The AirLand Battle Future Heavy Brigade and Low-Intensity Conflict Contingency Operations

A Monograph
by
Major Robin P. Swan
Infantry

School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

First Term AY 90-91

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	13/12/90	MONOGRAPH

4. TITLE AND SUBTITLE
THE AIRLAND BATTLE FUTURE HEAVY BRIGADE AND LOW-INTENSITY CONFLICT CONTINGENCY OPERATIONS. (U)

5. FUNDING NUMBERS

6. AUTHOR(S)
MAJ ROBIN P. SWAN, USA

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
SCHOOL OF ADVANCED MILITARY STUDIES
ATTN: ATZL-SWV
FORT LEAVENWORTH, KANSAS 66027-6900
COM (913) 684-3437 AUTOVON 552-3437

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED.

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

This monograph analyzes the currently envisioned AirLand Battle Future (ALB-F) heavy brigade's organization to determine its ability to conduct contingency operations in low-intensity conflict environments. The research approach includes a discussion of the ALB-F operational concept; definitions of the evaluation criteria of intelligence, fire support, maneuver, and combat service support; historical analysis of heavy force operations in Vietnam and Afghanistan; analysis of the ALB-F heavy brigade organization; conclusions; and implications. Heavy force operations in Vietnam and Afghanistan provided valuable insights into the capabilities required of heavy forces operating in low-intensity conflict environmnets. The required capabilities derived from this historical analysis provided the basis for the examination of the ALB-F heavy brigade organization. The study concludes that the currently envisioned ALB-F heavy brigade can conduct contingency operations in low-intensity conflict environments. However, to do so successfully, it must be tailored with the correct mix of intelligence, fire support, maneuver, and combat service support assets. The implications section includes augmentation matrices to assist with contingency planning.

14. SUBJECT TERMS		15. NUMBER OF PAGES
AIRLAND BATTLE FUTURE	CONTINGENCY OPERATIONS	51
HEAVY BRIGADE	INTELLIGENCE	16. PRICE CODE
LOW INTENSITY CONFLICT	FIRE SUPPORT	

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNLIMITED

SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

Major Robin P. Swan

Title of Monograph: The AirLand Battle Future Heavy Brigade and Low-Intensity Conflict Contingency Operations

Approved By:

Douglas Hendricks

LtCol Douglas O. Hendricks, MA — Monograph Director

COL Gordon F. Atcheson, MA — Director, School of Advanced Military Studies

Philip J. Brookes

Philip J. Brookes, Ph.D. — Director, Graduate Degree Program

Accepted this 13th day of December 1990

ABSTRACT

THE AIRLAND BATTLE FUTURE HEAVY BRIGADE AND LOW-INTENSITY CONFLICT CONTINGENCY OPERATIONS by Major Robin P. Swan, USA, 51 pages.

This monograph analyzes the currently envisioned AirLand Battle Future (ALB-F) heavy brigade's organization to determine its ability to conduct contingency operations in low-intensity conflict environments. The research approach includes a discussion of the ALB-F operational concept; definitions of the evaluation criteria of intelligence, fire support, maneuver, and combat services support; historical analysis of heavy force operations in Vietnam and Afghanistan; analysis of the ALB-F heavy brigade organization; conclusions; and implications.

Heavy force operations in Vietnam and Afghanistan provided valuable insights into the capabilities required of heavy forces operating in low-intensity conflict environments. The required capabilities derived from this historical analysis provided the basis for the examination of the ALB-F heavy brigade organization.

The study concludes that the currently envisioned ALB-F heavy brigade organization can conduct contingency operations in low-intensity conflict environments. However, to do so successfully, it must be tailored with the correct mix of intelligence, fire support, maneuver, and combat service support assets. The implications section contains augmentation matrices designed to assist contingency planners with tailoring ALB-F heavy brigade forces for operations in low-intensity conflict environments.

Table of Contents

I. Introduction

In 1986, then Congressman Richard B. Cheney wrote, "Military force applications in the future are likely to be of greater variety and complexity than presently being considered in our force structure."[1] The variety and complexity of force application mentioned in his prediction provide the requirement for the versatile, deployable, and lethal Army of the future envisioned by General Carl E. Vuono.[2]

A versatile Army will respond to a variety of threats to U.S. security interests with the correct mix of tailored combat forces capable of conducting decisive combat operations spanning the operational continuum.[3] A deployable army will use strategic lift assets to rapidly deploy tailored force packages to a crisis area. A lethal Army will have the ability to defeat adversaries on an increasingly complex battlefield created by technological advances and the proliferation of sophisticated weapons throughout the world.[4] To meet the requirements of this future force, the Army is analyzing the AirLand Battle-Future (ALB-F) Umbrella Concept.

The ALB-F Umbrella Concept, ". . .links future Army force capabilities with projected national interests and strategy."[5] Four trends link these future capabilities with projected interests and strategies. First, the cost, range, lethality, and accuracy of future weapon systems will increase. This means there will be fewer systems with greater accuracy on the battlefield. Second, there will be fewer combat forces on the future battlefield. Consequently, battlefield density will decrease and operations will tend toward nonlinear warfare. Third, the chances of global nuclear and high-intensity warfare will decrease while those of regional low- to mid-intensity conflicts will increase. The resultant need is for a balanced force mix for operations spanning the operational continuum. Finally, reduced defense budgets and a population decrease in military age personnel will result in a smaller, less expensive army.[6] These trends directly impact on future force design and operational concepts including the nonlinear nature of future conflicts.

The above trends have impacted on the development of the operational portion of the ALB-F Umbrella Concept. The operational concept is based on two key assumptions regarding future technology. First, in the future we will have the ability to know where the enemy

is most of the time. Second, we will be able to engage him at long ranges with highly accurate and lethal systems.[7] These assumptions led to the development of a four-phase operational concept.

The four phases of the ALB-F operational concept are detection, fires, maneuver, and recovery.[8] The actions included in each phase closely parallel the operating system functions of intelligence, fire support, maneuver, and combat service support. Conceptually, these phases have applicability for operations spanning the operational continuum.

To execute missions within the operational continuum, the ALB-F Umbrella Concept identifies five types of required future forces. First, forward deployed forces will be stationed in areas most important to our national interests and the interests of our allies. Second, contingency forces tailored for a given crisis situation can intervene to protect vital U.S. interests. Third, reinforcing forces stationed in CONUS can be used to augment forward deployed or contingency forces. Fourth, nation assistance forces can enhance stability and security for U.S. supported nations. Finally, unique mission forces are designed for specific missions such as unconventional warfare,

space support, and strategic defense.[9] What region of the operational continuum will these future forces most likely be employed?

Secretary of the Army Michael P.W. Stone and Chief of Staff of the Army General Carl E. Vuono write, "LIC [low-intensity conflict] is the security challenge most likely to confront the Army of the 1990s."[10] Army doctrine defines low-intensity conflict as:

> ...a politico-military confrontation between contending states or groups below conventional war and above the routine, peaceful competition among states. It frequently involves protracted struggles of competing principles and ideologies. Low intensity conflict ranges from subversion to the use of armed force. It is waged by a combination of means, employing political, economic, informational, and military instruments. Low intensity conflicts are often localized, generally in the Third World, but contain regional and global security implications.[11]

Additionally, Army doctrine identifies four operational categories of military action in response to regional threats within a low-intensity conflict environment. These categories are: support for insurgency and counterinsurgency, combatting terrorism, peacekeeping operations, and peacetime contingency operations.[12] Tailored ALB-F contingency forces could be deployed in response to threats in each of these categories. However, the categories most likely to involve heavy forces are support for insurgency and counterinsurgency and peacetime contingency operations. ALB-F heavy

force designs must be carefully analyzed to ensure they possess the capabilities required to successfully conduct these operations.

The Army is currently analyzing the ALB-F operational concept and considering force structure changes required to execute it. This analysis is not an easy task for it must consider each of the five types of forces conducting operations spanning the operational continuum. To assist with this analysis, I considered the organization of the ALB-F heavy brigade to answer the following question: Can the ALB-F heavy brigade as currently envisioned conduct contingency operations within the realm of low-intensity conflict? The answer will identify the capabilities required of a heavy brigade to conduct these types of operations which in turn can be used as the basis for force structuring and tailoring decisions.

I used a building block research approach to answer the research question. First, I selected intelligence, fire support, maneuver, and combat service support as criteria to evaluate the ALB-F heavy brigade organization. Next, I attempted to establish the theoretical validity of the criteria in relation to the phases of the ALB-F operational concept because the envisioned brigade organization is based on those

phases. I then examined how heavy forces historically conducted intelligence, fire support, maneuver, and combat service support functions in the low-intensity conflict environments of Vietnam and Afghanistan. Next, I analyzed the envisioned ALB-F heavy brigade organization to determine its ability to execute the functions identified by the criteria in the realm of low-intensity conflict. This analysis process led to conclusions which answered the research question. Finally, I present several implications of my research regarding force tailoring in hopes of assisting ALB-F planners in this difficult but essential endeavor.

II. The Operational Concept of AirLand Battle-Future

The ALB-F operational concept consists of four phases: detection, fires, maneuver, and recovery. The currently envisioned ALB-F heavy brigade organization was designed to operate within these phases. In this section, I will describe the phases of the ALB-F operational concept, and define the evaluation criteria I will use for analysis of the ALB-F heavy brigade's organization. Additionally, I will discuss what several military theorists have said regarding the criteria's relevance to the conduct of war.

Phase I of the ALB-F operational concept is the detection of enemy forces. During this phase, the corps commander receives timely and accurate intelligence of the enemy enabling him to respond to changing battlefield situations and to set the conditions for the employment of his forces during subsequent phases.[13] To do so, he must use all available intelligence assets to gain a reliable picture of the enemy. FM 101-5-1, Operational Terms and Symbols, defines intelligence as:

> 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 and which is immediately or potentially significant to military planning and operations.[14]

Insights regarding the importance of intelligence can be gained from the writings of theorists Carl von Clausewitz and J. F. C. Fuller.

Clausewitz defined intelligence as, ". . .every sort of information about the enemy and his country - the basis, in short, of our own plans and operations."[15] He was, however, skeptical about the reliability of information reaching the commander, and believed the commander needed to exercise good judgement when developing plans and orders.[16] Nevertheless,

he understood the importance of intelligence as the foundation of operations. J. F. C. Fuller also understood the importance of intelligence.

Regarding information which, once processed, becomes intelligence, Fuller states:

> Information is the foundation of battle, . . . ; consequently information varies according to the nature of the forces engaged, their armaments, means of movement and protection, in fact their composition and general organization.[17]

In Fuller's view, thorough information about the enemy including his capabilities, doctrine, and organization is required before battle in order to properly employ weapon systems and maneuver forces during battle.

The observations of these two theorists regarding intelligence support detection as the first phase of the ALB-F concept. Accurate information about the enemy is essential in order to bring long range indirect fires then maneuver forces to bear.

The second phase of the ALB-F operational concept is the fires phase, and is intended to establish the conditions for successful offensive maneuver. During this phase, fire support means deliver lethal, long range fires on known enemy positions and formations identified during Phase I, detection.[18]

FM 101-5-1 defines fire support as:

> Assistance to those elements of the ground forces which close with the enemy such as infantry and

> armor units, rendered by delivering artillery and mortar fire, naval gun fire, and close air support air defense artillery, and army aviation.[19]

Fire support assets provide the means to establish the conditions for successful offensive maneuver which is the goal of Phase II. How are these conditions created? I believe the answer is found in Fuller's notion of fire supremacy.

Fuller describes fire supremacy as ". . .that crucial act of attack, the paralyzing of an opponent's power to hurl, so that he may be hit, and his strength depleted."[20] He believed that long range fire support assets such as artillery are used to limit the enemy's ability to use his short range weapons. These long range fire support assets then serve two purposes. First, they protect friendly forces from the enemy's ability to employ his fire systems. Second, they establish the conditions for friendly forces to conduct offensive action by means of attack.[21] These purposes precisely coincide with the intent of the ALB-F operational concept Phase II, fires.

The third phase of the ALB-F operational concept is maneuver. During this phase, brigade-based divisions maneuver to achieve a position of advantage over enemy forces that have been weakened, and disorganized by lethal, long range fires.[22] Once this advantage is attained, friendly forces conduct decisive

attacks to complete the destruction of the enemy. It is important to realize two separate actions occur in this phase; maneuver and attack.

FM 101-5-1 defines maneuver as, "The movement of forces supported by fire to achieve a position of advantage from which to destroy or threaten destruction of the enemy."[23] Although closely related, maneuver is not attack. I believe Clausewitz best described the distinction.

Clausewitz defined maneuver as follows: "It [maneuver] is a play of balanced forces whose aim is to bring about favorable conditions for success and then use them to gain an advantage over the enemy."[24] He clearly separated the goal of maneuver, positional advantage, from the aim of the attack, the destruction of the enemy. This distinction is important because of the options available to the enemy after a successful friendly maneuver. The enemy can accept battle, withdraw, or surrender.

The fourth and final phase of the ALB-F operational concept is recovery. During this phase, maneuver units return to support areas and conduct reconstitution and refitting operations in preparation for the next mission.[25] FM 101-5-1 defines combat service support as:

> The assistance provided to sustain combat forces, primarily in the fields of administration and

> logistics. It includes administrative services, chaplain services, civil affairs, food services, finance, legal services, maintenance, medical services, supply, transportation, and other logistical services.[26]

Insights regarding combat service support in nonlinear warfare can be gained from the experiences of T. E. Lawrence during the Arab Revolt against the Turks in 1916.

Lawrence believed there are two basic logistical capabilities required of forces fighting in a nonlinear war. First, they must possess the ability to sustain themselves for long periods because supply lines limit force agility and require dedicated combat forces to protect them.[27] Second, when resupply is necessary, it must come from an unassailable base protected from the threat of enemy attack.[28]

On the future nonlinear battlefield, combat forces may need to operate for extended periods with only emergency resupply capability. Also, support areas established during the recovery phase must be protected from enemy interdiction. This will permit combat forces to conduct uninterrupted combat service support operations in preparation for future missions.

Given the theoretical foundation of these criteria, I will next examine how they have been historically satisfied. Heavy forces conducted successful combat operations in the low-intensity

conflict environments of Vietnam and Afghanistan. Insights gained from an examination of their methods will provide a basis for the evaluation of the ALB-F heavy brigade organization.

III. Historical Analysis of Heavy Force Operations in Vietnam and Afghanistan

Heavy combined arms units were employed by the United States and Soviet Union in the low-intensity conflict environments of Vietnam and Afghanistan. The methods used by these forces to conduct intelligence, fire support, maneuver and combat service support functions provide valuable insights to evaluate the ALB-F heavy brigade organization. Because of the current paucity of detailed references regarding unit actions of Soviet heavy forces in Afghanistan, I derived the majority of my information from heavy force operations in Vietnam. However, I have included discussion of Soviet experience when available and applicable. In this section, I will briefly discuss each functional area, then summarize my findings for use during my analysis of the ALB-F heavy brigade.

INTELLIGENCE

Armor and mechanized units in Vietnam initially had difficulty gathering accurate and timely

intelligence on an elusive enemy, the Viet Cong (VC).[29] This difficulty is characteristic of the insurgent-type enemies found in low-intensity conflict environments. To overcome this difficulty, U.S. forces used several methods to gather information: human intelligence (HUMINT) and sensor collection.

HUMINT is defined in FM 34-1 as:

> . . .all information derived through human sources. Tactically, it is represented by interrogation of enemy prisoners of war and civilian detainees, translation of captured enemy documents, long range surveillance operations, patrols and observation posts, liaison with local military or paramilitary forces and the local populace, and most importantly, reports from friendly troops.[30]

Evidence gathered from the review of heavy force after action reports from Vietnam suggests they used each of these sources to gain intelligence on the enemy.

The ability to interrogate enemy prisoners of war, and process captured enemy documents and agent reports was of significant use to the 11th Armored Cavalry Regiment (ACR). The information gained from these sources provided useful data concerning the enemy's order of battle, his morale and supply situation, and insights into his political thinking and future intentions.[31] Two additional sources of HUMINT were from local intelligence agencies and the attachment of Republic of Vietnam (RVN) Regional Force/Popular Force (RF/PF) personnel.

U.S. units recognized the need to exploit local host-nation intelligence sources. Intelligence coverage of enemy activity was conducted by establishing liaison with local intelligence agencies, and sharing information regarding enemy activity and organization. Another source of local intelligence sources was the attachment of RF/PF personnel to U.S. mechanized infantry battalions. These personnel possessed thorough knowledge of the country and the local inhabitants, and provided information they gained on enemy activity directly to their supported unit.[32]

Several units developed their own programs to gain HUMINT from the local population. For example, the 1st Brigade, 5th Infantry Division conducted a Volunteer Informant Program (VIP) to collect enemy ordinance from local villagers. The program, administered by a counterintelligence (CI) section in coordination with PSYOPS and EOD teams, was designed to pay villagers for turning in found enemy ordinance. When villagers arrived at the turn-in site, they were questioned by members of the CI team. Valuable intelligence was then gained regarding enemy movements around the village.[33] More traditional methods of gaining tactical HUMINT were also used in Vietnam.

The use of ground and aerial reconnaissance was extensively used to gather HUMINT. However, the elusiveness of the VC often rendered routine patrolling efforts ineffective.[34] Manpower intensive methods such as saturation patrolling, checkerboard patrolling and the use of stay behind patrols often resulted in useful HUMINT from which to base tactical operations. Another method, the use of long range reconnaissance patrols, proved effective in sparsely inhabited areas, and assisted maneuver forces in conducting blocking operations with minimum committed force.[35]

Aerial reconnaissance capability using observation helicopters provided perhaps the best, most timely HUMINT. The 11th ACR, for example, extensively used aerial reconnaissance and found it to be both reliable and the source of invaluable data on enemy trails, movement, base areas, and friendly bomb damage assessment.[36] Besides HUMINT, heavy forces employed sensors to locate the enemy.

Technology provided U.S. forces in Vietnam with valuable sensor devices to locate the enemy. Side-looking airborne radar (SLAR), ground surveillance radar (GSR), airborne detectors, and ground motion detectors were several of the devices used with a degree of success. Response to indications from these devices ranged from artillery fire to the rapid

employment of airmobile troops. These devices were not infallible, however, and often provided false information because of terrain and weather conditions.[37] Unlike U.S. forces in Vietnam, there is currently no evidence to suggest the Soviets used sensors in Afghanistan.[38]

Available evidence of Soviet operations in Afghanistan suggests the Soviets, in the early years of action against the Mujahideen, displayed reluctance to patrol to gain HUMINT as aggressively as their American counterparts had in Vietnam. Soviet observer Edward Girardet suggests this result was perhaps from a Soviet ccncern of sustaining casualties against a force they felt ill-prepared to face.[39] However, as the war progressed, the Soviets developed more refined methods of counterinsurgency reconnaissance. Battalions of specialized reconnaissance troops (razvedbataliyon) were assigned to motorized rifle divisions, and reconnaissance companies (razvedrota) to motorized rifle regiments. These troops, combined with aerial reconnaissance assets, provided valuable intelligence to their parent units.[40]

FIRE SUPPORT

Fire support assets provided rapid responsive fires to U.S. forces in Vietnam, and included field artillery, attack helicopters, close air support, and

naval gunfire. The coordination of these assets to maximize their effectiveness was often a problem because of the terrain and weather conditions, and the elusive nature of the enemy.[41] The fire support methods employed by the 11th ACR provide a representative sample of those methods used by other U.S. heavy forces in Vietnam.

The 11th ACR extensively used field artillery in support of ground operations. Each mission conducted was within range of at least one supporting artillery unit, and the regiment positioned base camps to be mutually supporting. Additionally, Army of the Republic of Vietnam (ARVN) and U.S. artillery units provided continuous coverage along the routes of all convoys. Because support was often provided by ARVN artillery, the regiment's Fire Support Element (FSE) had to establish liaison with ARVN FA battalions.[42] A listing of the types of fire missions normally employed by the regiment follows:

1. Defensive concentrations
2. Observer adjusted missions (including aerial observer requests)
3. Intelligence missions (reconnaissance by fire)
4. Navigational marking rounds
5. Preparations
6. Preplanned fires on call
7. ARVN (host nation) support missions
8. Illumination missions
9. Harassing and interdiction missions[43]

Lastly, the regiment employed naval gunfire support

when conducting operations near coastal areas. To coordinate these missions, they required naval gunfire liaison officers (NGLO).[44]

In addition to artillery, heavy forces used Army aviation attack helicopters and Air Force close air support. Support provided by these assets ranged from direct support of ground operations to aerial convoy coverage. Unit commanders frequently credited both means with providing responsive fire support to committed units.[45]

Existing evidence suggests that in Afghanistan, the Soviets used their overwhelming artillery firepower, including close air support and attack helicopters to, as one observer wrote, ". . .create an impact on the enemy to be exploited by ground troops."[46] Their normal technique of movement would be for tank and motorized rifle columns to move into the constricting mountain valleys under constant fire support. After movement, their attacks would commence after massive aerial and indirect fire bombardment softened enemy positions.[47] One final comment regarding Soviet fire support is the emphasis they placed on attack helicopters to cover convoy and combat formation movement, and to find and attack enemy positions in the rugged, mountainous terrain of Afghanistan. This capability lead one observer to

comment, "The most effective weapon against the resistance [Mujahideen] is the MI-24 helicopter gunship."[48]

MANEUVER

To gain a position of advantage to destroy or threaten destruction of the elusive enemy on the nonlinear battlefield was difficult in Vietnam. To accomplish this task, U.S. heavy forces conducted three basic operations: search and destroy, clear and secure, and security. I will briefly discuss each of these missions to identify typical maneuver force requirements.

Heavy forces conducted search and destroy missions to locate enemy installations, destroy supplies, and destroy or capture VC forces. Search and destroy required dismounted infantry to physically search assigned zones. Once found, the enemy was then attacked by a combination of maneuver and blocking forces consisting of dismounted infantry, mechanized infantry, and armor units. The maneuver and blocking forces were also supported by artillery, attack helicopters, and close air support.[49]

Units assigned a clear and secure mission were tasked to drive the VC from a designated area and keep his forces from returning. The initial phases of clear and secure missions closely resembled search and

destroy, but differed later because of the forces required to keep the VC from returning. Lastly, clear and secure missions were often conducted in coordination with ARVN and Free World Military Assistance Forces.[50]

The final basic operation, security, consisted of convoy, route, base, and area security missions. The purposes of these missions were to protect convoy operations and secure key installations and routes. Heavy forces normally accomplished these missions with minimum committed force, but often had to react to strong VC attack with quick reaction reserves. The reaction reserves depended upon their speed to counter enemy activity, and were frequently composed of mechanized or airmobile forces.[51]

Soviet heavy forces conducted similar operations in Afghanistan, but adjusted tactics to the country's rugged, mountainous terrain. One adjustment was the emphasis placed on blocking operations to first encircle the Mujahideen, then subject them to massed artillery and aerial bombardment before attacking with regular motorized rifle forces.[52] The Soviets also employed outflanking detachments consisting of motorized rifle or dismounted air assault troops to clear ridges, encirle the enemy, and facilitate the employment of regular forces to conduct the attack.[53]

The low-intensity conflict environments of Vietnam and Afghanistan also required different approaches in conducting combat service support operations.

COMBAT SERVICE SUPPORT

Nonlinear operations, an elusive enemy, and the terrain conditions of an underdeveloped theater caused most combat service support difficulties in Vietnam. To meet the demands of these conditions, heavy forces provided support to forward units from relatively secure base camps. Overland supply routes from these base camps were often not secure enough to permit resupply overland. Therefore, units had to rely on helicopters to provide aerial resupply, casualty evacuation, and transport.[54] When conditions required overland resupply, maneuver units first cleared the route, then accompanied convoys to and from their destinations. Additionally, combined operations posed a combat service support problem for U.S. heavy forces.

Heavy forces frequently conducted combined operations with ARVN and RF/PF forces. In one such operation, the 1st Brigade, 5th Infantry Division found the RF/PF force they were working with not organized to conduct prolonged combat operations. These forces frequently were not supplied with field rations, and had to purchase their supplies from local villagers. Additionally, they often relied on the brigade to

provide medical and maintenance support. These conditions prompted the brigade to recommend that if combined operations were planned for more than one week in duration, the brigade should assume the full combat service support function of the RF/PF force.[55] Soviet forces in Afghanistan experienced similar combat service support problems.

Available evidence from Afghanistan suggests Soviet heavy forces adopted similar methods of combat service support as U.S. forces in Vietnam. The poor local logistic infrastructure, undeveloped road and rail networks, and the rugged terrain of Afghanistan made the execution of combat service support functions difficult. Additionally, Soviet supply columns were frequently subject to interdiction by the elusive Mujahideen.[56] To overcome these difficulties, the Soviets developed secure supply bases, committed combat units to base and route security, and relied on helicopters to deliver supplies and evacuate the wounded.[57]

In summary, heavy forces have been successfully employed in low-intensity conflict. The methods they used to conduct intelligence, fire support, maneuver, and combat service support functions on the nonlinear

battlefields of Vietnam and Afghanistan provide valuable insights into the conduct of low-intensity warfare.

IV. Analysis of the ALB-F Heavy Brigade Organization

In this section, I will analyze the ALB-F heavy brigade's organization to determine its ability to conduct contingency operations in a low-intensity conflict environment. To do so, I will briefly discuss the doctrinal foundation for heavy force introduction in contingency operations. Next, I will describe the currently envisioned ALB-F heavy brigade organization. Finally, I will analyze the brigade's ability to conduct intelligence, fire support, maneuver, and combat service support functions in a low-intensity conflict environment.

FM 71-100, Division Operations, establishes the doctrinal foundation for the possible employment of heavy brigades in contingency operations which span the operational continuum. These operations will commence with the movement of the division's assault force, a tailored brigade-sized element, to the contingency area by air or sea. Navy and Air Force aircraft will provide the necessary fire support for the assault force during this initial phase. After seizing an

initial lodgment, the brigade assault force will be assigned missions based on the division's mission, enemy, terrain, troops, and time available (METT-T) assessment. These missions may range from securing the lodgment and awaiting the arrival of division follow-on forces, to the conduct of combat operations.[58]

A brigade headquarters serves as the division's assault force base, and is tailored with appropriate combat, combat support, and combat service support elements. Division command and control elements including the TAC CP and major staff section representatives will accompany the assault force into the contingency area. Following the deployment phase, subsequent phases of the contingency operation include force buildup of the division's follow-on forces and the conduct of decisive combat operations.[59] In the future, ALB-F heavy brigades may serve as the assault force, or as part of the division's follow-on forces for the conduct of contingency operations. ALB-F mechanized infantry and armor brigade base organizations can be augmented to accomplish either of these roles.

The 2,237 personnel ALB-F mechanized infantry brigade revised base case organization is shown in figure 1.[60] The 1,992 personnel armor brigade differs from the mechanized infantry brigade only in the mix of

maneuver battalions. Intelligence support is provided by a military intelligence company and scout platoons assigned to the brigade HHC and the three maneuver battalions. A direct support field artillery battalion consisting of three M109A6 Howitzer Improvement Program (HIP) howitzer batteries and one non-line of sight-antitank (NLOS-AT) battery provides fire support to the brigade. Additional fire support is provided by 81mm mortar platoons organic to the maneuver battalions.[61]

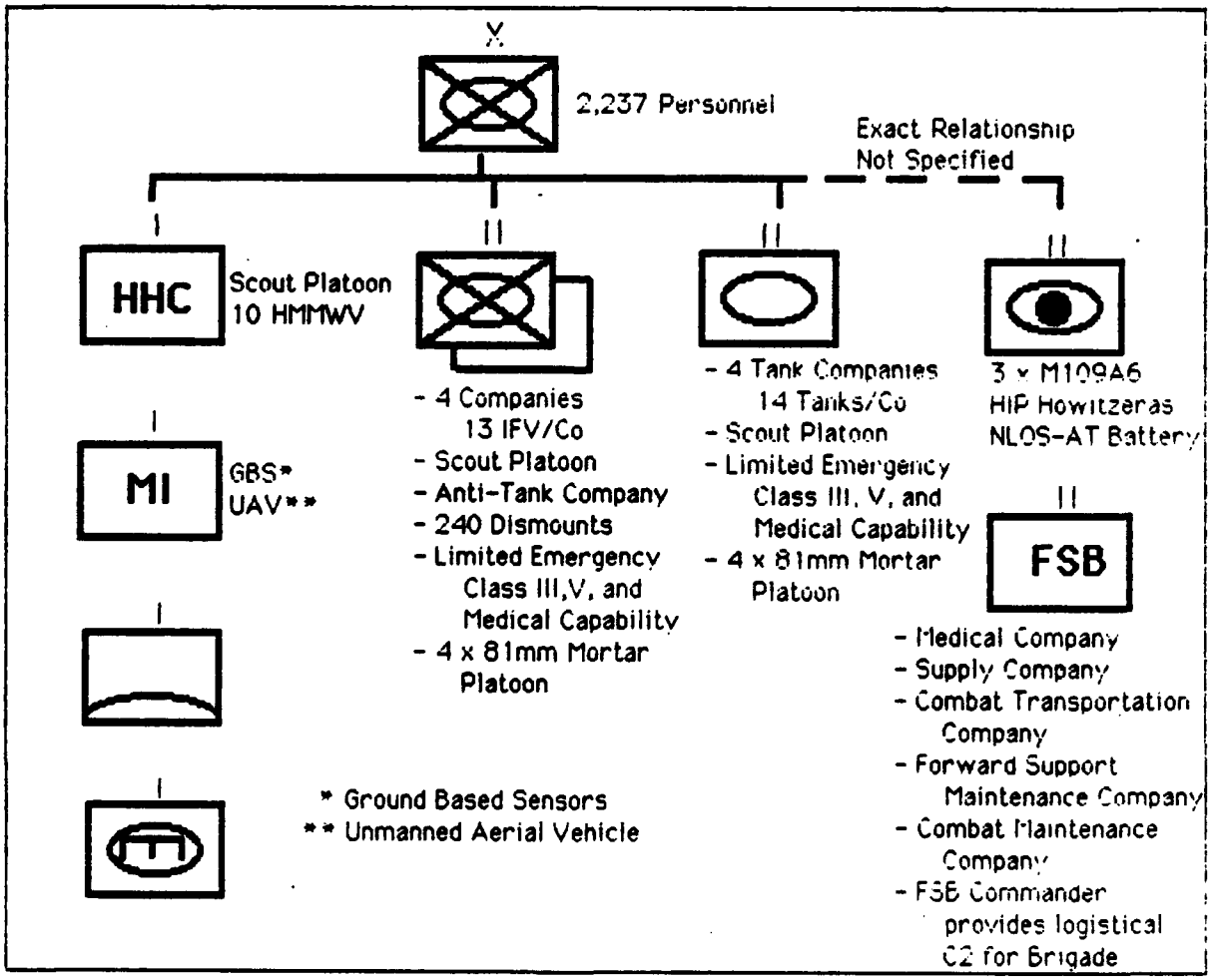

Figure 1. ALB-F Mechanized Infantry Brigade Organization.[62]

Maneuver units include two mechanized infantry battalions and one armor battalion in the mechanized infantry brigade structure. Each mechanized infantry battalion consists of four line companies and an anti-tank company, and has a total dismount strength of 240 men. The armor battalion consists of four tank companies.[63]

The forward support battalion (FSB) providing combat service support to the brigade consists of the following units: medical company, supply company, combat maintenance company, maintenance company, and a combat transportation company. Its size is significantly greater than current FSB's because of an effort to lighten the logistic burden of the maneuver battalions in support of the operational concept. The combat service support capabilities of the maneuver battalions consist only of medical and emergency classes III and V support.[64] With this organization established, I will now analyze the brigade's organization for operations in low-intensity conflict.

Analysis of Brigade Intelligence Capabilities

Historical evidence from Vietnam and Afghanistan identified requirements for intelligence function execution in low-intensity conflict environments. This evidence supports the assertion that in the future, the

ALB-F heavy brigade must possess the ability to collect HUMINT and employ sensors to gain intelligence. The major intelligence capabilities required in low-intensity conflict and the brigade's possession of the means to execute them are summarized in Table 1.

ALB-F HEAVY BRIGADE INTELL CAPABILITIES
ANALYSIS OF BRIGADE ORGANIZATION FOR LIC

FUNCTION	CAPABILITY		
	YES	LIMITED	NO
•HUMINT			
▪CAPTURED DOCUMENT PROCESSING		X	
▪EPW INTERROGATION		X	
▪LIAISON WITH HOST NATION INTELLIGENCE AGENCIES		X	
▪GROUND RECONNAISSANCE	X		
▪AERIAL RECONNAISSANCE			X
▪LONG RANGE SURVEILLANCE			X
•SENSORS			
▪GROUND-BASED SENSORS	X		
▪UNMANNED AERIAL VEHICLE	X		
▪SLAR			X
▪GSR	X		

Table 1. ALB-F Heavy Brigade Intelligence Capabilities.

The MI company of the ALB-F heavy brigade will provide the following intelligence assets: collection and jamming (C&J) platoon, counterintelligence (CI) team, interrogation team, and a signal intelligence processing platoon.[65] In addition, it will provide ground-based sensor, unmanned aerial vehicle, and ground surveillance radar collection capability, but

must be augmented to provide SLAR intelligence. Depending on the nature of the enemy and the extent of nonlinearity of expected low-intensity conflict environments, the company, as currently organized, may provide only limited captured document processing, EPW interrogation, and liaison with host nation intelligence agencies. Additional augmentation may be required for complete coverage of the brigade's area of operations.

The scout platoons assigned to the brigade's HHC and maneuver battalions provide good ground reconnaissance capability. However, unless augmented with division assets, the brigade cannot conduct aerial reconnaissance. Lastly, the brigade has no organic long range surveillance capability, and should be augmented with a LRSU to provide HUMINT coverage of insurgent bases and trails in sparsely inhabited areas.

Analysis of Brigade Fire Support Capabilities

At brigade level, fire support is ". . .the collective employment of field artillery, mortars, tactical aircraft, attack helicopters, and NGF [naval gunfire] in support of the battle plan."[66] Evidence gained from the analysis of heavy force operations in Vietnam and Afghanistan confirmed the requirement for these assets. Because of the nonlinear nature of these environments, heavy units also employed fire support

assets to provide coverage along lines of communication and to achieve mutual support between bases. A summary of the major fire support capabilities required in low-intensity conflict and the ALB-F heavy brigade's possession of the means to execute them are summarized in table 2.

ALB-F HEAVY BRIGADE FIRE SUPPORT CAPABILITIES
ANALYSIS OF BRIGADE ORGANIZATION FOR LIC

FUNCTION	CAPABILITY		
	YES	LIMITED	NO
•DEDICATED FIRE SUPPORT TO ORGANIC UNITS	X		
•ARTILLERY COVERAGE OF LINES OF COMMUNICATION		X	
•ABILITY TO ACHIEVE MUTUAL SUPPORT BETWEEN BASES		X	
•ATTACK HELICOPTER SUPPORT			X
•NAVAL GUN FIRE SUPPORT•			X
•CLOSE AIR SUPPORT	X		
•AVAILABILITY OF NGF DEPENDENT UPON AREA OF EMPLOYMENT			

Table 2. ALB-F Heavy Brigade Fire Support Capabilities.

A direct support field artillery battalion equipped with the M109A6 HIP howitzer and three 81mm mortar platoons organic to the maneuver battalions provide dedicated fire support to the organic units of the ALB-F heavy brigade. However, the area of employment and the nature of the enemy may require

additional artillery augmentation in a low-intensity conflict environment for two reasons. First, insurgent activity is commonly directed against the interdiction of convoy movement along supply routes. Continuous artillery coverage along convoy routes will provide responsive support to ambush. Secondly, bases established to support counterinsurgency operations of maneuver forces may be separated by great distances on a nonlinear battlefield. Additional artillery batteries positioned in the bases can provide mutual support in the event of massed attack. Other fire support assets are also of great benefit in low-intensity conflict environments.

U.S. and Soviet heavy forces used attack helicopters extensively in Vietnam and Afghanistan. The ALB-F heavy brigade augmented with attack helicopters would have an additional responsive fire support asset for convoy coverage and support of maneuver forces. Naval gunfire support provides another fire support asset for operations around coastal areas. The brigade will require an air and naval gunfire liaison company (ANGLICO) team if employed within naval gunfire range. Finally, the Air Force or Navy will provide close air support to the brigade. An air liaison officer (ALO) with a tactical air control party (TACP) or an ANGLICO team

will provide the necessary control for close air support employment, and, combined with attack helicopter support, the capability to conduct joint air attack team operations.

Analysis of Brigade Maneuver Capabilities

In Vietnam and Afghanistan, U.S. and Soviet heavy forces conducted combined arms operations to gain a position of advantage from which to destroy or threaten destruction of their elusive enemies. Armor and mechanized infantry units conducted search and destroy, clear and secure, and security missions to destroy the enemy, deny him access to his bases of support, and to protect friendly installations and supply routes. A summary of the major maneuver capabilities required in a low-intensity conflict environment, and the ALB-F heavy brigade's possession of the means to execute them are summarized in table 3.

The maneuver elements of the ALB-F mechanized infantry heavy brigade consist of two mechanized infantry battalions and one armor battalion. This mix gives the brigade commander the flexibility to task organize his forces based on the factors of METT-T to create optimum maneuver capability against insurgent forces on a nonlinear battlefield. However, historical evidence suggests the dismounted infantry strength required to conduct search and destroy, clear and

secure, and security missions exceeds that of the 480 man dismount strength of the ALB-F heavy brigade. The nature of the low intensity-conflict environment may require augmentation of a light infantry company or battalion to provide the ALB-F brigade necessary dismounted infantry strength to conduct the missions discussed above including base and LOC security. The ability to conduct air assault operations is also of value in low-intensity conflict environments.

ALB-F HEAVY BRIGADE MANEUVER CAPABILITIES
ANALYSIS OF BRIGADE ORGANIZATION FOR LIC

FUNCTION	CAPABILITY		
	YES	LIMITED	NO
•COMBINED ARMS OPERATIONS	X		
•INFANTRY STRENGTH FOR:			
▪SEARCH AND DESTROY		X	
▪CLEAR AND SECURE		X	
▪SECURITY		X	
•FORCES FOR LOC SECURITY		X	
•AIR ASSAULT CAPABILITY			X

Table 3. ALB-F Heavy Brigade Maneuver Capabilities.

Heavy forces in Vietnam and Afghanistan used helicopters and dismounted infantry to conduct air assault operations against the enemy. The tactical mobility advantage gained through air assaults assisted

maneuver forces to quickly gain a positional advantage in relation to the enemy. If augmented with helicopter lift assets, the ALB-F heavy brigade could rapidly respond to changing enemy situations with increased flexibility provided by increased mobility. The final section of analysis is the ALB-F heavy brigade's combat service support capabilities.

Analysis of Brigade Combat Service Support Capabilities

FM 71-3, Armored and Mechanized Infantry Brigade, states that the objective of combat service support is to ". . .maintain maximum combat power and momentum by sustaining combat forces."[67] Historical evidence from heavy force operations in Vietnam and Afghanistan indicates that heavy forces had the organizational structure to adequately provide support to combat units. However, the nonlinear nature of the respective low-intensity conflict environments made moving and protecting supplies, personnel, and bases a problem. The major combat service support capabilities required in a low-intensity conflict environment and the brigade's possession of the means to execute them are summarized in table 4.

The FSB provides combat service support to the ALB-F heavy brigade. Its organization includes the necessary medical, maintenance, supply, and transportation assets to fulfill its function.

ALB-F HEAVY BRIGADE CSS CAPABILITIES
ANALYSIS OF BRIGADE ORGANIZATION FOR LIC

FUNCTION	CAPABILITY		
	YES	LIMITED	NO
•SUPPORT TO ORGANIC UNITS	X		
•AERIAL RESUPPLY			X
•AERIAL CASUALTY EVACUATION			X
•SUPPORT FOR HOST NATION FORCES		X	
•BASE SECURITY		X	
•SUPPLY ROUTE SECURITY		X	

Table 4. ALB-F Heavy Brigade Combat Service Support Capabilities.

However, the ability of the brigade to conduct resupply, casualty evacuation, and support to host nation forces may require augmentation.

Helicopter lift assets to conduct aerial resupply and emergency medical evacuation will increase the ALB-F heavy brigade's flexibility to conduct combat service support operations. Additionally, the brigade may frequently conduct combined operations with host nation forces that do not possess the ability to support themselves. Augmentation of the FSB to provide support to host nation forces will assist the effectiveness of their employment. Historical evidence

from Vietnam and Afghanistan supports these requirements.

Base and supply route security will be concerns of the brigade and FSB commanders. Insurgent attack of base defenses around the FSB will interrupt operations and possibly destroy vital equipment. Additionally, convoys moving along main supply routes will be vulnerable to insurgent attack. Combat unit augmentation of base and convoy defenses, coupled with aerial resupply capabilities will decrease the chances of combat service support interruptions.

In summary, this analysis of the ALB-F heavy brigade organization provides insights into its capabilities for conducting contingency operations within a low-intensity conflict environment. This environment will stress the brigade's ability to conduct intelligence, fire support, maneuver, and combat service support functions. Augmentation of the existing brigade organization will result in a more potent fighting force capable of meeting the challenges of low-intensity conflict.

V. Conclusion

Can the ALB-F heavy brigade as currently envisioned conduct contingency operations within the

realm of low-intensity conflict? My conclusion is that it can. But to do successfully, it must be augmented with the correct intelligence, fire support, maneuver, and combat service support assets required for operations in a low-intensity conflict environment.

If low-intensity conflict is the most likely security challenge for U.S. forces in the future, we can expect that heavy forces will play a vital role in response to threats to U.S. security interests within that environment. However, the currently envisioned organization of the ALB-F heavy brigade was designed for brigade operations spanning the mid- to high-intensity regions of the operational continuum on a nonlinear battlefield.

Future contingency operation planning must take into account that an ALB-F heavy brigade may be employed in response to a regional low-intensity conflict contingency. The contingency operations the brigade will most likely conduct include support for insurgency and counterinsurgency and peacetime contingency operations. The urgency of the contingency may require the brigade to deploy into a crisis area without division and corps assets in place to initially support its operations. Correct tailoring of the brigade with intelligence, fire support, maneuver, and combat service support assets identified from the

historical analysis of heavy force operations in Vietnam and Afghanistan will be essential if the brigade is expected to successfully execute its assigned missions. In the following section, I will provide tailoring information derived from my analysis of the ALB-F brigade's organization.

VI. Implications

As discussed above, proper force tailoring of the ALB-F heavy brigade will be required for it to successfully conduct contingency operations in a low-intensity conflict environment. The following tables provide intelligence, fire support, maneuver, and combat service support augmentation information. Actual augmentation of the ALB-F heavy brigade will depend on the type of contingency operation, the physical characteristics of the area of operations, and the nature of the enemy.

I constructed the tables following the example of a contingency operation augmentation matrix contained in FM-71-100, Division Operations.[68] Used as a guide, the tables can provide a framework for planners to use when making ALB-F heavy brigade tailoring decisions. The implication for planners not following these or similar guides may be the employment of an ALB-F heavy

brigade not correctly tailored to conduct contingency operations in a low-intensity conflict environment.

Table 5 lists intelligence support augmentation for the ALB-F heavy brigade. Three items require emphasis. First, personnel in the counterintelligence and interrogation support teams must possess the necessary language skills for the contingency area of employment. Second, the ALB-F brigade S-2 should serve as the interface element to coordinate all augmenting force activities. Finally, competing mission priorities may force the providing units to further tailor the augmenting elements so all mission requirements can be met.

INTELLIGENCE AUGMENTATION MATRIX
ALB-F BRIGADE CONTINGENCY OPERATIONS IN LIC

BATTLEFIELD OPERATING SYSTEM	TYPE AUGMENTATION	BRIGADE INTERFACE ELEMENT	CANDIDATE AUGMENTING ELEMENT	PROVIDING UNIT
INTELLIGENCE				
•ADDITIONAL CI AND INTERROGATION SUPPORT	FORCES	S2	CI AND INTERRO-GATION TEAMS	DIV MI BN
•AERIAL RECONNAISSANCE	FORCES	S2/S3	AIR CAV TROOP	DIV AVN BDE
•LRS	FORCES	S2	LRSU	DIV MI BN
•SLAR	SUPPORT	S2	SLAR ACFT	CORPS MI BDE TAC XPLT BN

Table 5. Intelligence Augmentation Matrix.

Fire support augmentation is listed in table 6. These augmentation assets have historically provided responsive fire support to maneuver units as well as coverage for supply routes and bases. I included naval gunfire and aviation support because the ALB-F heavy brigade may be deployed to a contingency area by sea, and conduct combat operations within the ranges of these assets.

FIRE SUPPORT AUGMENTATION MATRIX
ALB-F BRIGADE CONTINGENCY OPERATIONS IN LIC

BATTLEFIELD OPERATING SYSTEM	TYPE AUGMENTATION	BRIGADE INTERFACE ELEMENT	CANDIDATE AUGMENTING ELEMENT	PROVIDING UNIT
FIRE SUPPORT				
•ADDITIONAL 155mm M109A6 ARTILLERY SUPPORT	FORCES	FSCOORD/ S3	DS ARTY BN OF FOLLOW-ON FORCE	DIVARTY OR CORPS ARTY BDE
•ATTACK HELICOPTER SUPPORT	FORCES	S3	AIR CAV TROOP OR ATTACK HELICOPTER COMPANY	DIV AVN BDE
•NAVAL GUN FIRE	SUPPORT	FSCOORD/ S3	NAVAL FIRE SPT AND ANGLICO TEAM	SPT NAVAL HQ
•CLOSE AIR SPT	SUPPORT	FSCOORD/ S3/ALO	NAVAL OR AF AIR SQDN	SPT NAVAL AND AF HQ

Table 6. Fire Support Augmentation Matrix.

Table 7 lists maneuver augmentation. Light infantry and air assault helicopter support can provide greater flexibility to the brigade commander when

combatting insurgents in difficult terrain. These forces should operate as part of the combined arms team, and integrate their actions with those of the brigade's maneuver battalions.

MANEUVER AUGMENTATION MATRIX
ALB-F BRIGADE CONTINGENCY OPERATIONS IN LIC

BATTLEFIELD OPERATING SYSTEM	TYPE AUGMENTATION	BRIGADE INTERFACE ELEMENT	CANDIDATE AUGMENTING ELEMENT	PROVIDING UNIT
MANEUVER				
•ADDITIONAL DISMOUNTED INFANTRY	FORCES	S3	LIGHT INFANTRY COMPANY OR BATTALION	LIGHT INFANTRY DIVISION
•AIR ASSAULT HELICOPTER SUPPORT	SUPPORT	S3	COMBAT AVIATION COMPANY	DIV AVN BDE

Table 7. Maneuver Augmentation Matrix.

Combat service support augmentation is listed in table 8. The listed maneuver forces can accomplish route security tasks, and provide the forward support battalion commander with additional forces for base defense of the brigade support area. Finally, the forward support battalion cannot provide adequate combat service support to augmenting units without support augmentation from providing units.

COMBAT SERVICE SUPPORT AUGMENTATION MATRIX
ALB-F BRIGADE CONTINGENCY OPERATIONS IN LIC

BATTLEFIELD OPERATING SYSTEM	TYPE AUGMENTATION	BRIGADE INTERFACE ELEMENT	CANDIDATE AUGMENTING ELEMENT	PROVIDING UNIT
COMBAT SERVICE SUPPORT				
•AERIAL RESUPPLY	SUPPORT	FSB CDR/ SPT OPS	MED LIFT PLT (CH-47)	CORPS MEDIUM LIFT BN
•AERIAL MEDEVAC	SUPPORT	FSB CDR	MEDEVAC	CORPS MEDICAL BDE
•HOST NATION FORCE SPT	SUPPORT	FSB CDR	CSS SPT AS REQUIRED	FSB AND MSB OF DISCOM
•CSS SPT OF ATTACHMENTS	SUPPORT	FSB CDR/ SPT OPS	PER TASK ORG	PARENT UNIT
•BASE AND ROUTE SECURITY	FORCES	BDE CDR/ S3	LIGHT OR MECH INF COMPANY	BDE

Table 8. Combat Service Support Augmentation.

In conclusion, the analysis of heavy force operations in Vietnam and Afghanistan provide valuable insights regarding capabilities required of heavy forces operating within low-intensity conflict environments. The threats posed by elusive insurgent-type enemies found within these nonlinear environments will place great demands on the ALB-F heavy brigade's organizational ability to conduct the intelligence, fire support, maneuver, and combat service support functions I have identified. To meet these demands, commanders and staff planners must tailor the brigade with the correct mix of combat,

combat support, and combat service support forces.

The ALB-F heavy brigade can conduct contingency operations within a low-intensity conflict environment, but it must be properly tailored to do so. The augmentation information I have presented can provide a guide to commanders and staff planners when tailoring contingency forces for operations within that environment. If regional low-intensity conflicts pose the greatest future threats to U.S. security interests, tailored ALB-F heavy brigades can successfully meet the challenges required to counter those threats.

ENDNOTES

[1] Richard B. Cheney and Thomas N. Harvey, "Strategic Underpinnings of a Future Force," Military Review 68 (October 1986), 5.

[2] Department of the Army, Trained and Ready: The United States Army Posture Statement, FY 91, (Washington, D.C.: Government Printing Office, 1990), 10.

[3] Ibid., 10-11.

[4] Ibid., 14.

[5] Department of the Army, AirLand Battle Future Umbrella Concept, (Fort Leavenworth, Ks.: U.S. Army Combined Arms Combat Development Activity, 1990), 1.

[6] Ibid., 7.

[7] Department of the Army, AirLand Battle Future Alternate Base Case Study Phase V, (Fort Leavenworth, Ks.: U.S. Army Combined Arms Combat Development Activity, 1990), IV-21.

[8] Department of the Army, AirLand Battle Future Alternate Base Case Study Phase III, (Fort Leavenworth, Ks.: U.S. Army Combined Arms Combat Development Activity, 1990), IV-B-2 to IV-B-7.

[9] Department of the Army, Umbrella Concept, 16-20.

[10] Department of the Army, Army Posture Statement, IV-2.

[11] Department of the Army, FM 100-20, Military Operations in Low Intensity Conflict, Approved Final Draft, (Washington, D.C.: Government Printing Office, 1989), 1-1.

[12] Ibid., 1-10.

[13] Department of the Army, Alternate Base Case Study Phase III, IV-23.

[14] Department of the Army, FM 101-5-1, Operational Terms and Symbols, (Washington, D.C.: Government Printing Office, 1985), 1-39.

[15] Carl von Clausewitz, On War, ed. and trans. by Michael Howard and Peter Paret (Princeton: Princeton University Press, 1984), 117.

[16] Ibid.

[17] J. F. C. Fuller, Armored Warfare, 1st American ed., (Harrisburg: The Telegraph Press, 1943), 58.

[18] Department of the Army, Alternate Base Case Study Phase V, IV-25 to IV-26.

[19] Department of the Army, FM 101-5-1, 1-32.

[20] J. F. C. Fuller, The Foundations of the Science of War, (London: Hutchinson and Co., 1925), 149.

[21] Ibid.

[22] Department of the Army, Alternate Base Case Study Phase V, IV-27.

[23] Department of the Army, FM 101-5-1, 1-44.

[24] Clausewitz, On War, 541.

[25] Department of the Army, Alternate Base Case Study Phase III, VII-7.

[26] Department of the Army, FM 101-5-1, 1-16.

[27] T.E. Lawrence, "The Evolution of a Revolt," Army Quarterly and Defense Journal, (October 1920), 15-16.

[28] Ibid., 22.

[29] Department of the Army, Mechanized and Armor Combat Operations in Vietnam, (MACOV), (San Francisco: Headquarters, United States Army Vietnam, 1967), 115.

[30] Department of the Army, FM 34-1, Intelligence and Electronic Warfare Operations, (Washington, D.C.: Government Printing Office, 1987), 2-13.

[31] Department of the Army, Operational Report-Lessons Learned, Headquarters, 11th Armored Cavalry Regiment, Period Ending 31 October 1970, (Washington, D.C.: Office of the Adjutant General, 1971), 12-13.

[32] Department of the Army, MACOV, 124-125.

[33] Department of the Army, Operational Report-Lessons Learned, Headquarters, 1st Brigade, 5th Infantry Division, Period Ending 31 July 1970, (Washington, D.C.: Office of the Adjutant General, 1971), 5.

[34] MG Arthur L. West and COL Donn A. Starry, "Armor in Area War," Armor, (September-October 1968), 37.

[35] Department of the Army, MACOV, 122.

[36] Department of the Army, Operational Report-Lessons Learned, Headquarters, 11th Armored Cavalry Regiment, Period Ending 31 October 1968, (Washington, D.C.: Office of the Adjutant General, 1969), 9.

[37] Ibid., 8-9.

[38] Scott R. McMichael, "The Soviet Army, Couterinsurgency, and the Afghan War," Parameters 19 (December 1989): 35.

[39] Edward R. Girardet, Afghanistan: The Soviet War, (New York: St. Martin's Press, 1985), 38.

[40] Alexander Alexiev, Inside the Soviet Army in Afghanistan, (Santa Monica: The RAND Corporation, 1988) 31.

[41] West and Starry, "Armor in Area War," 37.

[42] Department of the Army, 11th ACR Operational Report, 1969, 15.

[43] Ibid.

[44] Department of the Army, 11th ACR Operational Report, 1971, 9.

[45] Department of the Army, Mechanized and Armor Operations in Vietnam, (MACOV), vol. 7, Evaluation of U.S. Army Mechanized and Armor Combat Operations in Vietnam, (MACOV), (San Francisco: Headquarters, United States Army Vietnam, 1967), 159.

[46] Yossef Bodansky, "Learning Afghanistan's Lesson," Jane's Defence Weekly, 20 February 1988, 310.

[47] McMichael, "The Soviet Army, Counterinsurgency, and the Afghan War", 32.

[48]Girardet, Afghanistan: The Soviet War, 42.

[49]Department of the Army, MACOV, 57-58.

[50]Ibid., 58.

[51]Ibid., 60.

[52]Alexiev, Inside the Soviet Army, 24.

[53]C. N. Donnelly, "Soviet Mountain Warfare Operations," International Defense Review 6 (June 1980): 829.

[54]West and Starry, "Armor in Area War," 38.

[55]Department of the Army, 1st Brigade, 5th Infantry Division, 1971, 11.

[56]McMichael, "The Soviet Army, Counterinsurgency, and the Afghan War", 22.

[57]Grant H. Turbiville, "Ambush! The Road War in Afghanistan," Army, (January 1988): 35-37.

[58]Department of the Army, FM 71-100, Division Operations, (Washington, D.C.: Government Printing Office, 1990), 6-21.

[59]Ibid., 6-22.

[60] Department of the Army, AirLand Battle Future Alternate Base Case Study Phase IV, (Fort Leavenworth, Ks.: U.S. Army Combined Arms Combat Development Activity, 1990), VII-23.

[61]Ibid.

[62]Ibid.

[63]Ibid.

[64]Ibid.

[65]Department of the Army, FM 71-3, Armored and Mechanized Infantry Brigade, (Washington, D.C.: Government Printing Office, 1988), 6-7.

[66]Ibid., 6-1.

[67]Ibid., 7-1.

[68] Department of the Army, FM 71-100, 6-24.

BIBLIOGRAPHY

BOOKS

Amstutz, J. Bruce. Afghanistan: The First Five Years of Soviet Occupation. Washington, D.C.: National Defense University, 1986.

Clausewitz, Carl von. On War. Edited and translated By Michael Howard and Peter Paret. Princeton: Princeton University Press, 1984.

Fuller, J.F.C. The Foundations of the Science of War. London: Hutchinson & Co., 1925.

_____. Armored Warfare. 1st American ed. Harrisburg: The Telegraph Press, 1943.

Girardet, Edward. Afghanistan: The Soviet War. New York: St. Martin's Press, 1985.

Hammond, Thomas. Red Flag Over Afghanistan: The Communist Coup, the Soviet Invasion, and the Consequences. Boulder: Westview Press, 1984.

Jomini, Antoine H. The Art of War. Edited by J.D. Hittle. Vol. 2, Roots of Strategy. Harrisburg: Stackpole Books, 1987.

Krepinevich, Andrew. The Army and Vietnam. Baltimore: The Johns Hopkins University Press, 1986.

Palmer, Bruce. The 25-Year War: America's Role in Vietnam. New York: Simon and Schuster, Inc., 1984.

Stanton, Shelby L. Vietnam Order of Battle. Washington, D.C.: U.S. News Books, 1981.

Sun Tzu, The Art of War. Translated by Samuel B. Griffith. New York: Oxford University Press, 1971.

REPORTS

Alexiev, Alexander. Inside the Soviet Army in Afghanistan. Santa Monica: The RAND Corporation, 1988. R-3627-A.

Department of the Army. Mechanized and Armor Combat Operations in Vietnam, (MACOV). San Francisco: Headquarters, United States Army Vietnam, 1967.

_____. Mechanized and Armor Combat Operations in Vietnam. Vol. 7, Evaluation of U.S. Army Mechanized and Armor Combat Operations in Vietnam. San Francisco: Headquarters, United States Army Vietnam, 1967.

_____. Operational Report-Lessons Learned, Headquarters, 11th Armored Cavalry Regiment, Period Ending 31 October 1968. Washington, D.C.: Office of the Adjutant General, 1969. DTIC AD500745.

_____. Operational Report-Lessons Learned, Headquarters, 11th Armored Cavalry Regiment, Period Ending 31 October 1970. Washington, D.C.: Office of the Adjutant General, 1971. DTIC AD516758.

_____. Operational Report-Lessons Learned, Headquarters, 1st Brigade, 5th Infantry Division, Period Ending 30 April 1969. Washington, D.C.: Office of the Adjutant General, 1969. DTIC AD504857.

_____. Operational Report-Lessons Learned, Headquarters, 1st Brigade, 5th Infantry Division, Period Ending 31 January 1970. Washington, D.C.: Office of the Adjutant General, 1971. DTIC N19160.1.

ARTICLES

Bodansky, Yossef. "Learning Afghanistan's Lesson." Jane's Defence Weekly, 20 February 1988, 310.

Cheney, Richard B., and Thomas N. Harvey. "Strategic Underpinnings of a Future Force." Military Review 66 (October 1986): 4-13.

Collins, Joseph J. "The Soviet-Afghan War: The First Four Years." Parameters 14 (Summer 1984): 49-62.

Donnelly, C. N. "Soviet Mountain Warfare Operations." International Defense Review 6 (June 1980): 823-834.

Glantz, David M. "Force Structure: Meeting Contemporary Requirements." Military Review 68 (December 1988): 58-70.

Khalilzad, Zalmay. "Moscow's Afghan War." Problems of Communism (January-February 1986): 1-8.

Lawrence, T. E. "The Evolution of a Revolt." Army Quarterly and Defense Review (October 1920): 1-22.

McMichael, Scott R. "The Soviet Army, Counter-insurgency, and the Afghan War." Parameters 19 (December 1989): 21-35.

Olson, William J. "Organizational Requirements for LIC." Military Review 67 (April 1987): 8-16.

Turbiville, Grant H., Jr. "Ambush! The Road War in Afghanistan." Army, January 1988, 32-42.

West, Arthur L., and Donn A. Starry. "Armor in an Area War." Armor (September-October 1968): 34-38.

MONOGRAPHS AND THESES

Frketic, John D. "Soviet Actions in Afghanistan and Initiative at the Tactical Level: Are There Implications for the U.S. Army?" MMAS monograph, School of Advanced Military Studies, Fort Leavenworth, 1988.

Matheny, Michael R. "Armor in Low Intensity Conflict: What is the Best Tactical Doctrine for Armor in Counterinsurgency?" MMAS monograph, School of Advanced Military Studies, Fort Leavenworth, 1987.

Oldinsky, Frederick E. "Armor in Vietnam." MA thesis, Trinity University, 1976.

GOVERNMENT DOCUMENTS

Department of the Army. FM 34-1, Intelligence and Electronic Warfare Operations. Washington, D.C.: Government Printing Office, 1987.

_____. FM 71-3, Armored and Mechanized Infantry Brigade. Washington, D.C.: Government Printing Office, 1988.

_____. FM 71-100, Division Operations. Washington, D.C.: Government Printing Office, 1990.

_____. FM 100-20, Military Operations in Low Intensity Conflict Approved Final Draft. Washington, D.C.: Government Printing Office, 1989.

_____. FM 101-5-1,Operational Terms and Symbols. Washington, D.C.: Government Printing Office, 1985.

_____. AirLand Battle Future Alternate Base Case Study Phase II. Fort Leavenworth, Ks.: U.S. Army Combined Arms Combat Development Activity, 1990.

_____. AirLand Battle Future Alternate Base Case Study Phase III. Fort Leavenworth, Ks.: U.S. Army Combined Arms Combat Development Activity, 1990.

_____. AirLand Battle Future Alternate Base Case Study Phase IV. Fort Leavenworth, Ks.: U.S. Army Combined Arms Combat Development Activity, 1990.

_____. AirLand Battle Future Alternate Base Case Study Phase V. Fort Leavenworth, Ks.: U.S. Army Combined Arms Combat Development Activity, 1990.

_____. AirLand Battle Future Umbrella Concept. Fort Leavenworth, Ks.: U.S. Army Combined Arms Combat Development Activity, 1990.

_____. Trained and Ready: The United States Army Posture Statement, FY 91. Washington, D.C.: Government Printing Office, 1990.