the Army. Second, integration of new weapons and equipment

systems into the U.S. Army will continue. Third, the new threat will require future Force XXI brigades to accomplish more reconnaissance and security tasks. The solutions to the problems presented in this paper will not follow the zero growth constraints enforced by TRADOC. The paper will also attempt to solve the brigade's reconnaissance and security problems now and in the future. Recommendations presented will also conform to doctrinal standards.

Limitations

This research project has the limitation of force structure and an inability to find out the effect on the future force of budget and zero growth constraints.

Delimitations

This paper will not try to decide what future technology can do. The recommendations will aim at solving the problems in brigades caused by an absence of an organic RSE. The paper will also recommend how the RSE can be an integral part of the Army's new Force XXI brigades. This project will limit the research and study to the Gulf War and results at the NTC (National Training Center). This paper will study and recommended elements for brigade RSEs from the ones currently recommended by different agencies in the Army.

Significance

Previous studies recommended organic RSEs at the brigade level based on past threats and technologies. These studies and investigations did not incorporate a consideration of new threats and new technologies currently in or being considered for use in

reconnaissance and security elements. This paper will study and analyze the requirement for an organic RSE based on today's updated threats and technologies. The new threat promises to create a greater need to remove unknown factors. The Army must restudy the question of the need for an organic RSE in the brigade because of the recent changes in the threat and new technologies. The Army's new Force XXI must include the newest and most relevant answers or solutions to this need. In studying this problem, the Army must consider new doctrine describing how it will fight in the future. New results from studies and experiments conducted by the battle labs must also be considered in studying this problem. The new battlefield is more demanding on the commander. His requirement to see the battlefield is greater than ever before. New doctrine is calling for commanders to better protect their forces with new technologies against these new threats. An organic RSE would allow the brigade commander to expose the RSE while employing all the assets available. The ability to see the battlefield allows the commander to effectively employ the brigade. With the brigade's modernized systems and increased lethality, the brigade commander must have an organic RSE. A commander can only maximize the effects if he can clearly see the battlefield. During the Army's reorganization to reduce its size and better its ability to meet the new threat, reconnaissance and security elements may represent an economic way to exploit a brigade's firepower capabilities.

Definitions

Definitions are according to Field Manual 71-100, Division Operations, dated June 1990; Field Manual 71-3, Armored and Infantry

Brigade, dated 1988; Field Manual 71-2, The Tank and Mechanized Infantry Battalion Task Force, dated 1988; TRADOC PAM 525-5, FORCE XXI OPERATIONS, dated August 1994; and Student Text-Mobile Strike Force-94PW, Operational Concepts for the Mobile Strike Force, dated 1994.

Battle Command is the art of decision making, leading, and motivating soldiers and their organizations into action to accomplish missions. It includes visualizing current state and future states, then formulating concepts of operations to get from one to another at least cost. It also includes assigning missions, prioritizing and allocating resources, selecting the critical time and place to act, and knowing how and when to make adjustments during the fight.[6]

Battlespace components of this space are determined by the maximum capabilities of friendly and enemy forces to find and dominate each other by fires and maneuver and in the electromagnetic spectrum.[7]

Broadcast Intelligence is the capability to rapidly provide accurate/real-time intelligence (all levels) to the lowest possible tactical level, precluding the layered procedural intelligence flow of information.[8]

Depth and Simultaneous Attack are the simultaneous application of combat power against an enemy throughout the depth and breadth of the battlefield; objective goes beyond defeating the enemy; objective is to accelerate enemy defeat.[9]

Information Age is the future period when social, cultural, and economic patterns will reflect the decentralized, nonhierarchical flow of information.[10]

Information Operations are continuous combined-arms operations that enable, enhance, and protect the commander's decision cycle and execution while influencing that of an opponent's; operations are accomplished through effective intelligence, command and control, and command and control warfare operations, supported by all available friendly information systems; the Army conducts battle command information operations across the full range of military operations.[11]

Intelligence is the product resulting from the collection, evaluation, analysis, integration, and interpretation of all available information concerning an enemy force, foreign nations, or areas of operations that are immediately or potentially significant to military planning and operations.

Security Operations, FM 71-100, describes operations that provide information about the enemy and provide reaction time, maneuver space, and protection to the division.[12] Security operations also require aggressive reconnaissance to reduce terrain and enemy unknowns, gaining and maintaining contact with the enemy to ensure continuous information, and providing early and accurate reporting of information to the protected force. Security operations may orient in any direction from a stationary or moving force characterizes security operations."

Observation Standoff is the ability to observe the enemy without being observed by the enemy. A technological advantage usually gains observation standoff. This standoff allows friendly forces to bring fires on the enemy while protecting the force by not allowing the enemy to observe and bring fires on the friendly forces.

Endnotes

[1]Patton George S., Jr. War As I Knew It Cambridge, MA: The Riverside Press, 1947.

[2]U. S. Army, TRADOC Pam 525-5, FORCE XXI OPERATIONS (Ft. Monroe, VA: Department of the Army, Headquarters, United States, Army Training and Doctrine Command, 1 August 1994), 1-5

[3]U. S. Army, Field Manual 100-5, Operations (Washington, DC: Department of the Army, 1993), 2-21

[4]Field Manual 100-5, 2-21

[5]Field Manual 100-5, 2-23

[6]U. S. Army, TRADOC Pam 525-5, FORCE XXI OPERATIONS U. S. Army Training and Doctrine Command, Ft. Monroe, VA, Department of the Army, 1 August 1994, Glossary-1

[7]TRADOC Pam 525-5, FORCE XXI OPERATIONS Glossary-1

[8]TRADOC Pam 525-5, FORCE XXI OPERATIONS Glossary-1

[9]TRADOC Pam 525-5, FORCE XXI OPERATIONS Glossary-2

[10]TRADOC Pam 525-5, FORCE XXI OPERATIONS Glossary-4

[11]TRADOC Pam 525-5, FORCE XXI OPERATIONS Glossary-4

[12]U. S. Army, Field Manual 71-100, Division Operations (Washington, DC: Department of the Army, 1990), 1-18.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

This chapter provides a review of the literature which affects the need for an organic reconnaissance and security element (RSE) in the Force XXI heavy brigade. The review groups information from each of these sources as it pertains to the following category: Will the brigade fight independently? Will brigades fight as part of a division? What is risk to brigades without RSEs? Does an organic RSE improve a brigade's: control of battlespace, battle command, information, threat, protect the force, and tempo?

This chapter consists of a review and analysis from the following sources: (1) doctrinal manuals, (2) government studies, (3) whitepapers, Masters of Military Arts and Sciences theses and School of Advanced Military Studies monograms, (4) Combat Training Center/Gulf War Experiences, and (5) briefings. The period of the literature discussed in this chapter is 1983 to the present.

Will brigades fight independently in the future?

Doctrine

FM 100-5, Army Operations contains much support for the need of an organic RSE in the brigade. It describes brigade operations in the same way it describes divisions and corps operations.

> Division and brigade commanders fight combined arms battles and engagements employing every tactical means available. They integrate and coordinate different kinds of maneuver battalions, field artillery, aviation, engineer, ADA, tactical air support, and, sometimes, naval fire support to accomplish brigade and division missions. . . . Corps, division, and brigade commanders get battalions to the right places at the right times and in the right combinations to defeat the enemy decisively.[1]

FM 71-100, Division Operations, like FM 100-5 states that brigades can operate independently/semiindependently. "It [Brigade] can be employed in independent or semiindependent operations when properly organized for combat."[2]

FM 71-3, Brigade Operations, contradicts FM 100-5 and FM 71-100. It does this when it says, "Brigades do not act independently but as part of a division or corps that conducts combat operations to attain operational goals."[3] The date of this manual is 1988. This was a time when the threat and the US force were far different from how they exist today. Due to recent changes, it is reasonable to assume that FM 71-3 no longer reflects the current potential of brigades fighting independently. Newer manuals mention the possibilities of brigades fighting independently.

FM 71-100 discusses the importance of reconnaissance in its relation to the IPB (intelligence preparation of the battlefield) process. It also shows the brigade's dependence on the division for this reconnaissance and intelligence. Reconnaissance operations provide information on the terrain and enemy to the division commander, maneuver brigades, and staff. Reconnaissance verifies or refutes analyzed information in the IPB products.[4]

Studies

The Reconnaissance and Security Study is especially informative because it is recent (1993), and contains a simulated battle of a future conflict. On this future battlefield, units with today and tomorrow's organizations and equipment fought an updated threat. The study compared brigades with organic RSEs to brigades without organic RSEs. The study determined "the brigade may require R&S [reconnaissance and security] elements if it is to be a full-blown maneuver force." The study also identified "The addition of a brigade RSE showed value in that it helped the brigade commander maintain control over the momentum of the battle, leading to timely success with fewer casualties."[5] This information comes from the only head-to-head comparison found. The results show the increased capability an organic RSE can add to a brigade operating as part of a division. A brigade fighting independently will required this increased capability even more.

The Army of Excellence (AOE), Volume III, removed the reconnaissance and security element from the brigade. The maneuver battalions and the division's cavalry squadron were to accomplish the reconnaissance missions.[6] The crucial issue here is the force reduction without a reduction or loss in the need for this element was the reason for the loss of this platoon. The organic brigade RSE was taken from the force structure, but none of the missions went away.

Combat Training Centers and Gulf War Experiences

The Deputy Commanding General for Combat Developments states, "Clearly, there is still a need for a security element. The idea should

articulate a force projection Army flavor with brigades deployed as independent elements when the Divisional Cavalry is not available."[8] This supports the need for an organic brigade RSE. It also supports two possibilities which may make the requirement for an organic RSE even greater in the future. These possibilities are: the brigade may deploy independently when divisional cavalry is not available, or the division cavalry may not be available when the brigade is operating as part of the division.

Under Army operations, the focus on nonlinear operations emphasizes the need for an organic brigade RSE. Army operations will require brigades to frequently operate independently of their divisions. The brigade RSE will increase the brigade's ability to conduct independent operations.

Effective reconnaissance is essential for survival on the battlefield. All army echelons, from theater to company, have specific reconnaissance and security requirements. To meet these requirements, all army echelons from corps to battalion have organic reconnaissance units except the divisional brigade. Initially, the Army viewed the brigade merely as a field headquarters designed to provide command and control to a variable number of maneuver battalions. The Army did not allocate the brigade headquarters any organic combat forces of its own. However, FM 71-123, Tactics and Techniques for Combined Arms Forces: Armor Brigade, Battalion Task Force, and Company Team, and FM 71-3 describe brigade level reconnaissance and security missions.

Combat experience gained from Operation Desert Storm and operational tests prove the need for brigades to be able to provide for

their own reconnaissance and security. To meet this need, the brigade commander must have an organic unit that can conduct reconnaissance and provide security.

Briefings

The briefing on Brigade Reconnaissance and Security Element identified brigade needs differ from divisional needs. The brigade commander cannot expect the divisional cavalry to meet brigade needs. Brigade commanders cannot expect any cavalry between brigade and enemy. Battalion scouts are not flexible or robust enough to do the job for the brigade.

Brigade fights as part of a division?

Doctrine

FM 71-3 states, "Brigades do not act independently but as part of a division or corps that conducts combat operations to attain operational goals."[9] Without a doubt, this was and still is the preferred method of fighting a brigade. It is more possible the Army may employ brigades independently now than ever before. The Army may also employ brigades as part of a division. Although this doctrine states brigades do not fight independently, future situations may force brigades to fight independently. Because of this possibility, the Army must organize the Force XXI brigade to be capable of fighting independently.

Combat Training Centers and Gulf War Experiences

From the National Training Center experience it has been observed that Division/Corps intelligence support is fifteen to thirty

kilometers forward of the Forward Line of Troops (FLOT). This does not gain the brigade the required information on the enemy five to fifteen kilometers forward of the FLOT as required for a brigade deliberate attack (DATK).[10]

In a report from the NTC, Lieutenant Colonel John D. Rosenberger, Senior Brigade Trainer, states that the requirement for an organic RSE at the brigade level is essential. He states that the brigade commander needs an RSE because the brigade has a doctrinal and tactical requirement to conduct reconnaissance and surveillance, but no organic capability to satisfy his requirements. Lieutenant Colonel Rosenberger also points out that divisions have limited assets to satisfy the brigade commander's requirements within his battlespace.

After action review (AAR) comments from 1st Brigade, 1st Cavalry Division, 19 March 1990 state that there is a clear and demonstrated requirement for the brigade to have an organic light scout capability. The AAR also states that the brigade can task subordinate units for reconnaissance assets, but this detracts from the task force collection plans. The brigade information requirements are normally much deeper on the battlefield where stealth is essential to mission success. A major concern of the brigade remains the counterreconnaissance battle.[11] All these requirements come from brigades which fought as part of a division.

Risk

Doctrine

A doctrinal review of FM 71-123 and FM 71-3 describes brigade reconnaissance and security tasks. FM 71-3 requires establishment of a

security force for offensive operations. These tasks are additional to battalion and division reconnaissance and security tasks. Current doctrine recognizes brigades must currently employ subordinate units in brigade reconnaissance and security roles. When brigades either do or do not accomplish at a cost to other forces, these doctrinal and tactical tasks increases the risk to the brigade and subordinate units.

Control of Battlespace

Doctrine

FM 100-5 describes the need of future leaders to see/know the elements within their battlespace and how acquisition is part of expanding battlespace. An organic RSE can conduct reconnaissance and security to provide information for acquisition.

> Within a given battle space, commanders must understand the effects of geography and terrain, appropriately apply use of organic capabilities, and integrate joint and combined assets that can be brought to bear against the enemy. . . . Battle space is the physical volume that expands or contracts in relation to the ability to acquire and engage the enemy.[12]

A brigade with the addition of an organic RSE can accomplish this.

Studies

In the Reconnaissance and Security Study, the brigades with organic RSEs increased the battle space of the brigades. Depending on mission, enemy, terrain, and troops available time (METT-T) and communications ranges, the brigade RSE in the offense could operate up to twenty five kilometers forward of the battalions in the brigade.[13]

Combat Training Centers and Gulf War Experiences

The brigade commander requires a security force that can operate well forward, to the flanks, or rear of, the main body. Security missions may include screen, rear area security, or both. Inherent to all security operations is the mission of counter reconnaissance. This security force is essential if the brigade is to maintain the freedom to act without enemy observation or interference.[14]

Briefings

The briefing "Reconnaissance and Security," under MAPEX INSIGHTS states battalion scouts cannot get out far enough to satisfy brigade timelines.

Battle Command

Studies

Brigades in The Reconnaissance and Security Study determined they could accomplish the brigade mission without a brigade RSE, but with slower tempo and increased casualties. The Brigade with an organic RSE gained benefits gained from the addition of an organic RSE. An addition of a brigade RSE showed value in that it helped the brigade commander maintain control over the momentum of the battle.[15]

An RSE allowed the brigade commander to concentrate on brigade concerns without degrading the battalion's scouting capability. The RSE also provided a needed key element between the division cavalry. squadron and the fighting battalions. Conduct of passage of lines is one example where they would be a major asset.[16]

Combat Training Centers and Gulf War Experiences

The CALL Newsletter, No. 92-X, May 92, Reconnaissance, OPERATION DESERT STORM EPILOGUE identifies the requirement for an organic scout capability at the brigade level. Brigade commanders who organized reconnaissance elements enhanced their ability to see and control the battle.[17] This enhanced ability to see and control the battle is an improvement in the brigade's battle command.

In Lieutenant Colonel Rosenberger's report he states that the brigade commanders have the requirement to protect the force, provide early warning, and emplace/guide long range killing systems to set conditions for controlling the battlefield. The brigade must ensure the emplacement of early warning assets with minimum risk to U.S. soldiers. Force protection is a prerequisite for offensive and defensive success for the brigade. Force protection is a function of effective reconnaissance and surveillance operations.[18]

Effective employment of the brigade RSE will allow the division commander the freedom to concentrate his cavalry in the critical areas of the division. This keeps the division commander from attempting to cover the entire division front with this limited asset.

An organic RSE can improve battle command by helping brigade command and control. Helping brigade command and control includes all efforts directed toward strengthening the brigade commander's ability to influence, direct, and shape the battle. Command and control enhancement may include, but is not limited to, helping brigade movement, maintaining or reestablishing contact with friendly units, and supporting the execution of multiple, simultaneous, brigade missions.

Briefings

The briefing "Brigade Reconnaissance and Security Element" by the U.S. Army Armor Center and School on 15 January 1992 states that the RSE provides the brigade commander with an organic reconnaissance and security capability which meets the reconnaissance and security requirements. Doctrinal publications, Operation Desert Storm experience, and operational tests provide these reconnaissance and security requirements.

Brigade RSEs enhance a brigade commander's ability to exploit command and control, intelligence, and maneuver in both the offense and defense. In the offense the RSE can provide reconnaissance and flank security. Reconnaissance identifies trafficable routes and terrain for the brigade. Flank security provides advance warning and counter-reconnaissance. In the defense the RSE can provide reconnaissance, screen, counterreconnaissance, and retrograde.

The briefing "Reconnaissance and Security", TRADOC Analysis Command--Operations Analysis Center, Fort Leavenworth, 21 January 1993 states that there are times when the brigade commander needs some capability to develop and synchronize the battle. The briefing also brings out that without the division cavalry, the brigade commander does not have the organic assets to fill the human intelligence gap.[19]

Information

Doctrine

FM 100-5 describes how information gathered from reconnaissance and security operations enables a commander to see the battlefield. Seeing the battlefield allows a commander to assess the situation and

direct the military action required to achieve victory. "Ultimately, they [leaders at all levels], must assimilate thousands of bits of information to visualize the battlefield, assess the situation, and direct the military action required to achieve victory."[20]

FM 100-15 states because of future threats, our leaders need to "Promote bold, innovative risk-taking and the immediate exploitation of opportunities within the context of the commander's intent."[21] A leader needs information gained through good reconnaissance and security operations to see and find opportunity he can immediately exploit.

FM 71-3 highlights the absence of an RSE of enemy information,

> During the operation, the brigade S2 provides the commander continuous updates of enemy activities and anticipated enemy courses of action. His sources include reports from MI assets, eavesdropping of battalion operations and intelligence nets, analysis of reported sightings, and situational templates of the enemy.[22]

There is no organic RSE to give the brigade commander and S-2 a direct and responsive source of information on the enemy.

FM 71-3 describes a critical reconnaissance mission, but the brigade has no organic asset to accomplish it. "The brigade conducts aggressive reconnaissance to identify enemy locations, obstacles, and areas of possible NBC contamination and prepares to overcome obstacles and rapidly pass through defiles."[23] An organic RSE could improve a brigade's ability to accomplish these tasks.

Studies

Division 86 Analytical Methodology states,

> Technology has helped the commander a great deal in this task [seeing the battlefield] with radar, aerial reconnaissance and space assets. However, the brigade commander has no asset that is organic that can help him "see" on the battlefield the place he

> really needs to 'see'. In order for the Division Commander to "see" the battlefield, his brigade commanders must be able to see the battlefield and anticipate what tactics and forces he needs to employ.[24]

This shows that the ability of brigades to see the battlefield affects the ability of divisions to see the battlefield.

This study highlights the problem at brigade level and the problem caused to other units because of the reconnaissance and security gap at brigade level.

The Cavalry/Reconnaissance Net Assessment--Master Plan addresses the need for an RSE. It states that the need for more reconnaissance is the inability of long-range sensors to see through reduced visibility conditions. Also, battle tempo requires commanders to have prompt and accurate information to exploit high technology systems. The study also identifies what an RSE could do for the brigade. The brigade scouts would unburden the already over-tasked battalion scout platoon and provide significant command and control assistance to the brigade commander. The depth and width of the brigade sector and the time needed to react to enemy formations demand that the brigade commander have an organization able to provide him timely information in his area of concern.[25]

General Officer Executive Committee (GOEC) 1988 states observations from the CTCs and comments by field commanders throughout the Army indicate an inability of battalions and brigades to routinely conduct adequate reconnaissance of the battlefield, provide adequate force security, and defeat enemy reconnaissance forces. Battalion and brigade maneuver forces are not winning the reconnaissance/security battle.[26]

The Reconnaissance and Security Study states,

> The analysis showed that, even with various divisional cavalry designs, there were situations where the brigade R&S [reconnaissance and security] requirements were not met. This was particularly evident when the scenario involved the force maneuvering and other HUMINT assets were unavailable. Transitions from reconnaissance to combat situations put division R&S assets at risk. These shortfalls are areas where an RSE could be an effective resource for the brigade commander.[27]

The Reconnaissance and Security Computer-Assisted Map Exercise (CAMEX) described many specific benefits the organic RSEs gave the brigades. The Blue (U.S. Army) commander viewed the greatest versatility of the R&S element was in the near (close) fight. Knowing the disposition of major enemy formations, the brigade commander felt there was sufficient time to posture the main body forces to meet potential threats. The R&S element's primary function was to find the small, isolated threats, deal with them within capability, or quickly bypass, passing the destruction to the main body. Major intelligence systems and UAVs would have difficulty identifying and locating these high-resolution threats.[28]

White Papers/MMAS and SAMS Monographs

The SAMS monograph "Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements?" states,

> The most glaring deficiency for the ground reconnaissance capability within the corps is the lack of any organic ground reconnaissance organization at the brigade level. Such an organization is required both by the missions a brigade receives, and the size of a sector or zone in which a brigade may operate. This supports the idea that a brigade commander needs verification of information provided by division, detailed information for planning, and near real-time information on enemy movements. It also highlights the importance of the brigade RSE in terms of importance within the corps ground reconnaissance capability.[29]

This analysis deals with the layering effect. The layering effect is the need for reconnaissance at all levels from Corps to Battalion. An information gap forms without reconnaissance at every level, as with current brigades, which adversely affects the unit missing the reconnaissance element and the total reconnaissance system. This gap at brigade level also reduces the brigades' ability to operate independently.

Combat Training Centers and Gulf War Experiences

AAR Comments, 1st Brigade, 1st Cavalry Division, 19 March 1990 states that the brigade can task subordinate units for reconnaissance assets, but this detracts from the task force collection plans. The brigade information requirements are normally much deeper on the battlefield where stealth is essential to mission success.[30]

The CALL Newsletter, No. 92-X, May 1992, Reconnaissance, OPERATION DESERT STORM Epilogue, states that brigade commanders, who organized reconnaissance elements, enhanced their ability to see and control the battle.[31]

In a memorandum, Requirement for a Heavy Brigade Reconnaissance Company, Lieutenant Colonel John D. Rosenberger, Senior Brigade Trainer, Operations Group, NTC, makes many salient points in support of an organic RSE for the brigade. First, he believes the Army needs a reconnaissance company working for the brigade commander. Second, he recommends the NTC support the heavy brigade reconnaissance company initiative. Third, he says that the heavy brigade reconnaissance company could fix the current inability of the brigade commander "to see and acquire" the enemy five-to-fifteen kilometers forward of the FLOT.

The reconnaissance company overcomes this "show stopper" at the tactical level of war. The reconnaissance company allows the brigade commander to create the conditions for success throughout the width and depth of the battlefield. Division/Corps operational intelligence support fifteen to thirty kilometers forward of the FLOT does not gain the required information on the enemy five to fifteen kilometers forward of the FLOT as required for a brigade deliberate attack (DATK).[32]

Prerequisites for offensive and defensive success are reaction time and maneuver space. The import point is, all (offensive/defensive prerequisites for success) depend on effective reconnaissance and surveillance operations.

In the "Operations Concept For Brigade Reconnaissance and Security" the brigade has reconnaissance and security requirements that differ from division and battalion requirements. Divisional cavalry is responsive to the needs of the division commander, which often differ from the needs of the brigade commander. The brigade commander may find the divisional cavalry assigned to flank security missions or operating in front of another brigade. Without a brigade RSE, the brigade commander cannot expect that there will be any reconnaissance and security forces between the brigade and the enemy other than his own battalion scouts. Brigades without RSEs may often operate without the required information to successfully conduct their mission.

Brigade RSEs will enhance the brigade commander's ability to exploit the battlefield operating system of intelligence. In intelligence, the brigade RSE will represent an intelligence collection asset directly responsive to the brigade commander. The RSE will

provide detailed intelligence about terrain and enemy activity throughout the brigade sector. Brigade RSEs will be valuable working in areas outside the battalion areas of operation. The reconnaissance done by the brigade RSE will enable the brigade commander to see the battlefield. This will allow the brigade to exploit the opportunities offered by terrain and enemy dispositions.

Briefings

The briefing "Brigade Reconnaissance and Security Element" states that brigade RSEs enhance a brigade commander's ability to exploit intelligence in the offense and defense. In the offense the RSE provides intelligence from reconnaissance and flank security. Reconnaissance identifies trafficable routes and terrain for the brigade. Flank security provides intelligence from advance warning and counter-recon. In the defense the RSE provides intelligence from reconnaissance, screen, counter-recon.

The briefing "Force Design Update Winter 1992," Force Development Department, Combined Arms Center-Combat Development, Fort Leavenworth reveals that in the decreased force density places a premium on reconnaissance and security forces. Commanders at every echelon have the requirement to secure their force and have the need to see the battlefield. Brigade commanders cannot delegate responsibility to secure their force.

The briefing "Reconnaissance and Security Review," Background and environment, 16 June 1992 states that observations from Operation DESERT STORM show that many brigade commanders want an organic reconnaissance element. It also points out that several brigades

rotating through the CTCs organize ad hoc reconnaissance elements at brigade level. Further, during the 1991 and 1992 FDU (Force Design Update) process, the addition of a brigade reconnaissance/security element to heavy brigades was presented. The reasons for this were the intelligence system does not develop the situation and the uncertain and changing environment.

Further, the IPB on the future battlefield is more vague and less precise. Sensors can supplement but cannot replace good reconnaissance.[33]

The briefing "Reconnaissance and Security," TRADOC Analysis Command--Operations Analysis Center, Fort Leavenworth, 21 January 1993 states that there are times when the brigade commander needs the capability to develop and synchronize the battle. The study also brings out that without the division cavalry, the brigade commander does not have the organic assets to fill the human intelligence (HUMINT) gap.[34] The MAPEX INSIGHTS sight the brigades need for human reconnaissance capability.[35]

The briefing "Reconnaissance and Security," TRADOC Analysis Command, provides some important information. In the NEA (North East Asia/Korea) scenario insights, it was found JSTARS effectiveness was limited because the threat was stationary. Signal intelligence (SIGINT) was limited because the threat was not transmitting. All this made HUMINT resources critical.[36]

MAPEX INSIGHTS also said battalion scouts cannot get out far enough to satisfy brigade timelines.

The briefing states, the brigade intelligence needs differ from divisional needs.

The briefing "Reconnaissance and Security Review," U.S. Army Combined Arms Center, 30 April 1992 provides a brief history of the brigade RSE problem. The history starts with the fact that Division 86 brigade HHC (headquarters and headquarters company) design contained a six cavalry fighting vehicle (CFV) scout platoon. Then, during transition to AOE (1984) the Army eliminated the brigade scout platoon. Subsequent studies reasserted the need for brigade scouts. Finally, the Recon/counterrecon/surveillance assessment recognized the brigade needed to see deeper. The common thread is, the brigade commander needs the capability to "see over the next hill."

Threat

Combat Training Centers and Gulf War Experiences

In the report Operational Concept for Brigade Reconnaissance and Security Operations, Major General Thomas C. Foley, Commandant, U.S. Army Armor School, presents strong arguments for the requirement of an RSE at brigade level. A brigade requires an organic RSE for many reasons. The reasons are future threat, the brigade commander's needs, and requirements of Army Operations.

Under threat, the report provides key issues. The disintegration of the Soviet Bloc has been associated with decreasing stability in the global community. Many areas subject to increased turmoil and instability may be of vital interest to the United States. Some nations and alliances in these areas possess regional military capabilities equivalent or nearly equivalent to member states of the

former Warsaw Pact. These capabilities include modern main battle tanks and aircraft, large standing armies, and advanced command, control, and communications technology. These forces must be considered capable of aggressive, robust reconnaissance down to the regiment or brigade level and the ability to defend in depth.

Briefings

The briefing "Force Design Update Winter 1992" maintains the Army designed its force for a battlefield significantly different from the battlefield of today. In the past, units relied on secure flanks and adjacent units. Now units cannot rely on secure flanks. A unit's ability to template the future battlefield will be less precise in the future.[37]

The briefing "Reconnaissance and Security Review," Background and environment, 16 June 92, states that brigades need an organic RSE because of an uncertain and changing environment.

It also states that the Army designed its force for a battlefield significantly different from the battlefield of today. The norm in past was you could count on secure flanks and adjacent units while the norm now is you cannot count on secure flanks.

Also, the IPB on the future battlefield is more vague and less precise. Sensors can supplement but cannot replace good reconnaissance. Also, intelligence systems do not develop the situation. Lastly, again decreased force density places a premium on reconnaissance and security forces.[38]

Lastly, the new battlefield has more unknowns (noncontiguous forces, greater dimensions).[39]

The threats presented to brigades recently in the Gulf War and the CTCs were considered so great they warranted the formation of ad hoc RSEs. Results from operational tests on future simulated battlefields based on the most updated threat warrant the need for brigade RSEs.

Protect the Force

Doctrine

FM 100-5 defines force protection as: "It is better to see, target, and hit the enemy at a distance from which he cannot hit back."[40] An organic RSE could assist the brigade in accomplishing this mission.

FM 100-15 states, "The violence and speed of the attack frequently offer the best security by keeping the enemy so heavily involved that he has neither the time nor the means to endanger the success of the attack."[41] Although true, a unit can conduct operations with violence and speed [tempo] only if it is executing good and continues reconnaissance and security operations. The description, "Security operations provide information about the enemy and provide reaction time, maneuver space, and protection to the division,"[42] points out these benefits.

FM 71-3 makes a doctrinal admission of the seriousness of the problem of not having an organic RSE when it states; "It [the brigade] could provide its own security force, although this is not desirable."[43]

Studies

"General Officer Executive Committee (GOEC) 1988" states, "Observations at the CTCs and comments by field commanders throughout

the Army indicate an inability of our battalions and brigades to routinely provide adequate force security. Our battalion and brigade maneuver forces are not winning security battle."[44]

The "Reconnaissance and Security Computer-Assisted Map Exercise (CAMEX)" states, "With early warning capability of the brigade reduced and the momentum of the brigade slowed, the brigade suffered increased losses. The timing of mission completion was not a factor for this scenario, but the slowing of the brigade's momentum has implications for the force where timeliness is important."[45]

Combat Training Centers and Gulf War Experiences

In the "Operational Concept for the Brigade Reconnaissance and Security Operations" effective reconnaissance is essential for survival on the battlefield. All army echelons, from theater to company, have specific reconnaissance and security requirements.

Briefings

"Force Design Update Winter 1992," Force Development Department, Combined Arms Center-Combat Development, Fort Leavenworth, reveals that in the decreased force density places a premium security forces. Commanders at every echelon have the requirement to secure their force. Brigade commanders cannot delegate responsibility to secure their force.

Tempo

Doctrine

Tempo, its importance, and how to achieve it are described in FM 100-5. "The tempo of operations today has accelerated to the point

that all commanders must learn to dominate their battle space. . . . Tempo is the rate of speed of military action and controlling or alternating that rate is essential for maintaining the initiative."[46]

FM 71-3 describes increasing the tempo and taking advantage of all opportunities must be done to avoid slow, inconclusive attacks with heavy losses. This compliments FM 100-5 which says the Army must be capable of achieving decisive victory and describes decisive victory as the ability to deploy rapidly, to fight, to sustain themselves, and to win quickly with minimum casualties.[47] To have increased tempo and to take advantage of all opportunities requires information gained through good reconnaissance and security. "Applying pressure day and night can deny a weakened enemy relief from battle, recoup of losses, or the opportunity to gain the initiative. Failure to take advantage of all opportunities may result in slow, inconclusive attacks and heavy losses."[48]

FM 71-3 states, "During close, deep, and rear operations, the brigade S2 and supporting intelligence assets aggressively acquire current intelligence to provide the commander with early, accurate intelligence assessments that expedites decision cycles."[49] This acquisition of current intelligence could be much improved with an organic brigade RSE.

"Commanders seek a tempo that maintains relentless pressure on the enemy to prevent him from recovering from the shock and effects of the attack. A quick tempo demands an ability to make tactical decisions quickly, to execute operations that deny the enemy a pause, and to exploit opportunities according to the commander's intent."[50] To

increase tempo by quickly making decisions and exploiting opportunities, a brigade must continuously execute good reconnaissance and security operations.

Studies

The "Cavalry/Reconnaissance Net Assessment--Master Plan" addresses the need for an RSE: "Why more reconnaissance needed battle tempo requires that commanders have prompt and accurate information to exploit high technology systems. The time needed to react to enemy formations demand that the brigade commander have an organization able to provide him timely information in his area of concern."[51]

The Reconnaissance and Security Study states that brigades did not need an organic RSE. The brigade (without an RSE) performed its mission, but at a slower tempo than the brigade RSE. Without a separate unit that could fix, hand-off, and go to the next objective, the brigade had to deal with each mission sequentially and could not effectively begin to influence follow-on battles until the current fight was completed.[52]

Combat Training Centers and Gulf War Experiences

Counterreconnaissance is a critical task of all security operations. The counterreconnaissance focus of the Brigade RSE will be to strip away enemy ground reconnaissance. This will allow the brigade commander to operate inside the decision cycle of an enemy who is then operating blindly.

Briefings

The briefing "Brigade Reconnaissance and Security Element," describes the RSE as an asset that can increase the brigade's tempo. The RSE can do this in the offense by accomplishing reconnaissance missions. These reconnaissance missions can identify trafficable routes and terrain for the brigade. This information about terrain as well as information on the enemy allows the brigade to increase its tempo. The RSE can also accomplish security missions that can increase the brigade's tempo. These security missions provide information that allows a brigade to increase its tempo.

Endnotes

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[22]Field Manual 71-3, 3-4

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CHAPTER 3

RESEARCH METHODOLOGY

Introduction

Three major parts make up this chapter. The first part explains the methodology used to conduct the research. The second part explains the purpose and construction of the matrix used to structure the research and organize the data. The third part explains the strengths and weaknesses of this research methodology.

Explanation of Methodology

This section describes the research procedures used to conduct this study. It attempts to determine if there is a need for an organic reconnaissance and security element (RSE) at the brigade level. To determine if brigades need an organic RSE, the paper makes a comparison between brigades with and without an RSE. The matrix groups the research from five sources into nine categories. The paper analyzed the information from each source to determine if it did or did not support the catagory. Each category represented an area that if improved by an RSE would improve the brigade.

The first part of the matrix displays the sources from left to right across the top of the matrix. The sources for the research are doctrine, studies, CTC/Gulf War experiences, and briefings. These sources were selected to get the broadest and most unbiased information available. The information was a sampling from each source, but the information gathered was in no way all the information available.

The second part of the matrix displays the catagories used to analyze the data from the different sources. It runs from top to bottom along the left side of the matrix. These categories are as follows: brigades as independent fighting forces; brigades as part of a division; risk; control of battlespace; battle command; information; threat; protect the force; and tempo. The paper uses these categories to analyze the data from all the different sources. Present and possible future doctrine provided these categories. They are areas that the Army has decided are very important. A brigade must do well in all these different areas to be successful on the future battlefield.

The results of the analysis are the third part of the matrix. Here the data is analyzed by source per category and either "supports the need for a brigade RSE" or "does not support the need for a brigade RSE."

Once all the data is organized and placed on the matrix, an overall analysis can be accomplished. First, an analysis by source across each catagory showing what sources have information about the different catagories. It also shows which of these different sources supports the requirement for an organic RSE. It also shows which sources do not supprt the requirement for an organic RSE in each catagory. Second, an analysis per category across each source shows which sources support each catagory and which do not support each catagory. Third, after making the first two analysis, the matrix allows a total analysis to decide if the research does or does not support the need for a brigade RSE.

Strengths and Weaknesses

The weakness in this research methodology is the fact that the active Army currently has no brigades with organic RSEs to compare

against brigades without organic RSEs. Therefore a comparison cannot be made.

There are several strengths of the methodology. One strength is the broad range of sources used in collecting data. A second strength is the broad range of categories used in the analysis. These are strengths because they are drawn from current doctrine and future doctrine-guiding sources (TRADOC PAM 525-5) describing how the Army will fight in the future.

TABLE 1

METHODOLOGY MATRIX

	Doctrine	Studies	White Papers/MMASs theses, SAMS Monographs	CTC/Gulf War Experience	Briefings
Bde Fights Indepedently					
Bde Part of Division					
Risk					
Control of Battlespace					
Battle Command					
Information					
Threat					
Protect the Force					
Tempo					

CHAPTER 4

ANALYSIS

Will brigades fight independently in the future?

To find the answer to this question the paper reviewed doctrine, studies, CTC/Gulf War experience, and briefings.

Doctrine

Doctrinally, there is support for brigades fighting independently and support for brigades not fighting independently.

There is much support in recent doctrine saying brigades in the future may fight independently. FM 100-5 (1993) and FM 71-100 (1990) both state that brigades may fight independently.

Older doctrine, such as FM 71-3 (1988), says, "Brigades do not act independently but as part of a division or corps."[1]

In summary, the most recent doctrine more accurately reflects future threats and possible reactions to those threats. The Army bases doctrine on many important facts which could cause brigades to fight independently in the future. It accounts for downsized forces, deployability limitations, and current reaction plans based on brigade packages. All these facts and new doctrine clearly lead to the conclusion, there is some possibility future brigades may fight independently.

Studies

Studies provide supporting evidence for brigades to fight independently and brigades not to fight independently.

"The Reconnaissance and Security Study and the Reconnaissance," (1993) and "Security Computer-Assisted Map Exercise (CAMAX)," (1993) suggests brigades may fight independently in the future.

Three studies "Division 86 Analytical Methodology," (1981), "Army Of Excellence (AOE), VOL III," and "Reconnaissance and Security Study," (1993)) suggest brigades will not fight independently.

In past and current studies, the Army tested brigades as part of their division. The conclusion that brigades will always fight as part of their divisions is possible. The fact that brigades fight as part of divisions during most tests and operations does not rule out the possibility brigades may fight independently. Some studies suggest brigades might fight independently. The evidence shows brigades will operate both independently and as part of a division in the future.

CTC/Gulf War Experience

CTC/GULF War Experience show support for brigades fighting independently.

A memorandum from the Deputy Commanding General for Combat Development and the "Operational Concept for Brigade Reconnaissance and Security Operations," both describe brigades deploying and fighting independently.

Briefings

Briefings also show support for brigades fighting independently. Three briefings "Brigade Reconnaissance and Security Element," "Force Design Update Winter" (1992), and "Reconnaissance and Security" have supporting evidence that brigades may fight independently in the future.

Conclusion

No one can predict with certainty whether brigades fighting in the future will fight independent of their division. As with all military decisions, the Army must make a decision to prepare units for the worst possibility. A review of doctrine, studies, CTC/Gulf War experience, and briefings reveals substantial evidence for the possibility Force XXI future brigades may fight independent of their divisions.

Whether future brigades may fight independently is very important when deciding the brigade's need for an organic RSE. When brigades lost their scout platoons (RSE) to AOE, Army of Excellence, cuts, the brigades' maneuver battalions and the divisional cavalry squadron accomplished the reconnaissance missions.[2] A brigade fighting as part of a division made possible the idea of battalion scouts and division cavalry accomplishing the brigade's reconnaissance missions. If a brigade fights independently of its division, the brigade will only have the maneuver battalions to accomplish the brigade's reconnaissance missions. The problem for an independent operating brigade is depending on its maneuver battalions to accomplish its reconnaissance missions. A

brigade depending on its maneuver battalion's scouts is unacceptable for three reasons. First, past studies show these battalions have

> already overburdened battalion scout platoons. . . . Observations at the CTCs and comments by field commanders throughout the Army indicate an inability of our battalions and brigades to routinely conduct adequate reconnaissance of the battlefield, provide adequate force security and defeat enemy reconnaissance forces. Our battalion and brigade maneuver forces are not winning the reconnaissance/security battle.[3]

Since these battalion scout platoons cannot accomplish the reconnaissance tasks for their battalion, they will be unable to accomplish the brigade's reconnaissance tasks. Gulf War experiences in after action reviews (AARs) state, "the brigade can task subordinate units for reconnaissance assets, but this detracts from the task force [battalion] collection plans."[4]

So using battalion scouts for brigade reconnaissance tasks not only means the battalion scouts cannot accomplish the tasks, their use will adversely affect the battalions. Second, the possibility the divisional cavalry will be unavailable leaves the independently fighting brigade in trouble. The independently fighting brigade will have no divisional cavalry or maneuver battalion to accomplish the brigades' reconnaissance missions. With no divisional cavalry available and the battalions' scout platoons unable to do the reconnaissance missions, leaves the no reconnaissance and security element between the brigade and the enemy. Because there are no reconnaissance and security elements between the brigade and the enemy, the future brigade requires an organic RSE. The future Force XXI brigades require an RSE to accomplish reconnaissance missions.

Will future brigades fight independently? Earlier doctrinal manuals (FM 71-3, 1988) state, "brigades do not act independently but as part of a division or corps."[5] However, more recent doctrinal manuals raise the possibility that brigades may fight independently. FM 100-5 (1993) suggests that "Divisions and brigades will fight combined arms battles and engagements employing every tactical means available." FM 100-5 also states "Corps, division, and brigade commanders get battalions to the right places at the right times and in the right combinations to defeat the enemy decisively."[6] This description suggests that brigades may independently like a corps and division. Brigades in the future may have to conduct independent operations. FM 71-100 (1990) states, "It [brigade] can be employed in independent or semiindependent operations when properly organized for combat."[7] TRADOC Pam 525-5, states, "Strategic lift limitations, other service capabilities, time limitations, and other factors may compel the Army to use only those forces absolutely necessary."[8] These limitations and others now unforeseen may cause the Army in the future to employ brigades independently. TRADOC PAM 525-5 also states, "The future Army will be smaller, yet have new, expanded, and diverse missions in an unpredictable, rapidly changing world environment. These factors mandate change to the way we organize."[9] Again, the Army may employ brigades independently in the future to deal with new and different threats than those of the past. There are many other reasons the Army may employ brigades independently in the future. First, there are simply fewer brigades to fight with, and fewer brigades could cause the divisions to have to spread them out beyond mutual support, making them

independent. Secondly, the Army bases the "Ready Brigade" reaction force system on the fact that only one brigade, initially, will be able to rapidly deploy into an area. The Army also bases the brigade afloat on getting a brigade on the ground quickly to fight independently, at least initially. All these factors and limitations lead to the possibility that the Army may employ future brigades independently.

Brigade fights as part of a division?

As stated above, it is possible brigades may fight independently or fight as part of a division. The next question is, If a brigade fights as part of a division, does it still require an organic RSE? The paper reviewed doctrine, studies, CTC/Gulf War experience, and briefings to find the answer to this question.

Doctrine

Doctrinally, there is support both for brigades in a division needing an RSE and support for brigades in a division not needing an RSE.

FM 100-5, FM 71-3, and FM 71-123 support the need for an organic RSE in divisional brigades.

FM 71-100 does not support the need for an organic RSE in the divisional brigade.

Of the doctrinal evidence, three of the four manuals reviewed support the need for an organic RSE in the divisional brigade. Brigades fighting as part of a division require an organic RSE because the battalion scouts are unable to accomplish the brigade's reconnaissance tasks. Brigades in a division cannot depend on the divisional cavalry

to accomplish the brigade's reconnaissance and security tasks. The divisional cavalry is a critical division asset that will focuses on the reconnaissance and security tasks of the division. These division reconnaissance and security tasks are different from the brigade's.

Studies

Studies describe support for brigades in a division needing an organic RSE and support for brigades in a division not needing an organic RSE.

The following studies contain support for an organic RSE for brigades in a division: "The Division 86 Analytical Methodology," "Division Restructuring Concept Report," "Division Restructuring Study," "Division 86 Study," "The Cavalry/Reconnaissance Net Assessment--Master Plan," "The Branch Operational Concept," "Reconnaissance and Security Study," and "Reconnaissance and Security Computer-Assisted Map Exercise(CAMEX)."

The following studies do not support an organic RSE for brigades in a division: "The Army OF Excellence(AOE), VOL III," "Reconnaissance and Security Study Reconnaissance," and "Security Computer-Assisted Map Exercise (CAMEX)."

Whitepapers, MMAS Theses and SAMS Monographs

White papers/MMAS and SAMS Monographs support the need for an organic RSE for brigades in a division.

The following White papers/MMAS and SAMS Monographs support an organic RSE in the divisional brigade: "The Branch Operational Concept for the Total Armor Force as Part of The AirLand Operations Combined

Arms Team in Twenty-first Century Battle" and "Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements?"

CTC/Gulf War Experience

CTC/Gulf War Experience showed the need for an organic RSE for brigades.

AARs, CALL, and Commander's comments, and NTC Experience displayed a need for an organic RSE for brigades in a division. The following AARs displayed a need for an organic RSE: "Preliminary Lessons Learned During OPERATION DESERT STORM," 1st Armored Division; "AAR Comments," 1st Brigade, 1st Cavalry Division. The following CALL information displayed a need for an organic RSE: CALL Newsletter, Reconnaissance, CALL Compendium 1988, Commander's Comments. AARs that displayed a need for an organic RSE are: III Corps Commander, "VII Corps Desert Storm 100 hour War Brief," Deputy Commanding General for Combat Developments; "Operational Concept for Brigade Reconnaissance and Security Operations;" and "Summer '93 Force Design Update (FDU)." Some NTC experience which displayed a need for an organic RSE: Memorandum, "Requirement for a Heavy Brigade Reconnaissance Company" and "Brigade Reconnaissance Organization."

The following commander's comments do not support the need for an organic RSE for divisional brigades: General Maddox, Summer '93, CINCUSAREUR Comments on "Force Design Update," (FDU) Winter 1992, "Summer '93 Force Design Update (FDU)."

Briefings

Briefings show support for divisional brigades needing an organic RSE and support for divisional brigades not needing an organic RSE.

The following briefings support the need for an organic RSE in divisional brigades: "The Brigade Reconnaissance and Security Element," "Force Design Update Winter," 1992, "Reconnaissance and Security Review," Background and Environment, "Brigade Reconnaissance and Security Element (RSE)," "Reconnaissance and Security," "Reconnaissance and Security Force Review Phase I," "Reconnaissance and Security," TRADOC Analysis Command, "Reconnaissance and Security Review," U.S. Army Combined Arms Center, "Battalion/Brigade Scout Platoon."

A briefing which did not support the need for an organic RSE in divisional brigades is "Reconnaissance and Security," TRADOC Analysis Command, and "Reconnaissance and Security Review," U.S. Army Combined Arms Center.

Most of the briefings support the need for an organic RSE in divisional brigades.

Conclusion

The weight of the evidence supports the requirement for an organic RSE in divisional brigades.

Doctrine requires an organic RSE in divisional brigades. Two doctrinal reviews show the requirement for an organic RSE in divisional brigades. The two reviews are the "Reconnaissance and Security Force Review," Combined Arms Center and the "Reconnaissance and Security Force Review Phase I," "Brigade Reconnaissance and Security Element (RSE),"

U.S. Army Armor Center. Combined Arms Command's (CAC) doctrinal review states that brigades have reconnaissance (zone, area, route reconnaissance) and security (screen) responsibilities. It then points out brigades have no doctrinal reconnaissance and security capabilities to conduct reconnaissance (zone, area, route reconnaissance) and security (screen). The CAC review also states, under EMERGING DOCTRINAL FINDINGS, which both NTC and Desert Storm surfaced the issue of a brigade RSE. In many cases during Desert Storm, brigades were the basic maneuver element and brigade commanders felt blind without organic reconnaissance assets.[10] FM 71-3 requires establishment of a security force for offensive operations.[11] Establishment of a security force is difficult for a brigade without an organic reconnaissance and security unit. To establish this security force requires the brigade to task subordinate units. This tasking of subordinate units takes combat power away from the main body and has these units attempting to do security missions as the security force. Taking units from the main body and having these units do security missions they are not trained and equipped for is a lot to ask of a unit not trained, equipped, or organized to do security missions. Current Army doctrine (FM71-3 and FM71-123) specifies brigade reconnaissance and security tasks. These tasks are additional to battalion and division reconnaissance and security tasks. The current doctrine recognizes that brigades must presently employ subordinate units in brigade reconnaissance and security roles.

The studies containing support for divisional brigades not needing an organic RSE state that the maneuver battalions and divisional

cavalry will accomplish the brigades' reconnaissance missions. Overburdened battalion scouts are unable to accomplish reconnaissance tasks for battalions. Therefore battalion scouts cannot accomplish reconnaissance for the brigade. The division cavalry is a critical division asset that accomplishes the division's reconnaissance tasks. Gulf War experiences in AARs tell that "the brigade can task subordinate units for reconnaissance assets, but this detracts from the task force [battalion] collection plans."[12] The inability of battalion scouts and the absence of the divisional cavalry squadron leaves the independently fighting brigade with no unit to accomplish the brigade's reconnaissance missions. With no unit to accomplish the brigade's reconnaissance missions, the future independently employed brigade's need for an organic RSE to accomplish the brigade's reconnaissance missions increases. The Reconnaissance and Security Study revealed that "The brigade may require RSE elements if it is a full-blown maneuver force." The fact that full-blown maneuver brigades may require an RSE is important because many brigades in divisions fight as full-blown maneuver forces--the Gulf War being one example. This study also stated, "The addition of a brigade RSE showed value in that it helped the brigade commander maintain control over the momentum of the battle, leading to timely success with fewer casualties."[13] A brigade fighting as part of a division gained the benefits of an organic RSE. The "Reconnaissance and Security Computer-Assisted Map Exercise(CAMEX)" states that "It [RSE] allowed him [brigade commander] to concentrate on brigade concerns without degrading the battalion's scouting capability. The RSE also provided a key element between the divisional cavalry

squadron and the fighting battalions. The R&S element's primary function was to find the small, isolated threats, deal with them within capability, or quickly bypass, passing the destruction to the main body. Major intelligence systems and UAVs would have difficulty identifying and locating these high-resolution threats."[14] These studies, one from the past and two from simulated future battles weight the evidence in favor of the requirement for an organic RSE in divisional brigades. The number of studies on this subject is great and most of these studies support the need for an organic RSE for divisional brigades. Few studies contain support for divisional brigades not needing an organic RSE.

The White papers, MMAS Theses and SAMS Monographs reviewed, support the need for an organic RSE in divisional brigades.

The CTC/Gulf War experience reviewed showed support for an organic RSE in divisional brigades. Most of the evidence supports the need for an organic RSE. Evidence against the need for an organic RSE, General Maddox, Summer '93 and CINCUSAREUR Comments on Force Design Update (FDU), both agree that there is a problem and that there is not enough reconnaissance in a division. They also both agree that they are not sure an organic RSE is the solution.[15] There is much evidence that says the brigade is the right place to put reconnaissance and security assets as an organic RSE. Feedback from the Gulf War stated those brigade commanders either employed ad hoc RSEs or would have employed RSEs had they been more spread out. The results from the Gulf War were, "Brigade commanders, who organized reconnaissance elements, enhanced their ability to see and control the battle."[16] It also makes sense to

put assets in the only place there is a gap in reconnaissance and security units between battalion and corps, the brigade. To put assets at battalion or division and not give any assets to the brigades does not fill the gap in reconnaissance and security assets from battalion to corps. Although some evidence does not support the brigade requirement for an RSE, most of the evidence supports the requirement for an organic brigade RSE.

The briefings reviewed showed both support for an organic RSE in divisional brigades and did not support an organic RSE for divisional brigades. Most of the evidence supported the need for an organic RSE in divisional brigades. Only two briefings reviewed, "Reconnaissance and Security," TRADOC Analysis Command and "Reconnaissance and Security Review," U.S. Army Combined Arms Center, did not support the need for an organic RSE in divisional brigades. There are times when the brigade commander needs the capability to develop and synchronize the battle. Without the divisional cavalry, the brigade commander does not have the organic assets to fill the human intelligence (HUMINT) gap. The brigade requires human reconnaissance to fill this human intelligence (HUMINT) gap. The brigade RSE could confirm unmanned aerial vehicle (UAV) reports, fix the enemy, call for fires. An RSE could also perform battle handoff to the battalions. Brigade RSEs and UAVs working together gave the brigade commander a picture of the battlefield that allowed for swift and decisive maneuver.[17] The "Reconnaissance and Security Review" describes how in the Fall '89 AOE update that support for the high cost (of the RSE) was insufficient given the low increase in capability. It also said that the CSA felt implementing new design

was not cost effective then. In the "Spring '90 AOE Update," the CSA directed that TRADOC not bring the issue (brigade RSE) forward. Then in Oct 1991 TRADOC tasked CAC to get brigade scouts out when possible and to do it smart.[18] So the Army now is supporting the need for an organic RSE in divisional brigades but cost is a problem. The Army is also conducting more studies to learn how to affordably do it. The weight of the evidence clearly supports the need for organic RSEs in divisional brigades.

Risk

Are the risks of a brigade operating in the future without a brigade RSE greater than the risks of a brigade operating with an RSE? If the risks of operating a brigade without an RSE are greater, are these increased risks great enough to warrant the addition of an RSE to the brigade? The paper reviewed doctrine, studies, White papers/MMAS and SAMS Monographs, CTC/Gulf War experience, and briefings. This review revealed many risks that support an organic RSE and some that do not support an organic RSE.

Doctrine

Doctrinally, FM71-3 shows that the risk of a violation of unity of command, battalion scout platoons exceeding their capabilities, violations of the reconnaissance fundamental of maximum reconnaissance forward.

Studies

The following studies describe the need for an organic RSE in the brigade: "General Officer Executive Committee," "Reconnaissance and

Security Study," and "Reconnaissance and Security Computer-Assisted Map Exercise (CAMEX)." The following studies do not support an organic RSE in a brigade: "Reconnaissance and Security Study" and "Reconnaissance and Security Computer-Assisted Map Exercise (CAMEX)."

White Paper

"Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements?" was the only white paper describing risks that support the need for an organic RSE in the brigade.

CTC/Gulf War Experience

CTC/Gulf WAR Experience, such as "AAR Comments," 1st brigade, 1st Cavalry Division, Memorandum, "Requirement for a Heavy Brigade Reconnaissance Company," "Brigade Reconnaissance Organization," point out risk that supports the need for an organic RSE in the brigade.

Briefings

The following briefings illustrate risks that support an organic RSE in the brigade: "Brigade Reconnaissance and Security Element," "Reconnaissance and Security Review," and "Reconnaissance and Security." The briefing "Reconnaissance and Security Review" illustrates risks that do not support an organic RSE in the brigade. Most of the evidence from briefings supports the need for an organic RSE at the brigade.

Conclusion

The weight of the evidence from doctrine, studies, White papers/MMAS and SAMS Monographs, and briefings supports the need for an

organic RSE in the brigade. There are many risks pointed out in these sources. These risks are greater losses, slowed momentum, and brigade R&S requirements not met, put division R&S assets at risk, and an inability to conduct simultaneous operation. A study, "Reconnaissance and Security," is a simulation battle using future equipment and organizations fighting a realistic updated threat. The "Reconnaissance and Security Study" compared brigades with RSEs against brigades without RSEs. This study found that the brigades without RSEs had greater losses, slowed momentum, and brigade R&S requirements not met. The brigades without RSEs also put division R&S assets at risk and could not effectively begin to influence follow-on battles until the current fight was complete. This inability to influence follow-on battles until the current fight was complete was an inability to conduct simultaneous operations.[19] Increased losses mean brigades without RSEs cannot meet the doctrinal guidance of FM 100-5. This guidance states, the objective of the military in war is victory over the opposing military force at the least cost to American soldiers.[20] Further, FM 100-5 states, the Army must be capable of achieving decisive victory. FM 100-5 defines decisive victory as forces of the highest quality, able to deploy rapidly, to fight, sustain themselves, and to win quickly with minimum casualties.[21] Brigades with RSEs can meat the guidance of winning quickly better than brigades without RSEs. Looking to the future, TRADOC Pam 525-5 defines simultaneity as "Advanced forces will possess the capability to achieve multiple operational objectives nearly simultaneously throughout a theater of operations." It goes on to state that simultaneity will be one aspect which dominates future

battlefields.[22] Future brigades with RSEs will have simultaneity on the future conventional battlefield that brigades without RSEs will not have. Decreased force densities place a premium on reconnaissance and security forces according to the "Force Design Update Winter 1992" briefing.[23] This premium on reconnaissance and security forces makes putting division R&S assets at risk a dangerous short fall for brigades without RSEs. The shortfall is an area where an RSE could be an effective resource for the brigade commander.[24] The risk of not winning the reconnaissance and security battle is significant considering FM 100-5's assertion, "Successful reconnaissance normally precedes successful operations at all levels."[25]

Control of Battlespace

Can a brigade with an organic RSE maintain control of its battle space better than a brigade without an organic RSE? If future brigades with an organic RSE can better maintain control of their battlespace, does this increase in control of battlespace warrant the addition of an organic RSE. The paper reviewed doctrine, studies, White papers/MMAS and SAMS Monographs, CTC/Gulf War Experience, and briefings. Most of these showed support for organic RSEs improving a brigade's ability to control its battle space. Some do not show support for organic RSEs improving a brigade's ability to control its battlespace.

Doctrine

Doctrinally, FM 100-5 shows support for organic RSEs improving a brigade's ability to control its battlespace.

Studies

The following studies show support for organic RSEs improving a brigade's ability to control its battlespace: "Division 86 Analytical Methodology," "General Officer Executive Committee (GOEC)," 1988, "Reconnaissance and Security Study," and "Reconnaissance and Security Computer-Assisted Map Exercise(CAMEX)." "The Reconnaissance and Security Computer-Assisted Map Exercise(CAMEX)" study did not show support for organic RSEs improving a brigade's ability to control its battlespace.

White papers/MMAS and SAMS Monographs

"Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements?" was the only White papers, MMAS Theses and SAMS monographs that showed support for organic RSEs improving a brigade's ability to control its battlespace.

CTC/Gulf War Experience

The following CTC/Gulf War experiences show support for organic RSEs improving a brigade's ability to control its battlespace: "Preliminary Lessons Learned During OPERATION DESERT STORM," 1st Armored Division, "AAR Comments," 1st Brigade, 1st Cavalry Division, CALL Newsletter, No. 92-X, Reconnaissance, Operation Desert Storm Epilogue, "VII Corps Desert Storm 100 hour War Brief," Memorandum, "Requirement for a Heavy Brigade Reconnaissance Company," "Brigade Reconnaissance Organization," and "Operational Concept for Brigade Reconnaissance and Security Operations." No CTC/Gulf War experiences were found which did

not support the requirement for organic RSEs improving a brigade's ability to control its battlespace.

Briefings

The following briefings showed support for an organic RSE improving a brigade's ability to control its battlespace: "Brigade Reconnaissance and Security Element," "Force Design Update Winter 1992," "Reconnaissance and Security Review," Background and Environment, "Reconnaissance and Security," TRADOC Analysis Command--Operations Analysis Center, "Reconnaissance and Security," TRADOC Analysis Command, "Reconnaissance and Security Review," U.S. Army Combined Arms Center, and "Battalion/Brigade Scout Platoon. The only briefing that did not show support for organic RSEs improving a brigade's ability to control its battlespace was "Reconnaissance and Security," TRADOC Analysis Command--Operations Analysis Center.

Conclusion

Most of the evidence shows support for organic RSEs improving a brigade's ability to control its battlespace. The weight of the evidence also heavily favors the ability of organic RSE improving the ability of brigades to control their battlespace.

FM 100-5 defines battle space as components determined by the maximum capabilities to acquire and dominate the enemy, it includes area beyond the AO, it varies over time according to how the commander positions his assets.[26] TRADOC Pam 525-5 defines battlespace as the components determined by the maximum capabilities of friendly and enemy forces to acquire and dominate each other by fires and maneuver and in

the electromagnetic spectrum.[27] FM 100-5 states, "all commanders must learn to dominate their battle space.[28] As the Army looks to the future using TRADOC Pam 525-5 it states, "Our forces will be able to dominate an expanded battlespace."[29] TRADOC Pam 525-5 further states, "Expansion of battlespace to gain an advantage such as lethal reach over enemy forces will be essential to establishing maneuver force overmatch when maneuver alone, or disabling measures, cannot accomplish the mission." Here, the Army knows future forces need to dominate an expanded battlespace and that expansion of battlespace is essential. TRADOC Pam 525-5 also says, "Battlespace expansion will achieve three distinct (not necessarily sequential) advantages over the enemy: by a variety of reconnaissance means, identify, disrupt, or destroy enemy forces before they can effectively engage friendly forces, reduce friendly force vulnerability by increasing the dispersion and numbers of the friendly force, conduct maneuver by use of both fires and rapid physical mass and dispersion of ground forces to sense and dominate a greater battlespace and achieve a staying power effect (control) only possible with land forces."[30] Looking further, 525-5 states "force protection is a critical element in maintaining dominance of battlespace. Key to force protection is finding the enemy and determining his capabilities. Future Army forces must be capable of conducting effective security operations." Also, "The domination of extended battlespace will require agile and robust deep and simultaneous attack capabilities." Lastly TRADOC Pam 525-5 says, "Along with battle command and battlespace, successful depth and simultaneous attack increases demands on intelligence systems, to include human intelligence capabilities."[31]

Doctrine and TRADOC Pam 525-5 state units need to expand and dominate their battlespace. An organic RSE can increase a brigade's ability to expand and dominate its battlespace.

The problem is the increased demands on the intelligence system (to include human intelligence) of the brigade caused by the need for simultaneous attacks. This need for simultaneous attack joins the need to conduct effective security operations to find the enemy and determine his capabilities. Both are keys to force protection. Force protection is critical in maintaining dominance of battlespace. The brigade with an RSE could meet these increased demands on an intelligence system and can conduct effective security operations better than a brigade without an RSE. The organic RSE gives the brigade a trained and equipped element to do reconnaissance and security missions. Brigades with an organic RSE could also better meet the HUMINT demands. The organic RSE does this by giving the brigade an increased HUMINT element. After looking at many sources the paper found that brigades without RSEs "require organic unit(s) to conduct reconnaissance and provide security."[32] So, how can a unit already short reconnaissance and security capabilities meet increased demands on intelligence? The brigade could turn to assets not organic to it. Using assets which assigned to the division and divided among the brigades has problems as described in a "Reconnaissance and Security" briefing about the "Reconnaissance and Security Study." A computer simulated battle in a NEA(North East Asia/Korea) scenario against an updated enemy. In the battle, JSTARS effectiveness was limited because the threat was stationary; SIGINT was limited because the threat was not transmitting;

and HUMINT resources were critical. With HUMINT resources critical and the brigade has none.[33] The brigade could look to division and battalions for help. Problems also arise here. The problems with battalion scouts are many as revealed in "Reconnaissance and Security," TRADOC Analysis Command: "battalion scouts cannot get out far enough to satisfy brigade timelines; HMMWV scouts [of battalions] are vulnerable to fires; handoff from division cavalry to Task Force is complicated without RSE, robbing Task Force commander of his reconnaissance element [battalion scouts]."[34] The divisional cavalry squadron has problems helping the brigade control the brigade's battlespace. The study "Brigade Reconnaissance and Security Element," describes "Brigade needs differ from divisional needs, brigade commander cannot expect any cavalry between brigade and enemy."[35] In summary, the brigade without an organic RSE requires more reconnaissance/security assets. These assets can meet the increased demands for intelligence required to conduct simultaneous attack. These assets can also allow effective security operations to dominate extended battlespace. To be successful in the future, Force XXI brigades must have an organic RSE. This organic RSE can help the brigade meet the increased demands for intelligence required to conduct simultaneous attacks. The organic RSE can also perform effective security operations. This will allow the brigade to expand and dominate its battlespace. This expanded and dominated battlespace will increase the brigade's success.

Battle Command

Can a brigade with an organic RSE accomplish battle command better than a brigade without an organic RSE? If future brigades with

an organic RSE can better accomplish battle command, does the improvement in battle command warrant the addition of an organic RSE? A review of doctrine, studies, White papers/MMAS and SAMS Monographs, CTC/Gulf War Experience, and briefings reveal some support for organic RSEs improving a brigade's ability to accomplish battle command and others do not.

Doctrine

The following doctrine shows support for organic RSEs improving a brigade's ability to accomplish battle command: FM 100-5, FM 100-15, and FM 71-3.

Studies

The following studies show support for organic RSEs improving a brigade's ability to accomplish battle command: "Division 86 Analytical Methodology," "The Cavalry/Reconnaissance Net Assessment--Master Plan," "General Officer Executive Committee (GOEC)," 1988, "The Branch Operational Concept," "Reconnaissance and Security Study," and "Reconnaissance and Security Computer-Assisted Map Exercise(CAMEX)." Only one, "Reconnaissance and Security Computer-Assisted Map Exercise (CAMEX)," did not show support for organic RSEs was.

White papers, MMAS Theses, and SAMS Monographs

The White papers/MMAS and SAMS Monographs that show support for organic RSEs improving a brigade's ability to accomplish battle command was "Reconnaissance in the Heavy Corps: Do tactical assets match mission requirements?"

CTC/Gulf War Experience

The following CTC/Gulf War experiences show support for organic RSEs improving a brigade's ability to accomplish battle command: "Preliminary Lessons Learned During OPERATION DESERT STORM," 1st Armored Division, "AAR Comments," 1st Brigade, 1st Cavalry Division, CALL Newsletter, No. 92-X, Reconnaissance, Operation Desert Storm Epilogue, Call Compendium 1988, "VII Corps Desert Storm 100 hour War Brief," Memorandum, "Requirement for a Heavy Brigade Reconnaissance Company," "Brigade Reconnaissance Organization," and "Operational Concept for Brigade Reconnaissance and Security Operations."

Briefings

The following briefings show support for organic RSEs improving a brigade's ability to accomplish battle command: "Brigade Reconnaissance and Security Element," "Reconnaissance and Security," TRADOC Analysis Command--Operations Analysis Center, "Reconnaissance and Security," TRADOC Analysis Command, and "Reconnaissance and Security Review," U.S. Army Combined Arms Center.

Conclusion

FM 100-5 and TRADOC Pam 525-5 define battle command as the art of decision making, leading, and motivating soldiers and their organizations into action to accomplish missions. Battle command also includes visualizing the current state and future state, then formulating concepts of operations to get from one to the other at least cost. Battle command also includes assigning missions, prioritizing and

allocating resources, selecting the critical time and place to act, and knowing how and when to make adjustments during the fight.[36]

At the brigade level, a commander's ability to make decisions, visualize the current state, visualizing the future state are important. Getting from the current state to the future state at least cost and selecting the critical time and place to act are also important. A commander's ability to know how and when to make adjustments during the fight is also important. With increased in information, the brigade commander can do all this better. The organic RSE can provide the commander more information than he presently gets. The brigade RSE can provide the brigade commander real time information he presently does not get. The RSE can also verify information the brigade receives from other sources.

Where will this critical information come from? The "Reconnaissance and Security" briefing about the "Reconnaissance and Security Study," describes the limitations of these advanced systems in a computer based simulated battle in a NEA(North East Asia/Korea) scenario against an updated enemy. TRADOC Pam 525-5 acknowledges that the new high technology information gathering systems will not always work or work better than HUMINT and states, "The existence of these advanced systems will not, however, replace soldiers. Soldiers will remain our greatest intelligence source, ...Human intelligence will often remain the only source of reliable information about the enemy, even on the highly technical battlespace of tomorrow."[37] This need for and importance of HUMINT puts even more weight behind the brigade's requirement for an organic RSE to fill the present HUMINT gap at the

brigade level. Battle commander also requires accomplishment of missions with the least cost to soldiers. The study "Reconnaissance and Security" compared brigades with RSEs against brigades without RSEs and found that the brigades with RSEs had fewer casualties.[38] Clearly, a brigade with an organic RSE will better accomplish battle command by increasing the amount and improving the information going to the brigade and reducing the brigade's losses.

Information

Can a brigade with an organic RSE get information better than a brigade without an organic RSE? If future brigades with organic RSEs can get information better than brigades without an organic RSE, does this better acquisition of information justify the addition of an organic RSE. A review of doctrine, studies, White papers/MMAS and SAMS Monographs, CTC/Gulf War Experience, and briefings show that brigades with an organic RSE can get information better than a brigade without an organic RSE. The review also shows some of these sources do not show that brigades with an organic RSE can get information better than a brigade without an organic RSE.

Doctrine

The following doctrine shows that brigades with an organic RSE can get information better than a brigade without an organic RSE: FM 100-5, FM 100-15, and FM 71-3.

Studies

Some studies that show brigades with an organic RSE can get information better than a brigade without an organic RSE are: "Division

86 Analytical Methodology," "Division Restructuring Concept Report," "Division Restructuring Study," "Division 86 Study," "The Cavalry/Reconnaissance Net Assessment--Master Plan," "General Officer Executive Committee (GOEC)," 1988, "The Branch Operational Concept," "Reconnaissance and Security Study," and "Reconnaissance and Security Computer-Assisted Map Exercise(CAMEX)." The studies "Reconnaissance and Security Computer-Assisted Map Exercise(CAMEX)" and "Army Of Excellence (AOE), VOL III" did not show that brigades with an organic RSE can get information better than a brigade without an organic RSE.

White papers, MMAS Theses and SAMS Monographs

The only White papers, MMAS Theses and SAMS Monographs which documents brigades with an organic RSE can get information better than a brigade without an organic RSE is, "Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements?"

CTC/Gulf War Experiences

The following CTC/Gulf War experiences show brigades with an organic RSE can get information better than a brigade without an organic RSE: "Preliminary Lessons Learned During OPERATION DESERT STORM," 1st Armored Division, "AAR Comments," 1st Brigade, 1st Cavalry Division, CALL Newsletter, No. 92-X, Reconnaissance, Operation Desert Storm Epilogue, Call Compendium 1988, AARs to III Corps Commander, "VII Corps Desert Storm 100 hour War Brief," Deputy Commanding General for Combat Developments, Memorandum, "Requirement for a Heavy Brigade Reconnaissance Company," "Brigade Reconnaissance Organization," "Operational Concept for Brigade Reconnaissance and Security

Operations," and "Summer '93 Force Design Update (FDU)." The following CTC/Gulf War experiences did not show that brigades with an organic RSE can get information better than a brigade without an organic RSE: GEN Maddox, Summer '93 and CINCUSAEUR "Comments on Force Design Update (FDU)."

Briefings

The following briefings show that brigades with an organic RSE can get information better than a brigade without an organic RSE: "Brigade Reconnaissance and Security Element," "Force Design Update Winter 1992," FDD, "Reconnaissance and Security Review," Background and Environment, "Brigade Reconnaissance and Security Element(RSE) Analysis," "Reconnaissance and Security," TRADOC Analysis Command--Operations Analysis Center, "Reconnaissance and Security Force Review Phase I," "Reconnaissance and Security," TRADOC Analysis Command, "Reconnaissance and Security Review," USACAC, and "Battalion/Brigade Scout Platoon," FDD.

Conclusion

FM 100-5 defines intelligence as the product resulting from collection, processing, integrating, analysis, evaluation, and interpretation of available information concerning foreign countries or areas.[39] TRADOC Pam 525-5 states, "Our use of information as the focus of operations will be a strength . . . . Information operations influence battlespace by providing the commander the means required to better visualize the battlespace while blinding or shaping an opposing commander's vision."[40]

TRADOC Pam 525-5 also states, "The main imperative in future operations, from full war to domestic support operations, will be to gain information and continued accurate and timely shared perceptions of the battlespace. By mastering information, we can potentially command operations at an operational tempo no potential enemy can match."[41] In tomorrow's information age the Army will realize the potential of our system(s) only if units enter the best information into the system. "Human intelligence will often remain the only source of reliable information about the enemy, even on the highly technical battlespace of tomorrow."[42] New technologies are bringing on newer and better informational gathering systems. However, studies, experiences, and new doctrine all point out that HUMINT is and will always be critical to conducting good reconnaissance. "Soldiers will remain our greatest intelligence source"[43] and good reconnaissance produces the information needed by the ABCS to reach its full potential. "Internetted information will greatly enhance all battle operating systems with the greatest potential payoff in intelligence, operations, and fire support functions."[44]

Threat

Do current and future threats require brigades to have an organic RSE? A review of doctrine, studies, White papers/MMAS and SAMS Monographs, CTC/Gulf War Experience, and briefings show current and future threats require brigades to have an organic RSE and some do not require brigades to have an organic RSE.

Doctrine

The following doctrinal reviews show threats that may require an organic RSE at the brigade level: "Reconnaissance and Security Force Review," Doctrinal Review, and TRADOC Pam 525-5. "Reconnaissance and Security Force Review," Doctrinal Review shows threats may not require an organic RSE at the brigade level.

Studies

The following studies show threats that may require an organic RSE at the brigade level: "General Officer Executive Committee (GOEC)," 1988, "Reconnaissance and Security Study," and "Reconnaissance and Security Computer-Assisted Map Exercise(CAMEX)."

CTC/Gulf War Experiences

The only CTC/Gulf War experience showing threats that may require an organic RSE at the brigade level is "Operational Concept for Brigade Reconnaissance and Security Operations."

Briefings

The following briefings show threats that may require an organic RSE at the brigade level: "Force Design Update Winter 1992," FDD, "Reconnaissance and Security Review," Background and Environment, "Reconnaissance and Security," TRADOC Analysis Command.

Conclusion

TRADOC Pam 525-5 states, "American technology superiority cannot be guaranteed."[45] Because the Army cannot guaranty technology superiority the Army must not create Force XXI brigades that depend to

heavily on technology. Instead the Army must give Force XXI brigades the HUMINT assets to conduct reconnaissance and security missions. TRADOC Pam 525-5 also states, "Most conflicts involving the U.S. Army will be OOTW or low-intensity conflicts, as few states will risk open war with the U. S. However, the spectrum of open war against foes fielding advanced, armor-mech-based armies must be considered."[46] If most conflicts will be OOTW and the Army must be ready for open war against an armored enemy, the Force XXI brigade must will require the capability to fight both of these threats. To fight both of these threats the Force XXI brigade requires an RSE to give the brigade the HUMINT assets required by both threats. TRADOC Pam 525-5 goes on to state, "Soldiers will remain our greatest intelligence source, especially in OOTW; hence, one of the reasons for the manpower-intensive characteristics of OOTW."[47] These sources repeatedly describe the importance of HUMINT, yet a brigade without an organic RSE has no HUMINT. "The Nation cannot afford to maintain an army of armies in the early twenty-first century. The requirement to be trained and ready-to win the land battle-remains the absolute priority. Well-trained and disciplined units, provided with sufficient time and resources to train, can transition to OOTW missions as required."[48] A brigade with an organic RSE will better meet the threat in war and OOTW with its increase in HUMINT assets.

"Reconnaissance and Security" is a briefing which showed the inability of SIGINT, IMAGERY intelligence, and the criticality of HUMINT.[49] In the battle, JSTARS effectiveness was limited because the threat was stationary, SIGINT was limited because threat was not

transmitting, and HUMINT resources were critical. TRADOC Pam 525-5 acknowledges this and states, "The existence of these advanced systems will not, however, replace soldiers. Soldiers will remain our greatest intelligence source," . . . "Human intelligence will often remain the only source of reliable information about the enemy, even on the highly technical battlespace of tomorrow."[50] Future threats demand our Force XXI brigades have HUMINT assets in war and OOTW. A brigade with an organic RSE can meet this increased need for HUMINT better than a brigade without an RSE.

Protect the Force

Can brigades with organic RSEs protect the force better than brigades without organic RSEs? If brigades with organic RSEs protect the force better than brigades without organic RSEs, does this increase in force protection warrant the addition of an organic RSE to the brigade?

A review of doctrine, studies, CTC/Gulf War Experience, and briefings show that brigades with an organic RSE can protect the force better than brigades without organic RSEs. Others do not show brigades with an organic RSE protect the force better than brigades without organic RSEs.

Doctrine

The following doctrine shows brigades with an organic RSEs protect the force better than brigades without organic RSEs: FM 100-5, FM 71-100, and FM 71-3.

Studies

The following studies show that brigades with organic RSEs protect the force better than brigades without organic RSEs: "Division 86 Analytical Methodology," The Cavalry/Reconnaissance Net Assessment -- Master Plan," "General Officer Executive Committee (GOEC)," 1988, "The Branch Operational Concept," "Reconnaissance and Security Study," and "Reconnaissance and Security Computer-Assisted Map Exercise(CAMEX)."

White papers, MMAS and SAMS Monographs

The only White papers, MMAS Theses and SAMS Monographs that shows that brigades with organic RSEs protect the force better than brigades without organic RSEs was, "Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements?"

CTC/Gulf War Experiences

The following CTC/Gulf War Experiences show that brigades with organic RSEs protect the force better than brigades without organic RSEs: "Preliminary Lessons Learned During OPERATION DESERT STORM," 1st Armored Division, "AAR Comments," 1st Brigade, 1st Cavalry Division, CALL Newsletter, No. 92-X, Reconnaissance, Operation Desert Storm Epilogue, Call Compendium 1988, AARs to III Corps Commander, "VII Corps Desert Storm 100 hour War Brief," Deputy Commanding General for Combat Developments, "Brigade Reconnaissance Organization," and "Operational Concept for Brigade Reconnaissance and Security Operations."

Briefing

The following briefings showed that brigades with organic RSEs protect the force better than brigades without organic RSEs: "Brigade

Reconnaissance and Security Element," "Force Design Update Winter 1992," FDD, "Reconnaissance and Security Review," Background and Environment, "Reconnaissance and Security," TRADOC Analysis Command--Operations Analysis Center, "Reconnaissance and Security Force Review Phase I," "Reconnaissance and Security," TRADOC Analysis Command, and "Reconnaissance and Security Review," USACAC.

Conclusion

TRADOC Pam 525-5 states "Maneuver force protection is a critical element in maintaining dominance of battlespace. Key to force protection is finding the enemy and determining his capabilities. Future Army forces must be capable of conducting effective security operations."[51]

According to FM 100-5, protecting the force results in reducing casualties. Minimum casualties along with the ability to deploy rapidly, to fight, to sustain themselves, and to win quickly allows decisive victory. The Army must be capable of achieving decisive victory. [52]

The weight of the evidence clearly shows brigades with an organic RSE could protect the force better than brigades without organic RSEs. This increased ability to protect the force is simply a function of the ability of RSEs to conduct reconnaissance and security missions for their brigades. A brigade without an RSE has no unit to conduct reconnaissance and security missions for the brigade.

Doctrinally, FM 100-5 states, "It is better to see, target, and hit the enemy at a distance from which he cannot hit back."[53] FM 71-3 states, "It [the brigade] could provide its own security force, although

this is not desirable."[54] This implies the current brigade without an organic RSE does cannot provide its own security. An organic RSE could increase a brigade's ability to provide its own security. FM 71-3 requires establishment of a security force for offensive operations.[55] Doctrine requires a security force yet the brigade does not have one to use. Again, an organic RSE could correct this critical requirement.

Studies conducted in the past and studies of simulated future battles both explain that brigades without RSEs do not conduct effective security missions. Brigades with RSEs in simulated future battles conducted effective security missions that reduced losses and so protected the force better. This shows an organic RSE improves a brigade's ability to protect the force.

CTC/Gulf War Experience describes a need for reconnaissance and security elements at the brigade level. When employed in this war the RSEs help the brigades see and control the battle. This increased ability to see and control the battle will improve the brigade's ability to protect the force.

Briefings also describe a need for reconnaissance and security forces at the brigade level. The briefings state decreased force density places a premium on security forces. Commanders at every echelon have the requirement to secure their force. Brigade commanders cannot delegate responsibility to secure their force. The organic RSE can give the brigade a trained and equipped element to perform security missions for the brigade. The performance of these security missions will improve the brigade's ability to protect the force.

Tempo

Can a brigade with an organic RSE operate at a greater tempo than a brigade without an organic RSE? If so does this increase in tempo warrant the addition of an organic RSE to the brigade?

A review of doctrine, studies, White papers/MMAS and SAMS Monographs, CTC/Gulf War Experience, and briefings shows that brigades with an organic RSE operate at a greater tempo than brigades without an organic RSE. This review also shows that some of these sources do not support brigades with an organic RSE can operate at a greater tempo than a brigade without an organic RSE.

Doctrine

The following doctrine shows brigades with an organic RSE operate at a greater tempo than brigades without an organic RSE: FM 100-5 and FM 71-3.

Studies

The following studies show that brigades with an organic RSE operate at a greater tempo than brigades without an organic RSE: "The Cavalry/Reconnaissance Net Assessment--Master Plan," "The Branch Operational Concept," "Reconnaissance and Security Study," and "Reconnaissance and Security Computer-Assisted Map Exercise(CAMEX)."

White papers, MMAS theses and SAMS Monographs

Only "Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements?" shows that brigades with an organic RSE operate at a greater tempo than brigades without an organic RSE.

CTC/Gulf War Experiences

The following CTC/Gulf War Experience show that brigades with an organic RSE operate at a greater tempo than brigades without an organic RSE: CALL Newsletter, No. 92-X, Reconnaissance, Operation Desert Storm Epilogue, Call Compendium 1988; Memorandum, "Requirement for a Heavy Brigade Reconnaissance Company," "Brigade Reconnaissance Organization," and "Operational Concept for Brigade Reconnaissance and Security Operations."

Briefings

The following briefings show that brigades with an organic RSE operate at a greater tempo than brigades without an organic RSE: "Brigade Reconnaissance and Security Element," "Reconnaissance and Security," TRADOC Analysis Command, and "Reconnaissance and Security Review," USACAC.

Conclusion

TRADOC PAM 525-5, "The main imperative in future operations, from full war to domestic support operations, will be to gain information and continued accurate and timely shared perceptions of the battlespace. By mastering information, we can potentially command operations at an operational tempo no potential enemy can match."[56]

TRADOC Pam 525-5 states "Better informed soldiers, caused by better information distribution, will significantly add to this capability to act and to sustain the needed tempo."[57] Brigades with RSEs will gain more information as stated earlier. This increase in

information will mean an increase in the information distributed and so an increase in tempo will result.

"Our forces will be able to dominate an expanded battlespace. Such domination will be judged by the ability to be more lethal and survivable and operate at a tempo greater than any enemy."[58] Increased tempo will increase dominance of battlespace.

"This battlespace dominance will be achieved through high-tempo, all-weather, air-land-sea continuous operations."[59] An organic RSE will give the brigade a reconnaissance and security asset that is all weather and condition capable and HUMINT heavy. HUMINT will not have limitations of some high technology intelligence gathering assets.

"Better intelligence, shared among all elements and moved or retrieved rapidly on demand, will allow commanders to control and vary that tempo based on superior knowledge of friendly situation/location, enemy situation/location, and events shaping the overall battlespace."[60] Brigades with RSEs will gain better intelligence from the RSE's reconnaissance and security missions.

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CHAPTER 5

CONCLUSION

The research revealed that the age-old principles of reconnaissance and security, from Sun Tzu to Desert Storm and to the future battlefield of force XXI, are the same. In tomorrow's information age, battlefield information gained from good reconnaissance and security operations will be critical to the success of brigade operations.

I reached many conclusions during the preparation of this paper. The first conclusion is the Army may employ Force XXI brigades independently or semi-independently in the future. Force reductions, limited transportation assets, and political constraints will cause this independent employment. This possibility is greater in the future than it has been in the past. This possibility increases the need for future Force XXI brigades to have an organic RSE.

Second, although brigades may fight independently, Force XXI brigades may fight as part of a division. If brigades do fight as part of a division, they will need an organic RSE. Brigades will require RSEs in the future when fighting as part of a division. Doctrine, studies, and combat experience have all shown that brigades fighting as part of a division need an organic RSE.

Third, the risks for Force XXI brigades not having RSEs are many. Force XXI brigades without an organic RSE cannot control battle

space, execute battle command, gain information, protect the force, and increase tempo to the levels needed to achieve decisive victory. In researching this paper, I reviewed studies and tests from 1984 (when the brigade lost its RSE) to the present. These studies and tests show brigades have not performed the necessary reconnaissance and security tasks needed to be successful. Operational tests on a simulated battlefield of the future against the most current threat show brigades require an organic RSE. The RSE provided HUMINT, a third source, to the JSTARS and SIGINT sources of information. This RSE provided critical HUMINT information when the JSTARS and SIGINT sources were unable to provide information. The RSE reduces the risk of the brigade not getting the information it needs. In the most recent simulated battles, brigades with organic RSEs accomplished their missions quicker and with fewer casualties than brigades without organic RSEs. The Army doctrine states that accomplishing the mission quickly and with the minimum casualties is exactly the way it should fight. By not having organic RSEs in Force XXI brigades, the Army risks not following its doctrine and not achieving decisive victory.

Fourth, the addition of an organic RSE to a brigade can increase the brigade's control of battlespace. The research showed an organic RSE could expand a brigade's battlespace and improve the brigade's ability to dominate that expanded battlespace. RSEs can increase the future brigade commander's ability to see and know the elements within his battlespace. RSEs will increase the brigade commander's battle space by increasing his knowledge of the terrain and enemy within a larger area. The brigade commander can use this

information to synchronize organic capabilities against the enemy. An RSE can also increase the brigade's control of battle space by increasing from two sources of information, SIGINT and JSTARS, to three. The increase in sources will increase the accuracy of information. RSEs can also verify and update the information provided by other sources.

Fifth, the addition of an organic RSE to the brigade could improve battle command. The research showed that the RSE helped command and control. An RSE will help command and control by helping brigade movement, maintaining or reestablishing contact with friendly units, and supporting the execution of multiple, simultaneous, brigade missions. The RSE can move forward of the brigade and find the best routes in terms of speed and protection of the force. The RSE can provide that information to the brigade in time for the brigade to make the adjustments needed to continue the quickest possible advance. An RSE, better than any other source, can provide the most recent on-the-ground updates on terrain and can even reconnioter routes and bridges. In operational tests, the RSE helped brigade commanders maintain control over the momentum of the battle. This improvement in battle command led to quicker accomplishment of the mission with fewer casualties. Further, RSEs improve battle command by freeing the battalion scout platoons from brigade reconnaissance and security missions. The RSE also provided the key element between the divisional cavalry squadron and the fighting battalions. An RSE also allows the division commander more freedom to concentrate his cavalry squadron on division critical areas. RSEs set these conditions by protecting the force, providing

early warning, and emplacing/guiding long-range killing systems into place.

Sixth, an organic RSE can increase the amount of and timelines of information a brigade receives by conducting reconnaissance and security missions. In the future, as in the past, the most reliable, timely and accurate information will come from the soldier on the ground. The RSE provides the brigade this HUMINT capability that will increase the information provided to the brigade. This increased information will allow the brigade commander to see opportunities quicker and help him immediately exploit those opportunities. This increase in information will increase the brigade's ability to operate on tomorrow's battlefield. Without an organic RSE, brigades are unable to see the critical places on the battlefield. The brigade's inability to see the critcal places on the battlefield also keeps the division from seeing the battlefield as well. Brigades need RSEs because long range senors cannot see through reduced visibility conditions. Brigades also need RSEs because JSTARS cannot detect an enemy who is not moving and SIGINT cannot detect the enemy who is not transmitting. Further, brigades need RSEs because major intelligence systems and UAVs would have difficulty identifying and locating high resolution threats in the brigade's main battle area. Senors can complement but they cannot replace good reconnaissance and they cannot develop the situation. More specifically, the brigade commander needs an RSE to verify information from division and other sources. The brigade commander also needs an RSE to gain detailed information for planning and near real-time information on enemy movements. Division and corps operational

intelligence support is fifteen to thirty kilometers forward of the FLOT. Therefore, the division and corps intelligence support does not provide the brigade with information about the enemy required five to fifteen kilometers forward of the FLOT. The brigade RSE reconnaissance and intelligence collection activities will integrate with the division and battalion collection activities to synergistically improve the division's total reconnaissance and intelligence collection effort.

Seventh, the threat caused by the disintegration of the Soviet Union has been associated with decreasing stability in the world. Many areas subject to increased turmoil and instability may be of vital interest to the United States. Some nations and alliances in these areas possess regional military capabilities equivalent or nearly equivalent to member states of the former Warsaw Pact. These capabilities include modern main battle tanks and aircraft; large standing armies; and advanced command, control, and communications technology. Future threats require the Force XXI brigade to have an organic RSE. Some of these threats are nonlinear battlefields, the lack of secure flanks, and the uncertain and changing environment. The Army designed its force for a battlefields significantly different from those of today. The norm in the past was to rely on secure flanks and adjacent units; the norm now is that units cannot rely on secure flanks. Future brigade ability to template the battlefield will be less precise if the brigade does not have an organic RSE. The intelligence preparation of the battlefield (IPB) on the future battlefield is more vague and less precise. RSEs can conduct reconnaissance and security missions to provide information to reduce the vagueness and increase the

precision of the brigade's IPB. Decreased force density will place a premium on reconnaissance and security forces. The new battlefield has more unknowns (noncontiguous forces, greater dimensions). A brigade with an organic RSE can reduce these unknowns by accomplishing reconnaissance and security missions for the brigade.

Eighth, an organic RSE will help the Force XXI brigade protect the force. An organic RSE will improve the brigade's ability to identify the enemy at a greater range. The RSE will give the brigade an organic unit to which it can assign security missions for the brigade. These security missions will provide information about the enemy and provide reaction time, maneuver space, and protection. Commanders at every echelon have the requirement to secure their force. Brigade commanders cannot delegate responsibility to secure their force. Force protection in the future will be more difficult with unsecured flanks and fewer adjacent units. Currently, battalion scout platoons cannot get out far enough to satisfy brigade requirements. These scout platoons are also vulnerable to fires because they are in HMMWVs (high mobility multipurpose wheeled vehicle). The RSE can also protect the information gathering forces by causing the enemy to focus his resources on combating human intelligence (HUMINT) assets in addition to SIGINT and JSTARS systems.

Ninth, an organic RSE will increase the Force XXI brigade's ability to increase the tempo. Force XXI brigades increase the tempo by maintaining relentless pressure on the enemy to prevent him from recovering from the shock and effects of the attack. An RSE can help a brigade achieve this increased tempo by increasing the brigade's ability

to conduct simultaneous operations. The RSE can increase the tempo by providing more responsive information directly to the brigade. This information allows the commander to seize critical opportunities and take advantage of them. Brigades with RSEs can better conduct counterreconnaissance operations that will strip away the enemy's ground reconnaissance. The stripping away of the enemy's reconnaissance will allow the brigade commander to operate inside the decision cycle of the enemy who will be operating blindly.

Based on the research conducted for this paper, I recommend the following future studies, testing, and implementation.

The Army should conduct future simulation-based studies to quantify better the increased benefits an RSE provides a brigade. These studies should also focus on identifying the personnel and equipment for the RSE and which areas these will come from if additional funds cannot be acquired to pay for these additions. These studies should find the different levels of benefit provided by the three different RSEs recommended by Fort Knox in the "Reconnaissance and Security Force Review Phase I," "Brigade Reconnaissance and Security Element (RSE)." Knowing the different levels of benefit will help the Army make the best decision on which RSE to test and implement. The Army should measure the benefit of the three types of RSEs already evaluated by Fort Knox against brigades without RSEs.

The Army should validate the results of the studies and simulations with field testing. The Army should use focused rotations at the NTC as the first step in the field testing. These field tests should compare brigades with each of the three types of RSEs recommended

by Fort Knox against brigades without RSEs. The Army should conduct further home station field testing after the focused rotation tests are complete. The Army should give the three different types of RSEs to three brigades and compare these three brigades with brigades without RSEs. The Army should validate the cost analysis in the Fort Knox study during all these tests.

The results from these studies and field tests will tell the Army what the different organic RSEs can do for the Force XXI brigade. These results will also show how much the different organic RSEs will cost. With this information the Army can answer the thesis question: Does the Force XXI Heavy Brigade Need an Organic RSE? If the answer is yes, the Army will have the information to decide which type of RSE to field in the Force XXI brigade.

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