THE EVOLUTION OF FIRE SUPPORT DOCTRINE WAS DRIVEN BY AIRMOBILE DOCTRINE AND NEW WEAPON SYSTEMS DURING THE VIETNAM WAR

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

THE EVOLUTION OF FIRE SUPPORT DOCTRINE WAS DRIVEN BY AIRMOBILE DOCTRINE AND NEW WEAPON SYSTEMS DURING THE VIETNAM WAR, by LTC Robert A. Why, 99 pages.

After the Korean War, development of the helicopter as a transportation and weapons system capability resulted in new doctrine and subsequent organization of the airmobile division. With this came a requirement for new fire support doctrine. Thus, the central research question was: What role did fire support provide in the execution of airmobile doctrine, along with the new weapons systems onto the battlefields of Vietnam? To understand how fire support doctrine evolved, this thesis addresses three subordinate questions. First, what was the current fire support doctrine prior to the Vietnam War? Second, how fire support doctrine evolved in supporting airmobile combat operations on the Vietnam battlefield? The final effort centered on determining how these changes in fire support doctrine influenced future fire support doctrine.

Two realizations were noteworthy. First, fire support doctrine changed very little from the end of World War II to the end of the Korean conflict. Secondly, operational tempo and reach of airmobile operations, coupled with new weapons significantly influenced changes to fire support doctrine. This thesis demonstrates how fire support doctrine evolved to meet the new challenges of supporting combat operations on a nonlinear and noncontiguous battlefield.

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I wish to express my deep gratitude to my committee members (Dr. Dennis Dolan, Lieutenant Colonel Tim McKane and Lieutenant Colonel Mark Gerges) who spent countless hours reading my drafts and mentoring me throughout this process. They continued to push me to not only complete this thesis, but to get it right. I would be remiss if I did not thank my loving family. They endured many hours of me sitting at my computer doing research and writing when they would much rather I be spending time with them. I could not have completed this thesis without the help and support of these people.

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ACRONYMS

AH	Attack Helicopter
CH	Cargo Helicopters
CJFSCC	Combined and Joint Fire Support Coordination Centers
DMZ	Demilitarized Zone
DOTMLPF	Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities
FA	Field Artillery
FM	Field Manual
FSCOORD	Fire Support Coordinator
METT-TC	Mission, Enemy, Terrain, Troops, Time, Civil Considerations
RAID	Army Reorganized Airmobile Division
ROAD	Reorganization Objective Army Division
TOE	Table of Organization and Equipment
UH	Utility Helicopter
UN	United Nations
UNC	United Nations Command
USMC	United States Marine Corps

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CHAPTER 1

INTRODUCTION

There has been very little research done on the changes to fire support doctrine, which occurred during the execution of airmobile doctrine and the introduction of new weapons systems during the Vietnam War. Current Army doctrine originating from Field Manual (FM) 3-0, *Operations*, dated, June 2001, states that today's battlefields are expected to be nonlinear and noncontiguous, similar to those found during Vietnam. There were numerous insights, from the bloodshed during the Vietnam War, which are just as applicable today as they were then. This thesis will bring these valuable parallels to light.

There are several questions requiring answers to fully examine the evolution of fire support doctrine during the Vietnam War. The central thesis question is, what role did fire support doctrine provide in the execution of new airmobile doctrine, along with the introduction of various new weapons systems on the battlefields of Vietnam? The importance of addressing this question should rapidly enforce the underlying need for prior coordination and anticipation of fire support requirements for a successful execution of airmobile operations on a nonlinear and noncontiguous battlefield, whether it occurs now or just as it did in the 1960s. Several subordinate questions also require exploration to explain the evolution of fire support. These include, what was the fire support doctrine before the Vietnam era, specifically during the Korean War or shortly thereafter, before the advent of airmobile doctrine and the introduction of the new weapons? How did fire support doctrine evolve to shape or influence the battlefield, given the high mobility of airmobile forces and what was the new doctrine or tactics, techniques or procedures for

employing the new weapon systems? With the evolution of fire support doctrine during the Vietnam War, how did the change affect future fire support doctrine?

The purpose of this research is to examine whether or not fire support doctrine, specifically field artillery and air platforms, evolved based upon the execution of airmobile operations and the introduction of new weapons systems during the Vietnam War. With the development and emergence of current doctrine as in FM 3-0, *Operations,* dated June 2001, time spent studying and learning from past parallel experiences will assist in better understanding of our current doctrinal focus on nonlinear and noncontiguous battlefields and transformation of the current force. With the new contemporary operating environment, nonlinear and noncontiguous battlefields will be the type environment and operations facing our forces in the near future. Success during execution of these operations will require our leaders to be adaptive and innovative. The advent of airmobile operation's doctrine and new systems during the Vietnam War closely mirrors the challenges and limitations the U.S. Army will have to address in the new operational environment and transformation of our Army.

To understand the challenges and limitations of operations while executing combat operations during the Vietnam War, a baseline must be established from which to examine the changes to fire support doctrine. By addressing in a historical perspective, what was fire support doctrine prior to the Vietnam era, specifically during the Korean War or shortly thereafter? The technological advances both in field artillery and air support systems, which occurred between the Korean and Vietnam Wars, had a huge impact on the evolution of doctrine. In doing so, one will understand the differences

between the way the U.S. Army fought during the two conflicts and the impacts the development of new doctrine and equipment had.

After establishing the pre-Vietnam War fire support doctrine baseline, one must address the development and employment of new fire support doctrine to support airmobile operations and the new weapon systems. The question at issue is, how fire support doctrine evolved to shape or influence the battlefield, given the high mobility of airmobile forces and introduction of new weapons systems?

After defining the role and how fire support doctrine evolved during combat operations in Vietnam, the insights learned during Vietnam can be seen in our current doctrine of providing fire support to units on the new nonlinear and noncontiguous battlefield.

By adequately addressing these questions, the value of fire support, specifically field artillery and air platforms, were instrumental and a prerequisite for success during the execution of combat operations on a nonlinear and noncontiguous battlefield, during the Vietnam era, and offers some insight into fire support roles on future battlefields.

Vietnam War

Our involvement in Vietnam actually started years before the introduction of American combat troops on the ground. In the divided Vietnam, American unconventional warfare operations had been ongoing before the Kennedy administration and its special interest in such a mode of war. An American team of unconventional warfare specialist had been leading and training Vietnamese for covert operations against Ho Chi Minh's North Vietnam regime since the Geneva accords divided the country in 1954. These teams also assisted the anti-Communist regime in the south in counter-

guerrilla operations.[1] The efforts of these teams were largely ineffective and the Kennedy administration promised an intensified effort. This set the stage for farther commitment of U.S. military forces in Vietnam. The Kennedy administration saw Vietnam as a test of U.S. resolve to counter Communist wars of national liberation because if left unchecked, would result in the proliferation of insurrectionary wars throughout the undeveloped countries of the world. President John F. Kennedy believed the evidence that the North Vietnamese regime was responsible for initiating and directing the guerrilla attacks in South Vietnam was conclusive enough to make a case for military commitment. Given President Kennedy's endorsement of a strategy of flexible response, this lead to an increased commitment of advisers, arms, equipment and public commitment to supporting the South Vietnamese government in their fight against the spread of Communism. The administration believed, if the North Vietnamese aggressors could be dealt a fatal blow this would result in a reversal of the communist insurgency movement in Asia.

The manpower commitment grew from just 800 personnel at the time of Kennedy's inauguration to 23,000 by November 1963, about two-thirds of the figure being soldiers of the American Army.[2] In November 1963, a military coup toppled President Diem and his regime, resulting in Diem's death. Before his death the Diem regime had already lost the ability to wage war against the insurgents, but the resulting coup, his death and eventual collapse brought about more than a year of instability and a rapid decline of the government. The Communist saw the coup of the Diem regime as a signal to seize upon the opportunity to step up the intensity of offensive operations. Through 1964 until early in 1965 the communist attempted to cut South Vietnam into

two, isolating Saigon from the rest of the country and complete the triumph of the National Liberation Army.

As early as January 1964, General Maxwell Taylor had reported to Secretary of Defense Robert S. McNamara, in order to defeat the insurgency in South Vietnam, "the Joint Chief of Staff are of the opinion that the United States must prepare to put aside many of the self-imposed limits restrictions which limit our efforts, and to undertake bolder actions which may embody greater risk."[3] The recommendations for actions included aerial bombing of North Vietnamese targets, under South Vietnamese cover, commitment of American combat forces to South Vietnam as necessary, and direct American action against the North as required. The justification for increasing bolder actions and greater risk was based on the administration's belief that "Vietnam, presented the first real test of our determination to defeat the communist's war of national liberation formula."[4]

By February 1965, President Lyndon Johnson ordered sustained bombing missions into North Vietnam, and in March Marines were ordered to Vietnam to protect airbases. A month after their commitment the Marines were issued new orders to conduct counterinsurgency operations anywhere within a fifty-mile radius of the airbases. At the same time President Johnson ordered the deployment of two additional Marine battalions and to increase support forces in South Vietnam by 18,000 to 20,000 men. This was just the start of escalation. By early 1966, there were 235,000 American soldiers in Vietnam and by February 1968 the military strength had reached 495,000.[5]

On 1 July 1965, the 11th Air Assault Division was redesignated the 1st Cavalry Division (Airmobile) and a month later deployed to Vietnam.[6] This was the height of the

massive manpower buildup in South Vietnam. The new division was quickly employed using the new doctrinal maneuver concept of vertical envelopment by helicopter. The division along with it's new associated combat multipliers; organic lift helicopters (UH-1 and CH-47), towed artillery capable of being airmobiled (105-millimeter and 155-millimeter), attack helicopters (UH-1 gunship and AH-1 Cobra), close air support (fighter and bomber), and the new doctrine was tested under fire during numerous combat operations throughout South Vietnam.

Birth of the Airmobile Division

How the idea, development, and eventual fielding of the Airmobile Division actually came to fruition, requires exploring some of the historical background that drove the transformation of a ground-based Army to one capable of being airmobiled anywhere on the battlefield. One needs to understand that in the mid-twentieth century, U.S. divisions were largely ground centric organizations. The Marines had an amphibious ability and the Army had an airborne ability, but actual battlefield maneuver was still restricted to the pace and terrain limitations of marching infantry. Mechanized and armored divisions maneuvered quicker but still terrain restricted the speed of and direction of the advance.[7] In the Korean War, with the advance of mechanized and armored vehicles, speed was still restricted by rugged terrain and limited road network. Aerial transport of divisions was rare, since airlift was expensive and belonged to another service, while still requiring secure embarkation and debarkation points. The technological advances in helicopters however offered a glimpse of what the future may hold. In the post-Korean War decade, advances in helicopter technology led to machines of increasing size and dependability. The advancement in helicopter designs provided a

new dimension for hovering firepower and vertical lift capabilities that were unheard of in previous years.

Under the guidance of a few innovative leaders, the Army was directed to develop and implement a new set of tactics based on the new aerial technology and weaponry afforded by the advances in helicopters. In 1961, Secretary of Defense Robert S. McNamara sent an extremely strongly worded memo to Army Secretary Elvis J. Stahr showing his disapproval of what the Army's vision for aviation was for the future. Based upon the Secretary of Defense's memo, exerts printed below, he ordered the Army, through the Chief of Staff of the Army, to implement airmobility, told them how to do it, and even who would head up the various boards or functions. This proved to be the birthright of the airmobile division and the eventual evolution of a new doctrine.[8]

> MEMORANDUM FOR MR. STAHR
>
> I have not been satisfied with the Army program submission for tactical mobility. I do not believe the Army has fully explored the opportunities offered by aeronautical technology for a revolutionary break with traditional surface mobility means. Air vehicles operating close to, but above the ground, appear to me to offer the possibility of a quantum increase in the effectiveness. I think that every possibility in this area should be explored. …
>
> I therefore believe that the Army's re-examination of its aviation requirements should be a bold "new look" at land warfare mobility. It should be conducted in an atmosphere divorced from traditional viewpoints and past policies. The only objective the actual task force should be given is that of acquiring the maximum attainable mobility within alternative funding levels and technology. This necessitates a readiness to substitute air mobility systems for traditional ground systems wherever analysis shows the substitution to improve our capabilities or effectiveness. It also requires that bold, new ideas, which the task force may recommend be protected from veto or dilution by conservative staff review.
>
> In order to ensure the success of the re-examination I am requesting in my official memorandum, I urge you to give its implementation your close personal attention. More specifically, I suggest that you establish a managing group of selected individuals to direct and review and keep you advised of its progress. If you choose to appoint such a committee, I suggest the following individuals be considered as appropriate for service thereon; LTG Hamilton H. Howze, BG Delk

M. Oden, BG Walter B. Richardson, COL. Robert R. Williams, COL. John Norton, COL. A.J. Rankin, Mr. Frank A. Parker, Dr. Edwin W. Paxson, and Mr. Edward H. Heinemann.

The studies already made by the Army of airmobile divisions and their subordinate airmobile units, of airmobile reconnaissance regiments, and aerial artillery indicate the type of doctrinal concepts, which could be evolved, although there has been no action to carry these concepts into effect. Parallel studies are also needed to provide air vehicles of improved capabilities and to eliminate ground-surface equipment and forces whose duplicate but less effective capabilities can no longer be justified economically. Improved V/STOL (Vertical/Short takeoff or Landing) air vehicles may be also required as optimized weapons platforms, command and communications vehicles, and as short-range prime movers of heavy loads up to 40-50 tons.

I shall be disappointed if the Army's reexamination merely produces logistics-oriented recommendations to procure more of the same, rather than a plan for implementing fresh and perhaps unorthodox concepts, which will give us a significant increase in mobility. [9]

(Signed) ROBERT S. McNAMARA

The Howze Board, formally called the U.S. Army Tactical Mobility Requirements Board, was formed a week after the above memo from the Secretary of Defense. The task force was given the highest priority, second only to actual combat operations in Southeast Asia, and a deadline to have a final report submitted within four months. Within that time, the board came up with their recommended divisional organization. The proposal consisted of what was referred to as an Army Reorganized Airmobile Division (RAID), coupled with a corps task force, which resembled a small mobile field army, supported by a special support brigade. The RAID concept called for a force, possessing a sufficient quantity of aircraft, able to simultaneously sustain itself through aerial reconnaissance, aerial fire support, while airlifting up to one third of the force out to a distance of sixty miles. The conclusion stated that three RAID divisions were as combat effective as four Army and two United States Marine Corps divisions combined and should be fielded as quickly as possible for use in Southeast Asia. The

RAID division design was smaller in manpower, than a standard division and also possessed 2,751 fewer ground vehicles, but totaled over four hundred various aircraft.[10] General Howze's conclusion was direct and simple: "Adoption by the Army of the airmobile concept--however imperfectly it may be described and justified in this report--is necessary and desirable. In some respects the transition is inevitable, just as was that from animal mobility to motor."[11]

Thus the airmobile division and doctrine was born, although many of the board's conclusions never materialized. The Army formed only two airmobile divisions: the 1st Cavalry (Airmobile)--an outgrowth of the 11th Air Assault Division in July 1965 and the 101st Airborne Division three years later. The Howze Board's recommendations not only charted new horizons in air mobility, but also represented the turning point where aerial fire support systems played an ever-increasing role in Army operations. The example of 1st Cavalry Division (Airmobile) will be the primary source of historical data for this study.

1st Cavalry Division (Airmobile)

The 1st Cavalry Division (Airmobile) was deployed to Vietnam in 1965 and would change the conduct of land warfare forever. In Defense Secretary Robert S. McNamara's own words, just six months after 1st Cavalry Division's arrival in Vietnam; "The Division's bold air assault and sustained pursuit operations have made it unique in the history of the American Army, there is no other division like it in the world."[12]

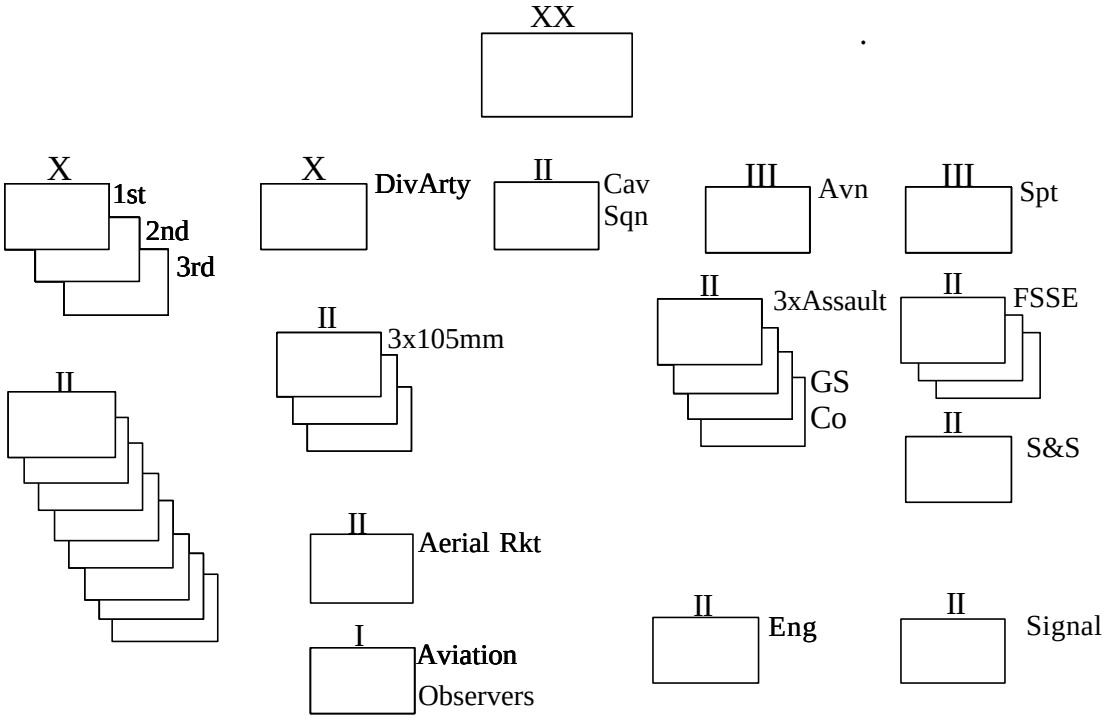
The 1st Cavalry Division's (Airmobile) table of organization and equipment is the basis to show the significant differences in what equipment, weaponry and fire support assets were available to the division commander. The new airmobile concept eventually

became a very effective and formidable fighting force during the Vietnam War and lead to many innovations in the use of the helicopters for various type missions, which were normally thought of as just ground missions before the Vietnam War.

Additionally, the example of various operations that the 1st Cavalry Division conducted during the Vietnam War, show the differences a robust aerial arsenal provided the commander in terms of fire support. Theoretically, the airmobile division design was to concentrate firepower and shock action on the battlefield while sustaining the ability to rapidly maneuver over large operational areas by vertical envelopment. Figure 1 lays out the basic division design, but one must understand augmentation by additional forces was the norm.[13] The development of new weapon systems and tactics caused the division structure to change several times over the course of the war adding additional firepower and resources.

1st Cavalry Division (Airmobile)

Table of Organization and Equipment



1st Cavalry A/C Total	
Utility Helicopter (UH Type)	287
Cargo Helicopters (CH-47 Type)	48
Light Observation Helicopter (OH Type)	93
Fixed wing Observation (OV1 Mohawk)	6
Total	434

Figure 1. 1st Cavalry Division (TOE)

Source: DA Pam 360-216, Nov 1965.

By examining the above wiring diagram and various aircraft numbers, one can quickly see the robust lift assets and new fire support platforms available to the airmobile division commander. What is not shown is the contribution that the Corps and Air Force

brought to the battlefield in the form of close air support and additional attack and reconnaissance assets.

The airmobile concept was developed, refined, and combat tested in the jungles of Vietnam from 1965 until the 1st Cavalry (Airmobile) rotated back to the United States in 1971. After the return of most of the 1st Cavalry Division, there remained a limited airmobile capability in Vietnam, which was established by the creation of a reinforced brigade [3rd Brigade, 1st Cavalry (Airmobile)] manned and resourced from various units. The separate brigade rejoined the remainder of the 1st Cavalry Division (Airmobile) at Fort Hood, Texas on 26 June 1972, thus ending airmobile operations in Vietnam.[14]

Research Methods

Since this thesis provides a historical perspective of how fire support doctrine was influenced by the advent of new doctrine and weapons systems during combat operations in the Vietnam War, examination of Army Ground Forces Reports, unit after action reviews and histories, official historical recounting of the operation, and numerous books on airmobile operations that include personal experiences and first-hand accounts were utilized.

A major assumption made throughout this research was by using the 1st Cavalry Division (Airmobile) as the basis for gathering the data and historical references allows for an accurate generalization of how fire support doctrine evolved and effectively played a major part in the success of the execution of combat operations. The last assumption made is that all information and data were accurate portrayals of events, and tactics, techniques and procedures, which eventually evolved into doctrine, and are therefore solid evidence.

Several terms need defining in order to provide a thorough understanding of the material. The first is to define effective fire support; which is coordination of assets or means to bring about a desired effect, thus shaping or influencing the battlefield in accordance with the commander's intent or guidance.

The scope of this study is the time period from early 1960s through 1966, the year the Airmobile Division concept was introduced into the Vietnam War, up to the redeployment of the 1st Cavalry Division to Fort Hood, Texas in 1972. The use of the 1st Cavalry Division (Airmobile) table of organization and equipment, the unit's combat data and reports, historical and personal accounts, will illustrate the various concepts, equipment, doctrine, and tactics, techniques and procedures to provide the basis for conclusions.

What role did fire support play during the execution of new airmobile doctrine, along with introduction of new weapons systems in Vietnam? Was it effective in shaping or influencing the battlefield in accordance with the commander's intent? This can only be determined by looking at the doctrine before and during the actual time period when the airmobile division, along with new platforms were introduced into the Vietnam War. Based upon the study of doctrine and the actions of the fire supporters during the various 1st Cavalry Division's operations will give insight into what were the adjustments or fixes to pre-airmobile operations doctrine or tactics, techniques and procedures? Have the U.S. Army and its subordinate unit's taken into account the hard lessons from blood, sweat and sacrifice of the airmobile division's from a previous era, operating in a non-linear and noncontiguous battlefield? The study of this thesis will shed some light onto that question.

The Vietnam War has been widely documented and researched. There are enormous amounts of literature, which contains excellent primary and secondary sources. The information ranges from books written by people giving first-hand accounts of the mission, train up and execution of operations, to books written by noted researchers who interviewed many of the units' soldiers. Additional information was found in archives at the Combined Arms Research Library consisting of unit after action reviews, post-operations conferences, operational orders and memoranda, unit studies and various policies developed for the operations. A large volume of this data is specifically focused on airmobile operations conducted throughout the Vietnam War. The world-wide-web has also been an endless source of information. From the Center of Military History to the various presidential libraries that are in existence, these resources provided official histories of the operations as well as unit histories. There is more than enough data to base research and draw conclusions.

Since this thesis provides a historical perspective, all research conducted will be based on archival data and books. This includes examining doctrine, Army Ground Forces Reports, unit after-action reviews and histories, official historical reviews of operations, and numerous books on air mobility concepts from various authors, boards, in-country studies, training or operational memoranda, and circulars. The focus will be on primary and secondary sources.

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[1]Russell F. Weigley, *The American Way of War: A History of the United States Military Strategy and Policy* (Bloomington, Indiana: Indiana University Press, 1977), 457.

[2]Ibid., 460.

[3]Ibid., 462.

[4]Ibid.

[5]Ibid., 467.

[6]Robert H. Scales Jr., *Firepower in Limited War* (Novato, CA: Presidio Press, 1995), 22.

[7]Shelby L. Stanton, *The 1st Cav in Vietnam: Anatomy of a Division* (Novato, CA: Presidio Press, 1999), 3.

[8]Ibid., 17.

[9]Ibid., 18.

[10]Ibid., 19.

[11]Ibid., 21.

[12]Ibid., 22.

[13]Ibid., Appendix 1.

[14]Ibid., 244.

CHAPTER 2

KOREAN WAR

The period of peace between the end of World War II in 1945 and the start of the war in Korea was short lived. The communist invasion of South Korea on 25 June 1950 once again plunged the United States military into armed conflict. Unlike any other major conflict in U.S. history, there was no formal declaration of war to mark the beginning and no peace treaty to mark its end, only a ceasefire agreement. The conflict in Korea was a war of many firsts: the first war the United Nations (UN) waged against an aggressor state, the first actual jet war, the first use of helicopters and the first war after the dawn of the nuclear age.

The 38th Parallel separating North and South Korea came about through the issuing of General Order No. 1 by President Harry S. Truman in 1945, to delineate the interests of Russia and the United States in Korea.[1] In September 1945 the first American troops were deployed to Korea under the command of Lieutenant General John R. Hodge, the U.S. military governor for South Korea. Along with his counterpart Colonel General Ivan Chistiakov, Russian military governor of North Korea, the two were charged with creation of a democracy in Korea. Neither could agree on the definition of the term and therefore three years pasted before elections were held. It became clear to the Truman administration, based upon propaganda, that the Russians were creating the seeds for a communist state north of the 38th Parallel.

Truman took the problem to the UN, in a final effort to hold elections before pulling out U.S. troops. The UN created the United Nations Temporary Commission on Korea (later replaced by UNCOK – United Nations Commission on Korea). The

commission supervised free elections in South Korea on 10 May 1948 and the newly formed National Assembly elected Syngman Rhee as President of the Republic of Korea. Elections were not held in the north due to Russia refusal to allow the commission to cross the 38th Parallel.[2]

In the North the communist proclaimed the Democratic People's Republic of Korea with it's capital at Pyongyang, on 9 September 1948. Russian and United States military forces withdrew from the Korean peninsula, December 1948 and June 1949 respectively. All that remained of a U.S. military present in Korea was a 480 member U.S. Korea Military Advisory Group. [3]

After the abortive reunification attempt, what remained was two governments set up by the two super powers of the world with a totally different interpretation of democracy and freedom. This was a recipe for trouble to be revisited no less than a year later. In June 1950 seven North Korean divisions supported by tanks and air crossed the 38th Parallel and rapidly advanced on Seoul.

Upon receiving news of the invasion, President Truman changed American foreign policy on 26 June by authorizing the use of air power against the North Korean offensive thrust and ordered the U.S. Navy to patrol the straits between Taiwan and mainland China. The next day the administration declared before the UN security counsel that it was America's duty to defend Korea as a member of the UN and the Security Council.[4] The UN issued an immediate resolution calling for a cease-fire, withdrawal of all North Korean forces north of the 38th Parallel, and with observation monitored by the UNCOK. The resolution also called upon all of the UN members to render assistance in execution of this resolution.[5] The resolution issued by the UN went unheeded by the

North Koreans and therefore set the stage for introduction of U.S. along with several other nation's military forces deployment to Korea.

On 30 June 1950, the first U.S. ground troops flew into Pusan and on 1 July the 24th Infantry Division arrived in Korea, with additional forces consisting of the 2nd Infantry and 1st Marine Divisions alerted for service. All told the U.S. Army would deploy eight divisions to Korea before the conflict ended.[6] Truman presented a resolution to the UN naming the commander for the UN forces and suggesting these forces should fight under the blue banner of the UN. The resolution was accepted and approved by the UN security counsel.

American Military forces quickly found themselves fighting a series of delaying actions, both outgunned and outmanned by the North Korean People's Army. Task Force Smith was the first unit to find that their bazookas, mortar and artillery had no effect on the heavily armored T-34 tanks. Outnumbered and taking heavy casualties the unit fell back with no hope of stopping the North Korean People's Army advance south. The American Army was paying a heavy price for the years of indolence and self-indulgence in Japan. America had underestimated the fighting ability of the North Korean soldier, his level of training and the quality of his equipment.

The Korean War consisted of a complicated series of retreats and advances during the years 1950-1951. This was followed by a deliberate decision to fight a static war between 1951-1953, which became known as the Main Line of Resistance, while negotiations between the UN and North Korea proceeded. The hills were lined with bunker and tunnel complexes, capable of communications between each, containing elaborate storage facilities, which required hand-to-hand combat to dislodge the enemy or

to capture. In many respects the Korean War was an infantryman's conflict. The terrain of the peninsula favored the soldier on foot. Armor, artillery and air support were effective, but based upon the terrain it was the infantryman who either won or lost the battle. General Maxwell Taylor, who had fought against the Westwall and Siegfried line in Europe during 1944-1945, rated the defenses as more formidable than any of their German counterparts.[7]

Because there had been no formal declaration of war on North Korea or China and since there were no easily identified objectives it became impossible to focus the public's interest on the battlefields of a distant land. For the American public it was not a popular war and the heavy casualties made them hope for an early end to what was viewed as a pointless loss of lives in Korea. On 27 July 1953 an armistice was signed between the United States, North Korea and China. The war was ended, though not resolved, as Korea still remains a divided country.[8]

For one to understand the fire support doctrine of the Korean War time period, you must first understand the weapons systems both the commander and fire supporter had at their disposal to achieve the effects required or desired and also the environment in which the systems were used.

Battlefield Environment

Korea is roughly the size of California south of San Francisco or Italy north of Naples. It enjoys the climate of neither. Mountainous terrain extends along the entire east coast and gradually gives way to areas of low rolling hills and valleys intermingled with rice paddies to the west. There are no thickly forested areas anywhere in Korea; the only vegetation that grows is stunted trees, small bushes and sparse grasses clinging to the

rocky slopes. The winters are bitterly cold and the summer monsoons turn the country's roads into quagmires.[9] The North Korean People's Army and Chinese soldier were highly skilled in combat operations and extremely determined when attacking or defending. The North Korean and in the latter part of the war, the Chinese Army possessed seemingly unlimited human resources and displayed unwavering political resolve in achieving their objectives. The enemy's use of dug-in bunkers, trench lines along the rocky ridges was frustrating for commanders trying to mass precision artillery fires or air support. Doing their best to mass fires on strong points or bunkers, the majority of the time fires only achieved suppressive effects or elimination of those positions that were not well protected. Therefore it became the task of the infantry soldier to close with the enemy and make the final kill with its own weapons.

Fire Support Systems

Mortars

Korea's terrain, consisting of long, steep and sharp-faced ridge lines, inundated with bunker and tunnel complexes, was natural mortar country, where the high angle fires could best be used to service enemy targets of dug infantry in along the ridges. Consequently, 60-millimeter, 81-millimeter and the 4.2 mortar was used extensively by the infantry during combat operations. The limiting factor in the use of the mortar was usually the availability of ammunition, not the failure of commanders wanting to use it. Because of the rugged terrain and the limited road network, the individual soldiers carried the mortar system and ammunition into battle; therefore the amount of ammunition available for the mortars was directly proportional to the load given to each infantryman.[10]

Field Artillery

When the North Korean People's Army swarmed south of the 38th Parallel on 25 June 1953, America's arsenal of artillery was little different than it had been when Germany invaded Poland and was identical to our inventory at the end of World War II.[11] Although the equipment and doctrine were identical, of greater concern was the actual combat readiness of the field artillery units. After World War II various re-organizational plans were envisioned for the field artillery and all centered on some basic recommendations, mainly improvements to mobility, fire direction, command and control and above all else firepower. Ultimately, the decision was made to increase the number of tubes in each battalion from forty-eight to seventy-two, thus increasing the overall firepower. The Army had derived huge benefits from the massive and effective use of artillery during the World War II and that a war against our likely enemy, the Soviet Union, world required even more firepower. Although the equipment existed, the additional guns remained un-issued due to the level of manning within the divisions, therefore most units never converted from four-gun to six-gun batteries.[12] Taxpayers and Congress had little interest in strengthening America's ten remaining combat divisions after World War II. The artillery in particular was paying a heavy price based upon this peacetime mindset and the belief there would not be another conflict anytime soon. The new table of organization and equipment may have called for seventy-two cannon battalions of 105-millimeter or 155-millimeter, but the reality was most contained forty-eight howitzers, and during peacetime managing to maintain anything above twenty-four was almost impossible.[13]

Given the issue of manning within field artillery battalions and the actual number of units initially deployed, most commanders faced a typical challenge of too large an area and not enough guns or boots on the ground. An example of the shortage of artillery was in August 1950, when the 24th Infantry Division Artillery was tasked to cover thirty-two miles of the Naktong River front with just seventeen 105-millimeter and twelve 155-milimeter howitzers for an entire division frontage. Common operating procedures in 1944 to 1945, would have called for up to perhaps 250 divisional and corps guns for an area of operations of this size, sometimes less but many other times more. Doctrine of the time called for as many as three to four artillery battalions in support of each committed infantry battalion, but the inverse had become the reality just five years after World War II.[14] Commanders offset the initial disadvantage for the lack of field artillery units by placing units farther apart across the sector, which required higher rates of fire per battery to mass fires and also using tanks rolled up on improvised ramps as indirect fires. The long sought after medium and long-range artillery battalions arrived in theater by the time the invasion at Inchon and breakout from Pusan occurred. Also the arrival of new combat divisions, 2d Infantry Division and 1st Marine, with full complements of howitzers remedied the shortfall.

The field artillery available for the Korean War ranged from the towed M101 105-millimeter howitzers, towed and self-propelled 155-millimeter howitzers and 203-millimeter or 8-inch howitzer. These were the same weapon systems used by the U.S. Army during World War II, although some of the 155-millimeter and 203-millimeter systems were now mounted on modified armored vehicles.

During the late 1950s up to the early 1960s, advances in air transport by fixed and rotary wing aircraft, resulted in the capability of moving heavy artillery pieces around the battlefield. No longer were the 105-millimeter and 155-millimeter howitzers limited to just the road network, they were now capable of being moved about the area of operations by air.

Air

The U.S. Air Force, who had just gained it's independence, believed a decisive victory could be won independently of using ground or sea forces based upon the successes of strategic bombing during World War II. The Korean War would be the first combat test of the three-year-old independent service. With the coming of the nuclear age and the end of World War II, the U.S. Air Force focus was not on providing close air support but on preparing for the next war; a nuclear one. The Air Force budget was earmarked for development of strategic bombers or cruise missiles and not on research or development of fighters, training of crews or improving close air support to the maneuver commander on the ground. When the Far East Air Force was ordered to Korea, it consisted of aging aircraft and too few men to fly them. The Air Force Chief of Staff General Hoyt Vandenburg referred to the Far East Air Force as the shoestring Air Force. At the onset of the Korean War, the Far East Air Force had 33,625 personnel serving in just sixteen groups, forty-four squadrons, and 657 aircraft, but by the summer of 1952 the Far East Air Force size and firepower grew in to 112,200 personnel serving in twenty groups, forty-four squadrons and 1,441 aircraft.[15]

Korea was the first war during which most of the aerial combat was executed by jets. Although the vast majority of the aircraft in the Korean area of operations were still

propeller driven such as the *P-51 Mustangs*, *F-82 Twin Mustang*, *F4U Corsairs* and the *B-26 Marauder*, it was the second generation jets such as *F-80 Shooting Stars*, *F-94 Starfire* and *F-86 Sabres* who ruled the skies.[16] The majority of the air to ground operations was still executed by propeller driven aircraft and the dog fights were waged by the faster jets against the *MIG-15s*.

During the initial stages of the Korean War, one of the major problems of providing CAS to ground commanders, was an effective air to ground coordination system such as the one the Army Air Corps had developed during 1944-1945. This important air to ground system process was quickly forgotten when the service split from the Army. To fix this problem, three *L5-G Stinson* light aircraft and a *T-6 Texan* were stationed in Pusan perimeter to fly forward air control missions. This newly formed unit was called the Fifth Air Force's 6147th Tactical Control Squadron (TCS). It became one of the most international of all the military units in Korea, in that all it's pilots and observers were volunteers from various nations supporting the UN mission. The unit developed and refined techniques to control air to ground fires. In addition to formation of the TCS unit, tactical air control parties for direct coordination and liaison with the ground commander were formed. However effective, these tactical air control parties were never deployed lower than the regimental level of command.[17]

Naval

The Navy's primary role during the Korean War was to help the United Nations Command (UNC) to avoid disaster in the South East Asia. The forward basing of the Seventh Fleet along with the mobility of the U.S. Pacific Fleet, allowed President Truman to quickly support his decision to oppose what he saw as a communist challenge in Asia.

Immediately upon receiving this decision from the president, the Commander, Seventh Fleet deployed the carrier *USS Valley Forge*, heavy cruiser *USS Rochester*, eight destroyers and three submarines to display it's strength along the Chinese coast. Air squadrons from the *USS Valley Forge* bombed airfields and rail yards in Pyongyang, North Korea, which was currently beyond the range of U.S. Air Force squadrons stationed in Japan. [18]

One of the most impressive shows of the Navy's destructive firepower was during the evacuation of X Corps from Wonsan and Hungnam in December 1950. The Navy committed seven aircraft carriers worth of close air support, three battleships constant 8" and 16" inch gunfire, three rockets ships and seven destroyers in support of this operation. Their combined firepower ranged ten miles inland as more than 105,000 servicemen, over 90,000 refugees, close to 18,000 vehicles and 350,000 tons of supplies were safely evacuated.[19]

Fire Support Doctrine

To properly determine what was the fire support doctrine prior to the Vietnam era, specifically during the Korean War or shortly after, several areas require exploration. Two extremely difficult challenges faced the commander and fire support planner in Korea. The first challenge was how to achieve limited objectives on the ground with the fewest loss of lives as laid out by General James Van Fleet during the later stages of the war. The second was achieving those objectives against a skilled, determined enemy who possessed seemingly unlimited human resources and displayed unwavering political resolve. As the later stages of the war started to resemble the stalemate World War I trench line mentality, it became increasingly difficult to maintain unit morale and popular

support back home. The public did not want to see American service members dying in a war resembling the trench warfare of World War I. General James Van Fleet, the Eighth Army Commander, gradually changed his guidance for operations giving the primary task of engaging the enemy to the artillery and airpower. He put his intent in clear and simples terms: "We must expend steel and fire, not men ... I want so many artillery holes that a man can step from one to the other."[20] A new term was coined; the Van Fleet Load became the standard for combat operations.[21] It consisted of expending huge tonnage of munitions, artillery or air, to compensate for the enemy's manpower advantage and also to hold down the losses of friendly forces. This use of the Van Fleet Load would be the start of a sustained firepower-centric type warfare, which would carry over into future doctrine.

Although firepower was less effective against an enemy protected by bunkers or caves built into the ridgelines, when the enemy chose to attack across open terrain the destructiveness of the artillery and airpower was overwhelming. Some examples of the Van Fleet Load guidance during operations were where one artillery battalion fired 10,000 airburst rounds in six hours and another battalion fired 2,000 rounds in eight minutes during an enemy attack. It was not uncommon for a dug in infantry battalions to call tons of artillery onto their own position to thwart enemy attacks. General Edward Almond, who commanded the corps that bore the brunt of these attacks stated, "Entire battalions were saved from annihilation by firepower alone."[22]

The massing of multiple battalions also became the norm when servicing targets near the middle and latter stages of the war, when the medium and longer-range systems became available. Initially when the U.S. forces arrived in country survey data for battery

locations was not available and took awhile to establish. This lack of survey is probably the most important element of the five requirements for accurate predicted fires. The five requirements of accurate predicated fire found in FM 6-40, *Field Artillery Cannon Gunnery* are: accurate target location and size: firing unit location: weapon and ammunition information: meteorological information and computational procedures. Without accurate survey the chance of achieving first-round fire for effect is greatly reduced. To off set for nonstandard conditions, as experienced by the artilleryman in Korea, units would be required to conduct registrations each and every time they moved. In combat conditions this is not advisable due to giving away your position even before enemy targets could be engaged.

Fire supporters also learned the hard way that the Korean War wasn't the same battlefield as was found in World War II. Initially in Korea seldom was the front line determined by positions being tied into adjacent units to the left and right. The Korean War during 1950-1951 consisted of a complicated series of defensive retrograde actions followed by offensive actions to push the North Korean People's Army as far north as possible and reestablish the DMZ. This time period for the war resembled a linear and noncontiguous battlefield based upon various unit breakthroughs or forced retrograde operations. Once the Main Line of Resistance was established during the 1951-1953-time period, the decision was to fight a static war, while negotiations between the UN and North Korea proceeded. After that point, the Korean War was basically a linear and contiguous battlefield.

Therefore, units developed new fire planning techniques by planning fires to their front, left, right and rear of friendly positions, commonly called the, Box Barrage. On

more than one occasion units requested Box Barrage fires, literally surrounded themselves with a wall of steel and then lifted fires in one direction, to allow the unit to maneuver through while the wall of steel held off the enemy in the other three directions.[23] This Box Barrage technique was so effective during the Korean War that when FM 6-20, *Field Artillery Tactics and Techniques* was updated in 1958 it was made a part of techniques for fire planning.[24]

The ability to coordinate and control air to ground fires was lost between the inner war years when the Air Force became it's own service; this shortfall was fixed during the conflict by forming forward air controller and tactical air control party squadrons. The formation and training of the members of these units took time, but eventually the effective integration of close air support with ground commander's operations became the norm.

Although the Army and Air Force entered the initial stages of the war unprepared in training and equipment, several fire support doctrinal concepts were developed and refined during the Korean War and most, although not all were carried forward to the Vietnam War. First was the massing of enormous volumes of fire was the standard with the use of the Van Fleet Load or as a result the conception of sustained firepower-centric warfare. Second was the key concept of formation of forward air controller units and tactical air control parties and the effective integration of air to ground fires, although the tactical air control parties never were fielded below the regimental level. Third was the initial formation of fire support coordination centers to command and control fires across the battlefield. The update of FM 6-20, *Field Artillery Tactics and Techniques* in 1958 captured the lessons from the Korean War, but one shortfall was that it did not fully

capture the integration of close air support or naval gunfire into the maneuver commander's tactical plan. The section dealing with close air support did not address the close air support issue with regards to the Air Force being a totally separate service and how coordination and liaison were to be executed. The 1958 manual listed responsibilities in a checklist format for the fire support coordination center and each staff member such as the FSCOORD, air liaison officer and naval gunfire officers but did not address integration of these assets. The entire fire support coordination section in the 1958 edition of FM 6-20 amounted to a total of nine pages with most devoted to defining staff responsibilities and not the How-to-Fight for integration of other fire support assets.[25] The field artillery manual addressed in detail fighting and managing the field artillery assets in a conventional and nuclear war, but did not fully address integration of the various other service's fire support assets. Most doctrine within the manual pertained to fighting a conventional war, although it did address operations in different environments, such as mountainous terrain, desert, and jungle battlefields, but only in regards to field artillery employment not the other fire support assets. The manual did address field artillery operations on a linear and noncontiguous battlefield similar to those operations conducted during the Korean War.

The major fire support doctrinal concepts carried forward from the Korean War was the massive use of munitions in the form of sustained firepower-centric warfare (the Van Fleet Load), specific uses of techniques for fire planning the Box Barrage, and the initial formation and operations of the fire support coordination center, although as effective as the use of forward air controllers and tactical air control parties were, this was totally forgotten or ignored after the Korean War.

[1]Brian Catchpole, *The Korean War: 1950-53* (New York, New York: Carroll & Graff Publishers, Inc., 2000), 2.

[2]Ibid., 3.

[3]Ibid., 4.

[4]Ibid., 5.

[5]Ibid., 8.

[6]Department of Defense, *An Overview of the U.S. Army in the Korean War, 1950-1953* (Washington D.C.: The U.S. Army Center of Military History) [DOD web site, fact sheet on-line] available from http://korea50.army.mil/history/factsheets/army.shtml (accessed on 26 Apr 2004).

[7]Catchpole, 153.

[8]Pamela Feltus, *Air Power: The Korean War, U.S.*, [Centennial of Flight Commission essay on-line] available from http://www.centennialofflight.gov/essay/Air_Power/korea/AP38.htm (accessed on 24 Apr 2004).

[9]D. M. Giangreco, *War in Korea: 1950-1953* (Novato, CA: Presidio, 1990), 2.

[10]S L A Marshall, *Infantry Operations and Weapons Usage in Korea* (London, Englan: Greenhill Books, 1988), 93.

[11]D. M. Giangreco, *Korean War Anthology, Artillery in Korea: Massing Fires and Reinventing the Wheel*, 2.

[12]Ibid., 2.

[13]Ibid., 3.

[14]Ibid., 6.

[15]Department of Defense, *The U.S. Air Force in the Korean War* (Washington D.C.: Office of Air Force History),) [DOD web site, fact sheet on-line] available from http://korea50.army.mil/history/factsheets/air-f-fire support.shtml, (accessed 26 Apr 2004).

[16]Ibid.

[17]Catchpole, 189.

[18]Depart of Defense, *Naval Operations During the Korean War* (Washington D.C.: Naval Historical Center), [DOD web site] available from http://korea50.army.mil/history/factsheets/navy.shtml, (accessed 24 Apr 2004).

[19]Catchpole, 201.

[20]John Miller Jr., Owen J. Carroll, Margaret E. Tackley, *Korea: 1951-1953* (Washington D.C.: Center of Military History, 1957). 106.

[21]Robert H. Scales, *Firepower in Limited War* (Novato, CA: Presidio, 1995), 16.

[22]Ibid., 16.

[23]Ibid., 17.

[24]Department of the Army, Field Manual 6-20, *Field Artillery Tactics and Techniques* (Washington D.C.: Department of the Army, 1958), 177.

[25]Ibid., 159-168.

CHAPTER 3

FROM CONCEPT TO 1ST CAVALRY DIVISION (AIRMOBILE)

Howze Board Concept

When Robert S. McNamara became Secretary of Defense in 1961, he instituted sweeping changes with the aim of reorganizing the Department of the Army and also its current method of warfare. He was displeased with the Army's current aviation plans and what he felt was a dangerously conservative procurement strategy for every category of aircraft, so he sent a strongly worded directive summarizing his dissatisfaction to then Army Secretary Stahr. This memorandum basically became the birth certificate for the new concept of airmobility and subsequently the 1st Cavalry Division (Airmobile). In effect, McNamara ordered the Army to implement airmobility.[1]

Lieutenant General James Gavin, the Army's Chief of Research and Development during the late 1950s, retired from his post dissatisfied over the inflexibility and budget limitations placed on the defense department regarding research and development programs. He later stated, "The fiscal caution and technological and strategic inertia had caused the United States to place itself at the mercy of the Soviet Union in every crucial area of military capability, including the capability to fight general nuclear war as well as limited war."[2] He felt the Korean War was a true demonstration of what the lack of an aerial mobility capability led to and implied that if the U.S. had possessed mobility, that history as written might have been different. The passages below clearly show how strongly he felt in regards to the lack of tactical mobility within the Army and how the nation failed to properly prepare the military for future wars:

> If we had had the vision to see, and the courage to venture in research and development programs, we could have had a tactical mobility in Korea that would have enabled us literally to run circles around our opponents. As Gen. Walker's armies moved north towards the Yulu, blindly going from road bend to road bend and hill to hill, they were ambushed by an army that depended largely upon foot and horse mobility. Technically, this situation was inexcusable. Tactically, with the equipment at hand it was unavoidable.
>
> . . . From a technological point of view, the real tragedy of Korea was that this great nation, with its scientific resources and tremendous industrial potential, had to accept combat on the terms laid down by a rather primitive Asiatic army. Neither our imagination nor vision in the years since WW II had given us a combat capability that would provide the technical margin of advantage that we needed in land warfare to win decisively and quickly.[3]

Lieutenant General Gavin felt, that for the U.S. to rapidly and decisively defeat the enemy in a future limited war, the Army required significant numbers of *sky cavalry* units capable of total airmobility across the battlefield. With the backing of the Secretary of Defense and a requirement for an airmobility capability within the Army, the stage was set for the Howze Board with their priorities for research and development clearly defined.

The Howze Board, headed by Lieutenant General Hamilton H. Howze was in operation from May through August 1962. The number one purpose of the board was to free the ground soldier from the restrictions of battlefield movement by replacing conventional ground transportation with aircraft.[4] The board's mission was of the highest priority and nothing short of having to deploy troops to war would stand in way of determining how best to achieve that purpose. Additional guidance for the board was to divorce itself from current viewpoints and doctrine; they were to come up with totally new ideas or concepts.

The board's proposed recommendation was an Army Reorganized Airmobile Division (RAID) supported by a significantly robust support brigade. The RAID

capabilities included enough aircraft to sustain combat with aerial reconnaissance and fire support, while simultaneously airlifting up to one third of it's combat forces for distances in excess of sixty miles. The boards various test and studies claimed the RAID had the same capabilities and effectiveness as four Army and two Marine divisions combined, given the South East Asia scenario, and should be fielded as quickly as possible.[5]

Lieutenant General Howze realized that a completely new organizations such as the RAID was unrealistic, but keeping with his guidance to seek out bold and innovative ideas he had the board redesign the current infantry division, replacing the tracks and wheeled vehicles with aviation wherever possible. This redesign resulted in an airmobile division with slightly less personnel, but with 2,751 fewer vehicles and over 400 aircraft.[6]

The Howze board explored new horizons in airmobility and represented the turning point in providing the Army with aerial mobility. The board's recommendations led to the activation of the 11th Air Assault Division (TEST).

11th Air Assault Division (TEST)

The Army activated the 11th Air Assault Division, along with a test program evaluation group, at Fort Benning, Georgia in early 1963. Although the project was given the highest priority, the country and the Army had several competing demands, which adversely affected the material, personnel and overall conduct of the test. These numerous demands were deployments to Vietnam, domestic civil disturbances, Cuban emergency contingencies, the Air Forces displeasure over the airmobility concept, and the conversion of 2d Infantry Division at Fort Benning, already a year behind to the Reorganization Objective Army Division (ROAD) concept, significantly impacted the execution of the test. If it was not for the full support, both financially and conceptionally

of the test program by Mr. McNamara the new airmobile concept may have never occurred.

The Chief of Staff of the Army, General Wheeler summoned the test division's handpicked commander, Major General Kinnard, to the Pentagon and issued him his final guidance before standing up the new 11th Air Assault Division. The guidance was straightforward: reconfigure the division so that all equipment could to be flown by air, replacing as many wheeled vehicles with helicopters as possible and he (Major General Kinnard) had complete free rein, even in the selection of personnel. General Wheeler's final instructions to the new commander were implicit: "You are going to run this organization, I want you to find out how far and fast the Army can go, and should go in the direction of airmobility."[7]

The Howze board established several operational premises from which the new division would operate and be able to execute for the concept to fully realize its capabilities. First, to decrease the problem of providing maximum degree of airmobility and flexibility, combat elements would be relieved, as much as possible and practicable of every responsibility for support, combat support and administration. Second, subordinate units of the division brigade task forces would operate roughly 100 kilometers forward of the division support base and battalions or companies would operate up to a distance of twenty-five to thirty-five kilometers from the brigade support base. The divisional design contained all the elements of combat power of the time, to include: maneuver forces, reconnaissance, firepower, and communications resulting in a capability for striking a number of widely dispersed targets. The light infantry company was the cornerstone of the division: capable of quick insertion by air, execution of the

mission and then extraction upon mission completion. The number of aircraft available to the division would allow for air lifting one-third of the combat forces in a single lift and upon refueling and rearming execute a second lift of the second third, with the last third held in reserve with aircraft on standby for movement. Air transported artillery and mortars provided the firepower for continuous execution of the land battle during night or non-flying weather.[8]

The Pentagon realigned the entire airmobile program in March 1964 to allow acceleration of the testing of the 11th Air Assault Division. The division personnel strength continued to build as training effort was doubled to meet the end of the year evaluation completion date. In 1964 the division consisted of six infantry battalions organized under two-brigade headquarters, one aviation battalion (Surveillance and Escort), and three aviation assault battalions (two UH-1 and one CH-47). What was of more importance was the firepower provided by the three 105-millimeter field artillery battalions, one aerial rocket battalion and one Little John field artillery battalion.[9] Over the next couple of months the training intensity increased in preparations for the early fall Air Assault II test, the final evaluation to prove the airmobile concept.

During October and November 1964, the division successfully demonstrated that its units could seek out an enemy over a large two state area, despite extremely unfavorable weather conditions in the form of a hurricane, find the enemy and then rapidly synchronize and mass combat power to destroy the threat.[10] The success the Army experienced in developing, fielding and testing the new concept of airmobility can be directly tied to the innovative approach and latitude given to both the Howze Board and the commander of the 11th Air Assault Division.

Officially, the 11th Air Assault Division was never specifically intended for the war that was heating up in Vietnam, but designed to explore the tactical usefulness of airmobility anywhere. Given the difficult terrain and elusive enemy in Vietnam, what better opportunity to use a division capable of rapid insertion of combat forces by helicopter, with integrated combined arms capabilities ever existed?

Several events combined to send the division to Vietnam. The most significant was the desperate military situation in Vietnam. Political coups and several defeats of the Army of the Republic of Vietnam at the hands of insurgency forces, allowed the communist North Vietnam to gain the upper hand. The U.S. intervened with regular forces but lacked the light divisions to operate in the tropical and mountainous terrain. Both the 82d and 101st Airborne Divisions lacked the tactical mobility once on the ground, normal infantry divisions were reliant on some type of motorized or mechanized transport and the armor divisions were just too heavy.

Based upon the Air Assault II final report, the military situation in Vietnam and several high-level Army counsel meetings a recommendation was forwarded to the Defense Secretary to incorporate an airmobile division into the Army force structure with the conversion of the 1st Cavalry Division as that unit. On 15 June 1965, Mr. McNamara approved the recommendation and designation of the unit. Since the current 1st Cavalry Division was a standard ROAD division and serving at Tonggu, Korea, its assets would be utilized to stand up a new Korea based 2d Infantry Division. The cavalry colors were flown to Fort Benning with conversion to begin on 1 July 1965. This exchange of colors allowed the new division to draw upon all resources at Fort Benning. The new division received orders to execute conversion to an airmobile division table of organization and

equipment, with 100% personnel and equipment levels and be ready for combat deployment no later than 28 July 1965. Thus was born the 1st Cavalry Division (Airmobile).

1st Cavalry Division (Airmobile)

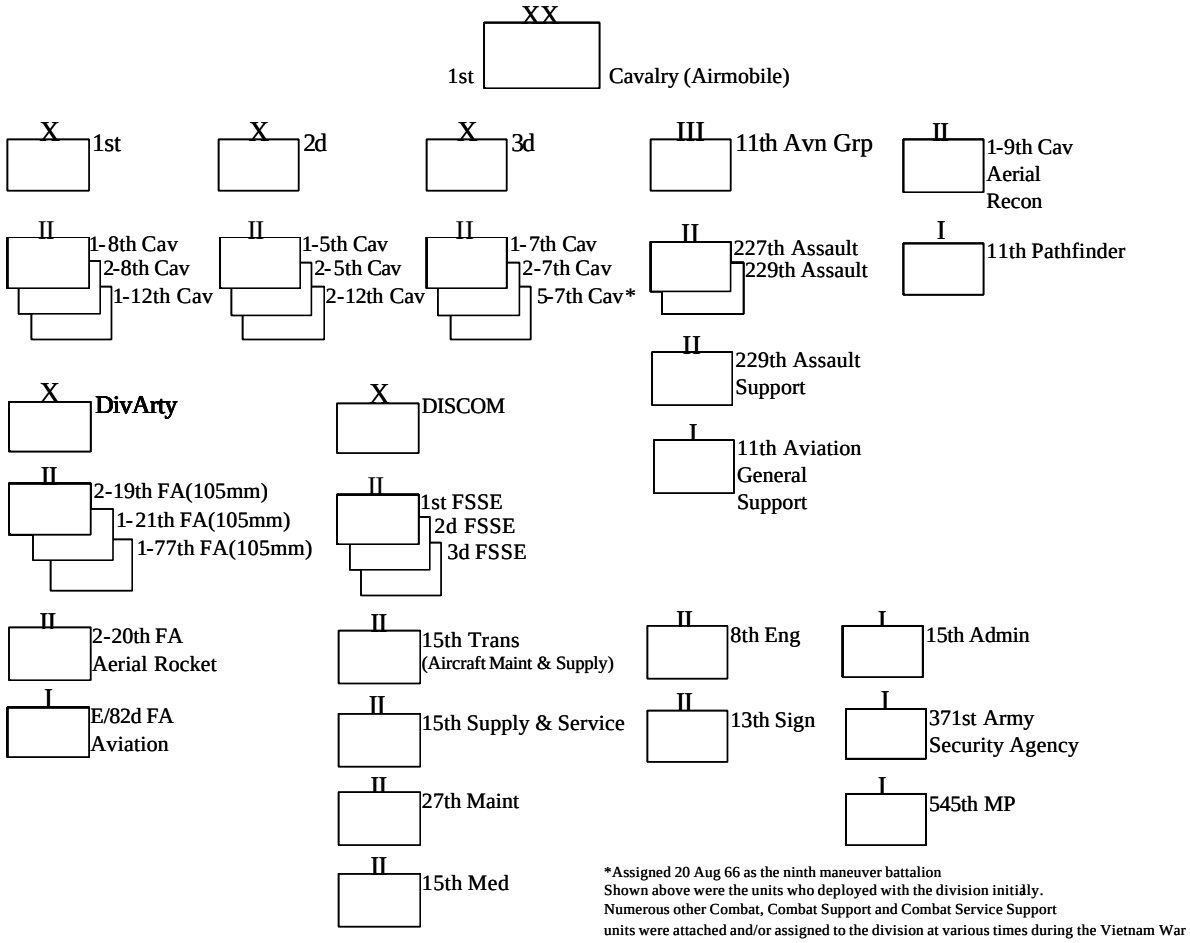
The 1st Cavalry Division (Airmobile) would be sent to Vietnam after only three years of conceptual and field-testing. Major General Kinnard now faced the daunting task of taking the 11th Air Assault Division (activated only to conduct the airmobility feasibility test) to a fully combat ready airmobile division with a deployment date, less than one month away. The deployment date was especially unreasonable given the extent of reorganization and training required to stand up an organization of this size and different doctrinal concepts. Normally a unit scheduled for major restructuring or new equipment issue receives a mandated three-month preparation before deployment to a combat zone. In the case of this division the timeline allowances were deliberately disregarded based upon the worsening situation and the lack of firm national policy regarding Vietnam.[11]

The division table of organization and equipment authorized eight airmobile cavalry battalions, three light artillery battalions, one aerial rocket battalion, a cavalry reconnaissance squadron, an engineer battalion and various combat support and combat service support units. Personnel and equipment from the inactivated 2d Infantry Division and the 11th Air Assault Division, both at Fort Benning were transferred to the new division. Even with combining these two divisional units entire battalions worth of personnel and equipment would have to be built from the ground up. Stateside depots and

supply points were called upon to fulfill major end items and sets, kits and outfits requirements.[12]

What loomed as a larger problem for the new commander was the authorized personnel and training of these newly designated cavalry soldiers. The division was authorized 15,890 men upon activation, yet only 9,489 were assigned, with 50% of those being ineligible for overseas deployment under peacetime service criteria. Another real concern facing the command was the significant shortage of aviators. Entire aviation companies from other commands were sent to the division but most arrived after 15 July, with the pilots requiring transition courses for the new models of aircraft. Even with the help of the aviation school and using all the training facilities at Benning, still more than fifty pilots set sail for Vietnam without being qualified on the new model aircraft.[13]

Regardless of how rocky the conversion from an experimental test unit to an airmobile division on the verge of deploying to a combat zone was, the 1st Cavalry Division (Airmobile) started deployment to Vietnam with its main body on 28 July 1965. The cornerstone of the airmobile doctrinal concept is concentration of firepower and shock effect across the battlefield while continually possessing a high degree of responsive vertical mobility capable of maneuvering over a large area. In the 1st Cavalry Division this is evident by the type and number of aviation units assigned to the division. Shown in figure 2 are the actual assigned combat, combat support and combat service support units deployed to Vietnam or assigned shortly after arriving.[14]



The division deployed the following aircraft types and numbers:

287 Utility Helicopters (UH-1)
48 Cargo Helicopters (CH-47)
93 Light Observation Helicopters (LOH)
6 Fixed wing observation aircraft (OV1 Mohawk)
434 Total aircraft[15]

Figure 2. 1st Cavalry Division (Airmobile)

Despite the numerous obstacles in the way of rapidly activating the 1st Cavalry Division, the combat power and forces finally assembled and subsequently deployed to Vietnam would ultimately change the conduct of warfare. The division's manpower after deploying grew to its peak combat strength of more than twenty thousand men after

augmentation from various corps units. By fusing and synchronizing the men, weapons, and transportation assets combined with new doctrine the division's real firepower came to fruition. Maximum shock effect was achieved by maintaining the capability to vertically envelop the enemy through the application of an aerial armada of light infantryman, supporting artillery and attack aviation. The 1st Cavalry Division (Airmobile) represented the essence of modern, mobile Army striking power and no longer was the prisoner of the terrain upon which it stood.

1st Cavalry Operations in Vietnam

The arrival of the 1st Cavalry Division (Airmobile) showed the increasing commitment of the U.S. government in support of the South Vietnamese government to combat the growing communist insurgency threat. The general mission statement of the division upon arrival was to provide reconnaissance for larger field force commands, participate in stabability operations short of all-out nuclear war (low and mid-intensity operations), and provide security and control over the population and resources of an assigned area. With this mission statement, the 1st Cavalry was assigned the responsibility of protecting it base, Camp Radcliff at An Khe, reopening highway 19 from the coast up to Pleiku while safeguarding its traffic, and guarding specific coastal lowland rice harvest from Viet Cong disruption. This mission and the area of operations resembled a static security nature and were defensive in nature.

The 1st Cavalry Division was designed and destined for offensive operations. Airmobility presented such great vertical maneuver and firepower capabilities for the commander that upcoming events would draw the division into its first real test of its doctrine. The first test came when the division was ordered to locate and engage the

North Vietnamese Army regulars in the Ia Drang Valley, located along the western border of Vietnam. No single engagement displayed the validity of the airmobile concept as remarkably as the Ia Drang Valley campaign.

To an Army who during the previous two wars was largely ground based, the responsive and flexible maneuver and firepower capabilities indicative of airmobile operations was virtually beyond comprehension. In the thirty-three day period of the Ia Drang Valley operation, the division's helicopters executed twenty-two battalion level and sixty-six artillery battery moves across distances as great as seventy-five miles at a time in terrain normally impassible by vehicular traffic.[16]

Pleiku *(Ia Drang Valley Operation)* Campaign

(Map Appendix A)

The task of Senior Colonel Ha Vi Tung, Chief of Staff of the North Vietnamese Military Region IV, was to use his fresh division to conduct a sustained advance through the Central Highlands with the ultimate purpose of cutting the country in two. The Central Highlands originated in Cambodia and cut directly across the midsection of South Vietnam ending at the South China Sea. Colonel Ha supervised the planning for the campaign and cautioned his staff that an operation of this magnitude could possibly draw the attention and subsequently the introduction of a large American force into combat for the first time. Unknown to Colonel Ha the first large unit of American troops he would face would be the recently deployed 1st Cavalry Division (Airmobile). This battle would be the true test and subsequent validation of airmobile doctrine combined with supporting firepower.

His first objective of the operation was the siege and eventual destruction of the Special Forces camp at Plei Me, situated twenty miles to the east from his sanctuary along the Cambodian border, and manned by 300 Jarai Montagnard tribesman and ten American advisors. Two of his first rate regiments were tasked with the mission; one to seize the camp and the other to ambush the reinforcements the South Vietnamese Army would surely send. On the evening of 19 October 1965, his two regiments had closed on the objective at Plei Me and attacked the outpost.

By midnight on the 19th the commander realized that this attack was not the normal probing, hit and run tactics of the Viet Cong but a well organized large force attack from all directions, being conducted by skillfully trained soldiers who were getting to within yards of his perimeter under the cover of darkness. With no artillery within range the commander called for close air support and the first sorties arrived just as the enemy started his first coordinated attack at 4 a.m. By early morning the skies were full with Air Force, Navy, United States Marine Corps and South Vietnamese planes, the forward air controller stacked the aircraft and sent them into the area two sorties at a time to ensure the bombing and strafing runs were coordinated, precise and continuous. This was no easy task given the four air forces were flying a total of eight different type aircrafts. The close air support dropped napalm and bombs within meters of the outpost perimeter, driving off the enemy's attacks. The enemy had experienced the effects of well-coordinated and massed airpower for the first time, and for the first time the siege of an isolated outpost had been broken by airpower alone.[17]

From a tactical point of view, Senior Colonel Ha thought his plan was proceeding according to long ago proven practical experiences from the first Indochina War. But as

the battle progressed he became increasing displeased at the price of success his units were paying resulting from the sustained airpower. He had not expected the American aircraft to attack during hours of darkness, nor was he prepared for the eighty tons of ordnance delivered continuously onto his troops. After only two days one of the regiments sustained fifty percent casualties while trying to maintain pressure on the outpost. After four days of failing to seize the outpost, Senior Colonel Ha reluctantly pulled his depleted regiments back from their exposed positions to the sanctuary of the Chu Pong Mountains to the west. Senior Colonel Ha never anticipated the American response to his attack on the Plei Me outpost would become the prelude to the most famous divisional airmobile retaliation in history.

On 27 October, General Westmoreland visited the 1st Cavalry Division headquarters at An Khe, located in the Central Highlands not far from Plei Me. He discussed the recent events at the outpost and instructed Major General Kinnard to undertake a campaign to seek out and destroy the retreating soldiers of North Vietnamese Army. This mission was perfect for the airmobile style of combat; the road-less route the enemy was using back to the mountains was no obstacle for the more than 450 helicopters now assembled in support of the division. Kinnard proposed the use of one brigade during the search and attack mission, by leapfrogging companies and platoons by helicopter between suspected enemy locations, all the while under the umbrella of artillery fires and supported helicopter gunships.

The artillery batteries were lifted into the area by helicopter, at times ahead of the infantry to ensure immediate fire support was available the minute the maneuver arrived on the ground. Based upon the isolated terrain in the region, guns were placed into tight

groupings, rarely with more than a platoon of infantry for security. These were not the heavy sand bagged firebases, which would become more prevalent later in the war, but more like artillery raids which they eventually became known as. Kinnard counted on surprise and frequent moves to safeguard his artillery; never did the batteries stay in a position for more than two days. Kinnard was convinced that the enemy could not mount a planned, coordinated or massed attack on these scattered units within this short time period. Whenever possible the artillery batteries were positioned to mass fires in support of the infantry and also to provide mutual support of each other.

To an outside observer scattering infantry and artillery batteries across large area might leave the units open to defeat in detail. In fact, Kinnard hoped the enemy would believe this, because he knew that the helicopters capabilities allowed every scattered platoon not in contact to be a mobile reserve, which could be extracted and committed in a matter of minutes. Kinnard's intent was simply, to gain contact and terrain held very little tactical value. Platoons were employed in the manner of the matador's cape; vulnerable and waved in the face of the enemy, their purpose was simple draw the enemy into decisive combat. Firepower in form of artillery and armed gunships were the sword behind the cape, hidden carefully and called upon by the skilled matador at the final moment to do the killing.[18]

The 1st Cavalry Division started the campaign on 28 October, landing helicopters in scattered clearings across the path Senior Colonel Ha's units were using to reach the safety of the Chu Pong Mountains to the west. Immediately these seamlessly random helicopter landings of troops began to interfere with his regiment's movement. As Kinnard had intended each time the units saw or came into contact with the enemy they

would engage them with whatever firepower they could, including machineguns, artillery, gunship's rockets and close air support.

By 10 November the two North Vietnamese Army regiments had reached the safety of the mountains, but the cost of the attack on the outpost and running through the aerial and firepower gauntlet set up by cavalry was costly. Between the two regiments, they could only assemble half of their original strength. However a new regiment had just recently arrived from North Vietnam, the 66th. Senior Colonel Ha not wanting to surrender the initiative to the U.S., immediately started to plan his next offensive. With guidance from Senior Colonel Ha his staff planned a three-regiment attack supported by a heavy mortar battalion and a 14.5-millimeter twin barreled anti-aircraft battalion. He gave his regimental commanders five days to prepare. The objective again was the Special Forces outpost at Plei Me. For the first time the North Vietnamese Army would employ a full three-regiment division in offensive operations in South Vietnam. [19]

Unknown to Senior Colonel Ha, Major General Kinnard had also decided to seek the initiative and renew his offensive push. On 13 November, twenty-eight lifts of CH-47 Chinooks emplaced two artillery batteries at Landing Zone Falcon, ahead of the infantry and only five miles east of the Chu Pong Massif in the Ia Drang Valley. At 10:30 the next morning Lieutenant Colonel Harold G. Moore, commander of the 1st Battalion, 7th Cavalry, started to land three companies into Landing Zone X-Ray, a small clearing at the foot of the Chu Pong Mountains and unbeknownst to him right in the path of Senior Colonel Ha's division attack route to the outpost. The battle began from the moment the first helicopter landed and offloaded its' troops. By early afternoon all companies of the battalion were heavily engaged and Lieutenant Colonel Moore knew his unit was in a

fight for its own existence. Each arriving sortie of helicopters immediately took fire and the enemy was attacking the landing zone from every direction. Just prior to dark Lieutenant Colonel Moore pulled all his forces into a tight perimeter, minus one separated platoon. The platoon would be known as the lone platoon thereafter. The only thing that saved the lives of the twelve alive and unwounded soldiers of the lone platoon was the continuous barrier of firepower provided by artillery and close air support throughout the next two days of isolation.

The North Vietnamese Army started attacking in larger formations at dusk of the first evening and continued unrelenting pressure on Landing Zone X-Ray throughout the next two days. During the first night the artillery located at Landing Zone Falcon fired over 4,000 rounds with deadly accuracy, with the forward observers walking the fires within meters of the perimeter.

On the next morning the intensity of the attack increased as the North Vietnamese Army started to mass their battalions on Landing Zone X-Ray. Enemy fire was so intense that any movement around the Landing Zone instantly resulted in casualties. For the moment Lieutenant Colonel Moore thought the landing zone would be lost. He was determined to not let history repeat itself: “It certainly entered my mind that we were the 7th Cavalry Regiment, and by God, we couldn’t let what happened to Custer occur here.”[20]

Based upon the threat of possibly being overrun, Lieutenant Colonel Moore requested all his units mark their perimeter with colored smoke. He then directed his fire support officer to call for all available fires to be delivered as close to the perimeter as possible. For the next several hours: coordinated artillery, helicopter gunships and close

air support laid down a protective wall of firepower around the beleaguered battalion. The Air Force maintained a constant close air support cap over the landing zone with a fighter-bomber on a target run every fifteen minutes.

Shortly after noon on the second day the first use of B-52 bombers in support of a tactical unit unleashed their destructive power on the enemy's rear area. For the next five days the Air Force continued strikes on the Chu Pong Massif in an attempt to destroy the enemy's lines of communications and rear area. Rumors spread among Senior Colonel Ha's regiments that these giant unrolling fiery carpets of bombs covered a twenty square kilometer area and trenches and foxholes provided no protection. The psychological effects of carpet-bombing by *B-52s* and the artillery's first use of white phosphorus had a very debilitating effect upon the enemy.[21]

On the 15th another two batteries of artillery were air inserted into a hastily prepared position called Landing Zone Columbus, located just five miles north east of Landing Zone X-Ray. From Landing Zone Falcon and Landing Zone Columbus the 1st Cavalry Division Artillery was able to mass more then a battalions worth of artillery onto Landing Zone X-Ray at any given time.

On the 16th the enemy once more attacked Landing Zone X-Ray but this time Lieutenant Colonel Moore and his battalion were on the offensive, walking a wall of artillery in front of them as they attacked towards Senior Colonel Ha's position on the mountain. After three days of fighting Senior Colonel Ha's regiments had suffered over 1,000 killed in action. Senior Colonel Ha realized that a prepared infantry perimeter supported by plentiful, coordinated artillery, helicopter gunships and close air support was too tough a target. He concluded that his real failure was not destroying the

American commander's ability to use his artillery in the battle, which was the real source of his killing power. On this same day he ordered the 66th Regiment to move to Landing Zone Columbus and destroy both artillery batteries located there, thus eliminating the enemy's real firepower.[22]

Shortly after Lieutenant Colonel Moore's successful attack towards the mountain and after the enemy broke contact, his battalion was pulled out of Landing Zone X-Ray and two new battalions were inserted. Major General Kinnard, in keeping with his belief that terrain with no enemy upon it was of no tactical use, ordered the two battalions to depart Landing Zone X-Ray and move to Landing Zone Columbus and protect the artillery located there. The 2-5th Cavalry left X-Ray first and closed on Landing Zone Columbus by noon. The 2-7th Cavalry left later and following a different route, which led them right into the middle of the 66th Regiment. The enemy had been warned of a large approaching American unit and quickly set up a hasty ambush. For the next six hours a fierce hand-to-hand combat fight ensued, practically in sight of Landing Zone Columbus. Artillery, helicopter gunships and close air support was of no use because the enemy had closed with the battalion and friendly could not be distinguished from foe.

By early evening the battle had concluded and the few remaining leaders and soldiers gathered together into two perimeters and called in protective fires throughout the night. In the morning the enemy broke contact and left behind 400 dead. In a few hours, the 2-7th Cavalry had lost 157 soldiers, two thirds of all lost during the entire Ia Drang Valley campaign. The battle that took place upon in this meadow became known as the fight at Landing Zone Albany.[23]

Senior Colonel Ha had learned a valuable and clear lesson at Landing Zone X-Ray and Albany; surprise the Americans and separate them from their firepower and the battle becomes an even match of infantry on infantry.

The battle during the Ia Drang Valley campaign resulted in the evolution of several fire support doctrinal trends. The first and probably the most significant regarding fire support were the effective use and coordination of multiple weapon systems on such an unprecedented scale, controlled and coordinated day or night by the fire supporter. At no other time in history were artillery, helicopter gunships and close air support more efficiently utilized at night in such confined complex terrain supporting the ground force. Second, firepower was the pivotal element in the battle for Landing Zone X-Ray and without the overwhelming effects of it the outcome of the battle may have been quite different. This coordinated firepower probably allowed for the survival of the lone platoon during this operation. Third, the use of helicopters to move troops and artillery provided the flexibility unheard of in past conflicts and freed the forces from being a prisoner of the terrain upon which they stood. Artillery at times was inserted prior to the infantry to provide immediately responsive fires upon landing of the maneuver forces. Airmobility doctrine was tested and validated; although refinements were required the general concept was well founded. Fourth, an enemy who did not wish to fight must be methodically searched for, fixed by small units and then destroyed by firepower.

Coastal *(Masher/White Wing Operation)* Campaign

(Map Appendix B)

From late January 1966 through mid February 1967, the 1st Cavalry Division conducted a yearlong campaign to remove North Vietnamese Army and Viet Cong forces

throughout the Binh Dinh Providence. During this campaign the division executed several operations; *Masher/White Wing, Jim Bowie, Davy Crockett, Crazy Horse, Thayer I, Irving, and Thayer II*, these operations resulted in the airmobile division's application of sustained cavalry pursuit over a large area of operations.

Pursuit is an offensive action against a retreating enemy. The flexibility and rapid response time of an airmobile division favored fluid pursuit operations. Ideally, the airmobile forces would envelop the retreating enemy blocking his routes of withdrawal, thus allowing the pursuer to mass coordinated firepower upon the trapped enemy force, destroying him. The terrain and distances presented significant obstacles but the division envisioned massive helicopter movements to minimize these problems.[24]

Operation Masher/White Wing was the first large scale combined joint operation, conducted in Vietnam where corps boundaries were regularly crossed. Command and control as well as coordination across the command was essential since the forces involved in the operation included the U.S. Army, U.S. Marine Corps and the armies of both South Vietnam and the South Korea. The operation was the largest of the nineteen conducted during 1966 and the effect of these operations on the enemy was significant with the North Vietnamese Army suffering 2,389 casualties.[25]

The area of operations within the Pinh Dinh Province is bordered in the east by the South China Sea, by large hill masses in the west and south and by foothills in north along the Quang Nga Province. The terrain consisted of large coastal plains in the east along the South China Sea and rugged mountains in the west with numerous with flat plateaus.

Intelligence indicated that a large enemy force possibly consisting of the 18th and 210th North Vietnamese Army regiments, a yet unidentified regiment and the 2d Viet Cong Main Force Regiment were controlling and operating out of the northern portion of the province.

The campaign contained four distinct phases: *Operation Masher, White Wing, White Wing (Eagle's Claw)* and *White Wing (Black Horse)*. The division wanted to ensure adequate fire support assets were available for the operation in the event immediate contact with the enemy occurred. These assets consisted of the three organic direct support 105-millimeter battalions, the general support aerial rocket battalion, a II Corps 105-millimeter battalion in a reinforcing role of the South Vietnamese Airborne Brigade Artillery, and II Corps 175-millimeter and 8-inch batteries in general support of the division. Additional assets available to the division included preplanned and immediate close air support, naval gunfire except for the period between 10 February to 1 March and other II Corps field artillery units if required.[26]

Operation Masher started with the 3d Brigade conducting a deception operation attack south of Bong Son to lead the enemy to think division efforts would be focused in the south and also to increase security along Highway 1. The initial attack by the 3d Brigade south of Bong Son met very little resistance so on 28 January, the 3d Brigade along with a Vietnamese Airborne Brigade conducted air assault and ground attacks north of the town of Bong Son. Their mission was to find and destroy a major enemy regimental recruiting and rice supply center near Bong Son.[27] After intense fighting across the brigade front the results of the battle were two enemy battalions had been located, fixed and destroyed by the combined firepower of the 1st Cavalry Division and

the Vietnamese Airborne Brigade. The resulting interrogation of enemy prisoners indicated the enemy had moved out of the coastal areas to the safety of the highlands to the north and west.

In reaction to the new intelligence the division launched Phase II, *Operation White Wing* on 6 February. The plan for the operation called for a USMC battalion to establish blocking positions north of the An Lao Valley blocking retreat of the enemy to the north as the 2d Brigade, 1st Cavalry Division, augmented by two additional battalions, launched coordinated air assaults from both sides of the valley. The follow on mission for the 2d Brigade was to sweep south towards the town of An Lao and Kim Son Valley, where the 3d Brigade and the 22d South Vietnamese Division were conducting operations.

As 2d Brigade moved south, the 3d Brigade initiated Phase III *Operation Eagle's Claw* with a series of attacks southwest of Bong Son in the Kim Son Valley, oriented to the north towards the valley and hill masses. The 22d South Vietnamese Division was just to the northeast of the 3d Brigade as they conducted their operations. The pressure from the 2d Brigade attacking south from the An Lao Valley, forced the enemy into the area where 3d Brigade and 22d Division were executing their series of attacks. Thus the enemy was caught between two converging forces resulting in small to moderate contacts and the capturing of numerous prisoners.

During *Operation Eagle's Claw* the division captured the battalion commander of the 22d North Vietnamese Army Regiment (the as yet unidentified unit) and during interrogation he revealed his unit held defensive positions in the area south of Bong Son, on the eastern edge of the Kim Son Valley. The 2d Brigade was air assaulted into the area

south of Bong Son based upon this new intelligence and during the next three days of intense fighting destroyed the 22d North Vietnamese Army Regiment. As the 2d Brigade conducted their operations south of Bong Son, the 1st Brigade relieved the 3d Brigade in the Kim Son Valley and finished the defeat of the 18th North Vietnamese Army Regiment in that area.

The final Phase *Operation Black Horse* consisting of a sweep across the Cay Giap Mountains southeast of Bong Son, a reputed Viet Cong stronghold, was conducted by the 2d Brigade and South Vietnamese 22d Division. The units meant only sporadic enemy resistance and by 6 March the combined joint task force of 1st Cavalry Division, United States marine Corps and armies of South Vietnam and South Korea had cleared the Bong Son area of enemy resistance and the coastal area could no longer be considered an enemy stronghold. The division's forty-one day operation had once again proven the effectiveness of airmobile operations. The effectiveness of modern cavalry pursuit was verified as the division cut a circle through a formerly uncontested, densely populated swath of Viet Cong territory.[28]

The battle during the *Operations Masher and White Wing* campaign resulted in the evolution of several fire support doctrinal trends. The first was the ability of the fire support system to effectively function as a team was truly displayed during the campaign. Target acquisition assets, artillery survey, artillery aviation, firing batteries and support elements coordinated and functioned as one. The field artillery batteries over the forty-one day period made 166 displacements of which fifty-seven were by air. Proving that the field artillery could support the rapid movement of ground forces across an expanded battlefield. Another was the innovative methods the artillery and support units' developed

to sling load howitzers to off set the high demand on air assets. During *Operation Masher* and *White Wing* the first airmobile of a 155-millimeter towed howitzer during combat was executed by a *CH-54 Sky Crane* and a 105-millimeter howitzer, crew and ammunition in a single lift by a *CH-47 Chinook* These capabilities allowed the artillery to support the airmobile force with the longer range 155-millimeter artillery piece and also the ability to lift an entire 105-millimeter gun section with one lift instead of two, thus cutting down the number of airframes to lift a battery.

Even with the numerous displacements by artillery units, the ability to provide and maintain incredible volumes of fire and still move and communicate was indicated by the sheer numbers of rounds, 141,712 fired in support of the operation. The sustained firepower-centric warfare resulting from the Korean War quickly made its mark on the battlefields of Vietnam. Not only did the artillery provide fires but the Air Force and Navy also provided 515 sorties dropping over 1,000 tons of ordnance and fired 3,212 5-inch rounds in support of the campaign, respectively.

The combination and magnitude of these fires, the multiple air movement of troops and supplies required an extensive amount of coordination, which fell upon the shoulders of the fire supporters at all levels of command. For the first time during the operations in Vietnam the fires of joint and combined forces had to be coordinated and de-conflicted across different corps boundaries. The formation in the artillery headquarters of Combined and Joint Fire Support Coordination Centers (CJFSCC) containing representatives from all nations and services was a first and proved to be extremely effective.

Battlefield Environment

Never has an American military unit been thrown so quickly or so early in it's infancy, nor experienced such an abrupt change in climate and terrain, as did the 1st Cavalry Division (Airmobile) deploying to Vietnam. Vietnam is approximately the same size as the state of New Mexico, with some 127,000 square miles. Five distinct regions make up Vietnam; the Northern Mountains, Northern Plains, Central Highlands, Coastal Lowlands and the Southern Plains. All five regions contain several types of vegetation. The vegetation falls into six categories; rain forest, open forests, swampland, marshland, grassland and cultivated areas. The Central Highlands originates in Cambodia and cuts directly across the midsection of South Vietnam ending at the South China Sea. The Pinh Dinh Province, bordered in the east by the South China Sea, by large hill masses in the west and south and by foothills in north along the Quang Nga Province. The terrain in this area consisted of large coastal plains in the east along the South China Sea and rugged mountains in the west with numerous with flat plateaus.

Waiting to do battle with the 1st Cavalry was an enemy that understood combat in Southeast Asia and was confident in the knowledge that they had defeated a first-rate Western army on the same ground just a decade earlier. The enemy were well trained and disciplined, determined to the point of suicidal fanaticism and was very willing to conduct human wave attacks against well-established defenses.

The enemy was a master of building tunnel complexes and field fortifications, truly on the same level as the Japanese during World War II. The underground facilities were always surrounded by booby traps consisting of mines and command-detonated bombs, intermixed among well-hidden machine gun bunkers. He possessed such a high

degree of camouflage that it was not unheard of for a U.S. unit to walk amongst the main tunnel complex before the ambush would be triggered. [29] The Vietnamese had been going underground to escape superior military forces since the nineteen century, but the tunnel systems they built during the 1950s and 1960s were architectural works of art. The famous underground complex at Cu Chi, thirty-miles from Saigon, had more than 250 kilometers of tunnels, on two or three levels, most ten meters below ground and connecting numerous chambers by two feet square passageways.[30]

The battlefield framework in Vietnam, appeared to be linear and contiguous based upon the operational graphics assigning areas of operations for the various corps and divisions, however it was anything but that. The battlefield of Vietnam and the one faced by the 1st Cavalry Division (Airmobile) was non-linear and non-contiguous. This was just the kind of operations the airmobile division was designed.

Fire Support Systems

Mortars

The airmobile division's complement of mortars included the 60-millimeter and 81-millimeter. Numerous after action reports stated that most commanders during the Vietnam War failed to effectively employ their organic mortars. Tubes, base plates and ammunition were heavy and once the cavalry soldier dismounted from the prime mover the helicopter, the added weight was a significant burden on a already heavily loaded soldier. Therefore commanders counted on the abundance of artillery firepower and on most occasions did not even bring the heavier 81-millimeter mortar with them. Another problem besides the weight of the mortar was the manning and training of the mortar crews. More often than not the crews were made up of infantryman who no longer could

go to the field. The manning and training of these crews were not a priority. For these reasons, mortars were often left back in base camp and the commander counted on the indirect fires from artillery when needed.

Field Artillery

The Army built since 1945, to fight in Europe required significant conversion to prepare for war in the Asian theater. The Army learned several hard lessons from the Korean War and if the Army did not want history to repeat itself, changes had to made. The artillery branch required some doctrinal and material changes but faced far fewer changes then the maneuver arms of the Army. The same guns and ammunition on hand in 1965 served adequately with minor modifications. Infantry divisions were equipped with the same 105-millimeter howitzer found in WW II and Korea. A light airborne or airmobile version *M102* was developed in the early 1960s, which became the main stay of the airmobile division artillery. The new lighter gun, along with its ammunition could be slung under the *CH-47 Chinook*, with the full crew riding inside the helicopter. Thus an entire gun section, with ammunition could be transported in one lift, only realized after a new, stronger sling load kit was developed. The innovativeness of the soldiers did not stop with finding a way to sling load a 105-millimeter howitzer section, but also included invention of a sling load kit capable of air lifting the much heavier 155-millimeter howitzer with a *CH-54 Flying Crane*. The corps artillery also possessed the newer 8-inch howitzer and 175-millimeter gun, both mounted on tracked carriages. The 8-inch howitzer provided the accuracy and punch with its 200-pound projectile to be effective against hardened targets, such as bunkers. The 175-millimeter possessed a greater range, out to twenty miles with its lighter shell, but had questionable accuracy. Neither the 175-

millimeter nor 8-inch were capable of movement by helicopters and were therefore hamstrung to limited road network.

During the height of our commitment in Vietnam sixty-five battalions of artillery were deployed, which was somewhat less than the ratio of artillery to infantry found during World War II but close to the numbers deployed to Korea. In fact, the volume of fire each battalion supplied in Vietnam offset the lack of actual number of tubes. U.S. artillery units fired in excess of 20-million rounds in support of the maneuver forces during the war.[31] The above numbers readily show that artillery quickly became the workhorse of the fire support system in Vietnam. Commanders in the field came to rely upon the artillery as a twenty-four hour, seven day a week, all weather system for accurate and deadly fires.

The introduction of the helicopter as a means of moving artillery added a much-needed degree of flexibility and agility to a fire support system. This airmobility meant the artillery batteries could be transported from firebase to firebase with no need to worry about the road network in between. The constant moving, sometimes as much as four times a day during peak hours of operation, allowed for rapid repositioning of fire support assets on a fluid battlefield and also a dimension of force protection for the unit by not staying in a static position very long. Another capability the helicopter presented was the ability to conduct *Artillery Raids*, by platoons or batteries, thus extending the range of support outside the normally established range fans of the artillery to attack time sensitive high payoff targets or support extended maneuver operations.

For a war without fronts and the tactical requirements of being able to support numerous small units across a large area of terrain required artillery units to modify their

doctrine in regards to how firing batteries occupied a position. No longer could a firing battery or battalion line up in a linear, conventional formation and expect to be able to provide fires 360-degrees from that position. Therefore a new tactical technique was developed which took into account the new enemy, terrain, and the doctrine of airmobile operations stretching across a widely dispersed area. This was the establishment of firebases, each arranged with the guns in a star formation, each gun capable of traversing 360-degrees within its position, this formation allowed for providing fires in all directions and also a circular sheaf in the target area, thus providing greater effects.

The downside to these widely dispersed firebases was the inability to mass numerous battalions on a single point target. In theory though the determination was made that batteries firing multiple volleys, instead of multiple battalions firing, could achieve the same effects. The flaw in this theory quickly comes to light when you compare the effects on the target. An eighteen-gun battalion shooting simultaneously provides greater surprise and effects by not allowing the enemy time to react. Whereas a six gun battery firing three volleys, although the same number of rounds, effects from the last two volleys are diminished because of the loss of surprise, resulting in time for the enemy to react and take cover. The fire supporters of the cavalry overcame this shortfall of being able to mass battalions by constant close coordination and movement of firing units to saturate the area of operations with multiple batteries.

From the viewpoint of accurate and timely fires the two most important aspects were the Fire Support Coordinator (FSCOORD) and the fire direction center. From the forward observer at the company up to the FSCOORD at Corps headquarters, their jobs became increasingly difficult as new aerial fire support weapon systems with greater

speed were introduced onto the battlefield of Vietnam. No longer was this individual only tasked with accurate and timely effects of artillery fires and maybe close air support or naval gunfire, as he was during the World War II and Korea, but now he was responsible for coordinating the effects of field artillery, helicopter gunships, close air support, naval gunfire fires while also coordinating the airspace within the area of operations.

Forward observers became the company commander's best friend and at times survival of the company rested upon his skills and ability to call in and provide timely and accurate fires. Good forward observers were prized; bad ones quickly found other jobs.[32] What made the forward observers job difficult was the inaccuracy of the maps, resulting in delayed fire missions or inaccurate fires and the extremely confined terrain in which the units operated. The time standard for fire missions was rounds on the target within two minutes after the fire direction center received the call for fire from the forward observer, but due to inaccurate maps and not wanting to commit fratricide, light artillery units fire mission times sometime reached six-minute and heavier artillery units took up to thirteen minutes. This was based upon fire direction centers confirming forward observer and unit's location and then double and sometimes triple checking firing data. Fratricide was avoided at the expense of time. One can see why a good forward observer who could navigate and accurately determine his and the units location were held in high regard.

Artillery units also had another extremely important observer in the form of aerial observers, the ones who flew the *L-19 Birddog*, a light single engine spotter plane left over from Korean War. The plane because of its loiter time executed numerous task in support of the artillery, anything from calling in fire missions, to reconnaissance,

registration of artillery, route recon and convoy cover. The biggest shortfall of the plane was it could not communicate with Air Force fighters-bombers, a complaint that was common for all Army aircraft, to include helicopters.[33]

The FSCOORD's span of responsibility and control at the brigade and above dramatically increased during the Vietnam War. The complexity of the battlefield had increased due to the introduction of the helicopter and jet aircraft in greater quantity and far greater speed than ever before on any battlefield of the past. The FSCOORD became responsible for airspace management in the division and corps area of operations, thus he also became responsible for de-conflicting any fires with the flight routes of any airborne asset.

Clearance of fires based upon rules of engagement many times was a issue and slowed fire mission processing. Based upon politics and bureaucracy, the use of fire support assets near populated areas required clearance from the Vietnamese sector headquarters. This problem was mitigated in 1968, when most artillery headquarters established CJFSCC containing representatives from all nations and services. The formation of these CJFSCC sped up coordination and clearance of fires but the issue still remained a problem right up to the end of the war.

Development of new ammunition, the Beehive and white phosphorus rounds, added additional killing power for the artillery. When white phosphorus was used for the first time at Ia Drang, the round provided an extremely effective psychological advantage. Lieutenant Colonel Moore stated when the round was first used it stopped the attacking wave dead in its tracks. The Beehive round contained 8,000 flechettes and quickly became the round of choice for defending against a ground attack on firebases.

The round was first used at Firebase Bird during the Coastal Campaign. The firebase was attacked by the 22d North Vietnamese Army Regiment and was almost overrun until the *Beehive* round was put into action for the first time. The one remaining gun position, which had not been over run, fired the round directly across the firebase. Every enemy soldier in a fifty-meter wide path was hit and went down, some with their weapons pinned to their chest; the gun crew then traversed and fired another. The enemy quickly stopped their attack stunned by the killing power of the round and retreated into the jungle. The round virtually saved Firebase Bird that day and became a mainstay for defending against massed ground attacks throughout the war.[34]

Attack Aviation

The attack helicopter proved its worth during the Vietnam War serving in a variety of fire support roles. The 1st Cavalry teamed up a pair of attack helicopters with a *L-19 Birddog* to conduct search and attack missions. This matching of sensor and shooter was called a pink or hunter-killer team. The *Birddog* with greater loiter time would go out and search the area for enemy as the helicopters sat at a near by firebase waiting for relay of targets. The attack helicopters would lift off, attack the target and then return to the firebase for follow on missions.

The armament on the modified aircraft was only limited by the imagination of the ground crew and the weight limitation of the airframe. The crews mounted many variation of 2.75-inch rocket pods, automatic 40-millimeter grenade launchers, and multiple forward firing machine guns, depending on the specific role the aircraft was executing. Although the *Huey* gunship was an ad hoc system, it did possess important capabilities required for the fire support mission. The most significant capability was

having the ability to detect and then engage a fleeting time sensitive target. With unlimited vision, slow speed and ability to hover the four crewmen became four aerial observers all within one airframe. It was the only reliable means for delivering fires closer than fifty meters and at times was called upon to bring the firepower on board to within five meters of friendly positions as long as the exact position could be clearly identified from the air.

In late 1967 the first true gunship, the *AH-1G Cobra* made its debut. Although an interim fix and not perfect, the capabilities were far greater then the *UH-1* gunship, the *Cobra* had increased speed allowing it to keep up with troop carrying aircraft and possessed better armor and much-improved assortment of onboard weapons.

Air

Although the value of the forward air controller had been established during World War II and Korea, the Air force didn't maintain the capability after each war. And it fact not till 1966 did they again revive this capability. In 1963 the shortfall was off set by barrowing twenty-five *L-19 Birddogs* from the Army to train up forward air controllers. In addition to lacking a forward air controller capability, the Air Force also realized the high performance fighters did not possess the loiter time, or fly slow enough or have the ordinance capacity to perform the close air support role. So in 1963 the Air Force reclaimed a number of obsolete Navy *A-1* propeller driven attack aircraft to fulfill the close air support role.

Although the Air Force reclaimed the Navy *A-1* to use in the close air support mission, eventually *F-100, F-4* and Navy *A-4* with iron sights to drop bombs were used. Although the sight was adjustable the pilot still had to compensate for airspeed, type

ordinance, release attitude and cross winds, not much better than a rifle sight. More experienced pilots eventually learned how to adjust for all the variables and use *Kentucky Windage* during his attack run. On board computers and laser range finders to assist the pilot in the close air support mission would eventually make their appearance but not in time to increase accuracy of close air support in Vietnam.[35]

Training of tactical fighter pilots before the Vietnam War reflected the mission priorities of the Air Force that of nuclear weapons delivery. Conventional delivery training was practiced but was not the priority and was minimal. For the first few years of the Vietnam War, the art of providing close air support was on the job training and experience, which was a slow dangerous process.

The most effective and innovative approach to close air support was the Air Force's conversion of cargo aircraft into the *AC-47 Puff, the Magic Dragon* and the *AC-130H Spectre II,* both having long loiter times and also the ability to circle the target area and keep its weapons trained on the target.

The Air Force provided an air staff to each level of command for requesting close air support starting at the battalion and going up through the Military Assistance Command in Saigon. The system at best was complex and cumbersome requiring the pre-planned request to be submitted through each level of command twenty-four hours out. Once approved the request went back down the same chain. Immediate request were handled the same way but by the means of transmitting the request by radio with expedition through each level. Time for preplanned and immediate close air support missions on target did not change all that much from the Korean War.

The complexity of air to ground control system was a serious problem during the Vietnam War. Fighting an elusive enemy, where his mobility was his greatest asset meant once located he had to be immediately attacked. The current system did not allow for quick attack of a fleeting target; seeing a preplanned mission was submitted 24 hours out and the immediate request system which normally took anywhere from forty to sixty minutes to arrive on station.[36]

Naval

The Navy provided three attack carriers continuously off shore of Vietnam from the five assigned to WESTPAC. During the February 1966 timeframe alone the Navy flew 8,174 sorties with fifteen different airframes in support of strategic, operational and tactical objectives. During this same time period naval gunfire provided almost 20,000 rounds of 5”/38, 5”/54, 6”/47 and 8”/55 type rounds in support of missions *Operation Double Eagle*, a USMC amphibious operation and the U.S. Army’s search and destroy missions during *Operation Masher*.[37]

The Navy also had the very important mission of providing the brown water boats to support maneuver as well as artillery units in the form of Riverine Task Forces. These task forces normally included a brigade sized maneuver force, supporting artillery mounted on modified barrages to allow firing from waterways. These task forces operated up and down the Mekong Delta and provided additional flexibility to the commander in regards to movement and being able to support maneuver units on the ground conducting search and destroy with indirect fires from the modified barrages.[38]

Fire Support Doctrine

From the various informal reports originating from the field in 1965, to the volumes of operational reports, formalized lessons learned from the execution the new airmobile doctrine and the introduction of the new fire support weapon systems drove the evolution of fire support doctrine and tactics, techniques and procedures. The fire supporter had to analyze and approach the mission in a new innovative way and could no longer think in terms of conventional application of the doctrine if he wanted to provide overwhelming firepower. The normal movement techniques, occupation of positions, processing of fire missions, volumes of fire and use of other fire support assets as was the norm during the Korean or WW II was not going to accomplish the mission in Vietnam.

A number of extremely difficult challenges faced the fire support planner in Vietnam. The first challenge was how to provide the required fire support coordination and firepower to the dispersed units of the new division across a large expanse of complex terrain. The second was once the maneuver located, and fixed the elusive enemy having the ability to coordinate and bring to bear all available fire support assets at the right time and place to destroy the enemy.

First the forward observer through FSCOORD positions became increasingly more important with regards to becoming a manager of effects and not just tube artillery. This individual was the maneuver commander's link to acquiring and coordination of fire support assets required to accomplish the mission and possibly in keeping his unit alive. At the forward observer level the training had to include various methods of land navigation in confined and restricted terrain, calls for fire from many different fire support assets, adjusting fire by both sight-sound and trained in using all fire support

assets available to achieve the effects the commander requires. At the FSCOORD level he was now the effects coordinator of many new systems, over greater distances while also the manager of air space through which it all passed.

Firing unit doctrine and operations, battery or battalions were adjusted to take into account the complex conditions of the mission, enemy, terrain and new doctrine. The firing unit maintained the ability to shoot, move and communicate under all conditions across a large area of operations. Multiple airmobile moves during day or night did not affect the delivery of timely and accurate fires. Continuous coordination for positioning of artillery units was the norm to ensure overlapping of battery as well as battalion range fans during all operations, thus allowing multiple units to mass fires.

Occupation of firebases in a star formation ensured constant 360 degree firing capability for the dispersed airmobile type operations. Large volumes of fire ensured the maneuver commander had adequate firepower available upon request and was the continuation of the sustained firepower-centric warfare. New developments in sling load kits allowed movement of entire batteries with less airframes and movement of larger 155-millimeter towed howitzers in support of operations. Given the constant movement of firing units, the artillery commander still had the requirement of meeting all five requirements of accurate predicated fire: accurate target location and size, firing unit location, weapon and ammunition information, meteorological information and computational procedures. During *Operation Masher* the survey section conducted ninety directional transverse and survey point transfer missions in ensuring the units had accurate survey during the 166 battery moves.

The use of the helicopter as a fire support platform provided additional firepower at the right time and place on the battlefield. The formation of Hunter-Killer teams and the development of doctrine and tactics, techniques and procedures with which to employ them added flexibility to what was available to the maneuver commander. The helicopter gunships also possessed the capacity to deliver close in fires as long as friendly positions were clearly identified.

The Air Force still had not broken the code of providing responsive close air support to the ground commander even though it was a reoccurring problem from the Korean War. The air-ground request system at best was cumbersome and time consuming. Although the value of the forward air controller had been established during World War II and Korea, the Air Force did not have that capability until 1966. In addition to lacking a forward air controller capability, the Air Force also realized the high performance fighters did not possess the loiter time, or fly slow enough or have the ordinance capacity to perform the close air support role. A true close air support aircraft in the form of a modified Navy *A-7D* was not developed until after it was too late to have any effect in the Vietnam War. Although the Air Force's innovative use of converted cargo aircraft in the form of the *AC-47 Puff, the Magic Dragon* and the *AC-130H Spectre II*, significantly added effective close air support capabilities unheard of in previous conflicts.

Air Liaison Officers were assigned to each level of command from battalion through the Military Assistance Command in Saigon to assist in coordination of air request. What was also missing to coordinate air assets was the tactical air control party

at the company level, which was extremely effective at the regimental level of command during the Korean War.

Fire support coordination vastly improved as the war progressed, and formation of CFSCC significantly decreased the time required to coordinate fire support issues and clear fires. With the advent of airmobile operations and the large number of aircrafts from all services and several nations traversing the division airspace necessitated the requirement for someone within the division to coordinate and control the various fire support assets and provide for safe passage of aircrafts along routes or corridors. This heavy burden fell squarely on the shoulders of the FSCOORD at the various levels of command, he was no longer the manager of just artillery systems as was the case in previous conflicts but now an effects coordinator of all fire support assets.

With the introduction of the new airmobile doctrine, various new weapons systems and the new nonlinear and noncontiguous battlefield of Vietnam drove fire support doctrine and tactics, techniques and procedures to evolve. The fire supporter was forced to take an evolutionary approach to doctrine and no longer could he think in terms of conventional battlefields as found during the Korean War if he wanted to provide the effects required fire support during combat operations.

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[3]James A. Garvin, *War and Peace in the Space Age* (British edition London: England: Hutchinson, 1959), 218, 124.

[4]Stanton, 22.

[5]Ibid., 18.

[6]Ibid., 19.

[7]Stanton, 24.

[8]Department of the Army, *U.S. Army Tactical Mobility Requirements Board* (Fort Bragg, NC: Department of the Army, 1962), 37.

[9]Ibid., 30.

[10]Ibid., 34.

[11]Ibid., 37.

[12]Ibid., 37.

[13]Ibid., 38.

[14]Stanton, Appendix 1.

[15]Department of the Army, DA PAM 360-216, *The Airmobile Division* (Washington, DC: Department of the Army, 1965) 1.

[16]Robert H. Scales, *Firepower in Limited War* (Novato, CA: Presidio, 1995), 46.

[17]Ibid., 66.

[18]Ibid,. 67.

[19]Ibid., 68.

[20]Ibid., 69.

[21]Ibid., 71.

[22]Ibid., 72.

[23]Ibid., 73.

[24]Stanton, 70.

[25]David E. Ott, *Vietnam Studies: Field Artillery, 1954-1973* (Washington, DC: Department of the Army, 1975), 98.

[26]Ibid., 100.

[27]Stanton, 70.

[28]Stanton, 76.

[29]Scales, 76.

[30]Edgar C. Doleman Jr., *Tools of War* (Boston, MA: Boston Publishing Company, 1984), 83.

[31]Scales, 84.

[32]Ibid., 86.

[33]Ibid., 91.

[34]Doleman, 47.

[35]Scales, 97.

[36]Ibid., 102.

[37]Department of the Navy, United States Naval Operations Vietnam, 1966 (Washington, DC: The Navy History center) [DOD web site, fact sheet online] available from http://www.history.navy.mil/docs/vietnam/high5.htm; Internet; accessed on 26 April 2004.

[38]Ott, 75.

CHAPTER 4

EVOLUTION OF FIRE SUPPORT

The underlying principles of supporting maneuver with fires and adding depth to the battlefield have origins that are deeply rooted in the military. The emerging technologies, the new battlefield environment and the new doctrine of airmobile operations in Vietnam drove changes to fire support doctrine as well as the degree by which fire support was balanced with maneuver. However, the basic premise for why we provide fire support, to allow the maneuver commander to close with and destroy the enemy by maneuver or firepower, remained unchanged.

Two extremely difficult challenges faced the fire support planner in Vietnam. The first challenge was how to provide the required fire support coordination and firepower to the dispersed units of an airmobile division across a large expanse of complex terrain. The airmobile operations executed by 1st Cavalry Division in Vietnam created a nonlinear and noncontiguous battlefield. The second was once the maneuver located, and fixed the elusive enemy, the ability to bring all available fire support assets to bear at the right time and place to destroy the enemy. Although the premise for why we employ fire support was still valid, the enemy, terrain, new airmobile doctrine and the introduction of new fire support weapon systems required the fire supporter to analyze Mission, Enemy, Terrain, Troops, Time, and Civil Considerations (METT-TC) in a new way and apply doctrine and tactics, techniques and procedures in an evolutionary way. The fire supporter could no longer think in terms of a conventional linear and contiguous battlefield. The normal movement techniques, occupation of positions, processing of fire

missions, volumes of fire and use of other fire support assets as executed during the Korean War were not going to accomplish the mission in Vietnam.

Several major fire support doctrinal developments occurred during the Vietnam War. New airmobile doctrine required establishing dispersed stand alone firebases providing 360 degree support, conducting artillery raids to extend the range of support, maintenance of a firepower-centric warfare style, development of new ammunition such as the Beehive, white phosphorus, Killer Junior, and also new methods to transport howitzers by helicopter.

The introduction of new weapon systems also forced the fire supporter to come up with new doctrine and tactics, techniques and procedures on employing each as effectively as possible in support of the ground commander. These systems consisted of the helicopter gunship *UH-1 Huey* or *AH-1 Cobra;* the new generation of jets the *F-4, F-100, F-105, A-6;* and the innovative *AC-47 Puff, the Magic Dragon* and *AC-130 Spectre II* weapons platforms.

Doctrine for the CJFSCC was developed and refined to command, control and coordinate combined, joint and Army fire support assets while also de-conflicting the airspace for the numerous air platforms transitioning through the corps and division areas. This cell also allowed for quicker clearance of fires and coordination across the battlefield.

The role of the fire supporter came of age as an effects coordinator and not just a manager of artillery tubes. The Vietnam era was the pivotal point where the combined arms team truly worked together, by developing and forging the relationship between the commander and his fire support coordinator.

The formation of forward air controller units to control close air support and air staff elements at each level of command to process air to ground request. During the Korean War the Air Force had to form forward air controller units and tactical air control parties. The forward air controllers and tactical air control parties became very proficient during the Korean War. Between the Korean and Vietnam Wars, the Air Force stood down these units and had to go back through reforming them and relearning some of the same lessons for the Vietnam War.

Field Manual 6-20

FM 6-20, *Artillery Tactics and Techniques* dated 1953, only addressed field artillery operations in support of offensive and defensive operations on a conventional battlefield. The 1958 edition, revised after the Korean War, possessed the same name, but started to widen its scope by addressing different operations; amphibious, airborne, river crossings in various environments; mountains, jungles, deserts, snow, and urban. These earlier field manuals concentrated mainly on the employment of field artillery and provided very little clear doctrine or guidance on the *How-to-Fight* other fire support assets, such as air or helicopters. In the 1958 version, a total of just nine pages of the 277 contained doctrine on coordination of fire support, with those pages devoted mainly to laying out the roles and responsibilities of the various staff elements.[1] Nowhere in the manual did you find any reference on the *How-to-Fight* various weapon systems as found on the battlefield of Vietnam or even from the Korean War.

FM 6-20, *Field Artillery Tactics and Operations* dated 1973, as the name implies, broadened the scope of fire support and also the role, responsibilities of the fire supporter. Based upon the extremely different environment; new airmobile doctrine and the various

new weapon systems employed in Vietnam, the new manual covered in addition to those operations listed in the 1958 edition: night, stability, airmobile, and riverine operations. The chapter specifically addressing fire support coordination exponentially grew from just nine pages in 1958 to over thirty pages.[2] This new chapter redefined the role, responsibilities of the fire supporter, fire support agencies at each level of command and outlined the air to ground request system and naval gunfire request process. This edition provided the fire supporter with a detailed wiring diagram of the air to ground and naval gunfire request system.[3] The manual took on more of a *How-to-Fight* approach to fire support instead of just a listing of various staff roles and responsibilities. Significant doctrinal guidance and tactics, techniques and procedures on air, attack helicopter, airmobile and naval gunfire operations were contained in this new manual along with assigning the responsibility of coordination of these assets squarely on the shoulders of the FSCOORD. The FSCOORD also assumed responsibility for air space coordination upon assuming the responsibility for planning, coordinating and employing the new air assets. The FSCOORD became an effects coordinator and not just a manager of artillery assets, as evident by the importance placed on fire support coordination in the 1973 edition.

Even though the 1973 edition significantly increased the fire supporters role and responsibilities, the evolution of fire support doctrine continued when in 1977 the manual was revised once again based upon farther study of the Vietnam War and the 1973 Arab-Israeli War. These two conflicts changed the entire focus of what was contained in FM 6-20. The new FM 6-20, *Fire Support in the Combined Arms Operations* provided a comprehensive look at the maneuver commander and FSCOORD relationship and

illustrated how to integrate all fire support assets into a combined arms operation. As the title indicates fire support coordination and integration was no longer just a field artillery officers responsibility but was the main responsibility of the maneuver commander assisted by the FSCOORD in integrating all battlefield operating systems. FM 6-20 was just one of a growing series of *How-to-Fight* manuals. The new series consisted of: FM 6-20, *Fire Support in the Combined Arms Operations;* FM 6-20-1, *Field Artillery Cannon Battalion;* FM 6-20-2, *Division Artillery, Field Artillery Brigade and Field Artillery Section (Corps*). With these new doctrinal manuals came the separation between fire support and field artillery, by defining the roles, functions, and responsibilities of each working towards the overall purpose of integrating all battlefield operating systems.

The introduction of the new doctrine of airmobility by the 1st Cavalry Division during the Vietnam War, coupled with the debut of numerous new aerial fire support platforms and the new nonlinear and noncontiguous battlefield resulted in the evolution of fire support doctrine. Although the underlying doctrinal premise of why we provide fire support never changed, the changes of and innovative application of doctrine and tactics, techniques and procedures was required if the fire support system was going to provide timely and accurate fires at the time and place as designated by the ground commander.

By examining the fire support doctrinal manual FM 6-20, from 1953 through 1973 one can see that the evolutionary fire support doctrine and tactics, techniques and procedures used during the Vietnam War resulted in a change of focus for the 1973 edition and beyond, emphasizing more a combined arms operation instead of just field artillery tactics and techniques as found in previous editions.

[1]Department of the Army, Field Manual 6-20, *Field Artillery Tactics and Techniques* (Washington, DC: Department of the Army, 1958), 2.

[2]Department of the Army, Field Manual 6-20, *Field Artillery Tactics and Operations* (Washington, DC: Department of the Army, 1973), 1.

[3]Ibid., figures 6-12 and 6-13.

CHAPTER 5

CONCLUSION

Fire support doctrine evolved during the Vietnam War based upon the advent of new airmobile doctrine, new aerial weapons systems and the complex battlefield. The use of firepower in Vietnam followed a tradition of flexibility, technological innovation and evolutionary application of doctrine. By war's end, all ground and aerial systems, strategic as well as tactical, could be employed quickly and simultaneously to provide firepower in close support of combat units. With the introduction of troop carrying and attack helicopters, the Army ushered in a new era of tactical mobility to be respected and feared by foes. New airmobile doctrine, weapon systems and ammunition ensured that any target found and fixed could be attacked and destroyed with precision. Although not perfect in all areas, the U.S. Army's employment of the airmobile division in Vietnam came closer than any other army in previous wars of total integration of a new maneuver doctrine and new fire support systems into a force containing such an extremely high degree of destructive firepower. The destructive firepower, combined with the flexibility and the tempo of airmobile operations far surpassed that of previous wars, possibly surpassing the capability of the *Blitzkrieg* doctrine utilized by Germany during WW II.

The major fire support doctrinal developments as a result of the introduction of airmobile doctrine, new weapon systems and the complex battlefield were many. They included developing new ways for employing aerial fire support systems as effectively as possible; developing new concepts of positioning field artillery in firebases on a nonlinear and noncontiguous battlefield while maintaining 360 degree support; executing artillery raids extending the range of support; use of firepower-centric warfare; use of the

Beehive, white phosphorus, Killer Junior ammunitions; transporting howitzers by helicopter; transformation of the FSCOORD from a artillery tube manager to effects coordinator; forming and writing doctrine for the CJFSCC and establishment of forward air controller units and manning air staff elements at each level of command.

At the end of the Vietnam War, the military community, specifically the field artillery branch realized the doctrinal manuals for field artillery operations and fire support required review and update based upon the new doctrine of airmobile operations and the magnitude of new aerial weapon systems. FM 6-20, *Artillery Tactics and Techniques* from 1953 through 1958 focused specifically on artillery operations and only addressed other fire support areas minimally. After termination of the Vietnam War and based upon all the after actions reviews and various reports, the 1973 edition of FM 6-20 took on a entirely new focus of emphasizing a more combined arms operation approach instead of just field artillery tactics and techniques as found in previous editions.

The new manual FM 6-20, *Field Artillery Tactics and Operations* 1973, specified a much broader scope for fire support and the responsibilities of the fire supporter. The edition covered new operations that were not listed in the 1958 edition. The chapter covering fire support coordination increased from what was found in previous editions, with the new chapter expanding and redefining the role and responsibilities of the fire supporter, fire support agencies at each level of command and outlined in detail the air to ground request system and naval gunfire request channels. Significant doctrinal guidance and tactics, techniques and procedures on new weapon systems from Vietnam were contained in this new manual along with assigning the responsibility for the coordination of these assets squarely on the shoulders of the FSCOORD.

Relevance to the U.S. Army

The relevance of studying how fire support doctrine evolved to support the new doctrine of airmobility, new weapons systems on a nonlinear and noncontiguous battlefield during the Vietnam War should be readily apparent. The 11th Air Assault Division (TEST) went from a unit examining the feasibility of the new doctrine to being activated as a new airmobile division within the Army's force structure and deployed to a combat zone in less than thirty days. Even though the 11th Air Assault Division had been testing the airmobile concept for a period of three years, to execute activation of a totally new unit with a new doctrine and then successfully deploy to combat as a division in less than thirty days is a significant feat in of it self. Normal established timelines for activation of a new unit were totally disregarded. Large number of doctrinal, material, and resource issues were worked out on the battlefields of Vietnam. The success the 1st Cavalry Division (Airmobile) experienced in Vietnam can be attributed to the leadership, hard work of solders adapting to shortfalls and probably luck in some cases.

The US Army today is in the first stages of transformation to the future force structure. The Army has fielded the Stryker Brigade Combat Team and moving towards transforming brigades into modular Unit of Actions and eventually divisions and corps to Unit of Employments. Making a transformation of this magnitude is hard enough even during peacetime, but as we all know the Army is attempting to transform during one of the busiest times for the military in recent history; in the middle of the Global War on Terrorism. The transformation must be fully executed across the entire Army including each battlefield operating system in accordance with force management doctrine by examining each of the following areas before standing up or activation of new units.

These areas; Doctrine, Organization, Training, Material, Leadership, Personnel and Facilities (DOTMLPF), when fully examined and resourced should allow the supporting units the ability to provide the required combat support, or combat service support as required by the combat arms units. If all of these areas are not examined and resourced for each unit within the Army might result in units not possessing the ability to fulfill their mission. 1st Cavalry Division units; maneuver, combat support and combat service support during Vietnam were not afforded the opportunity to go through the above process and had to rapidly adapt and improvise doctrine and tactics, techniques and procedures to accomplish the mission. Although during Vietnam the new weapon systems were already on the ground all that was required was to develop the doctrine and methods to support it. The Army must decide whether to resort to the same during our transformation.

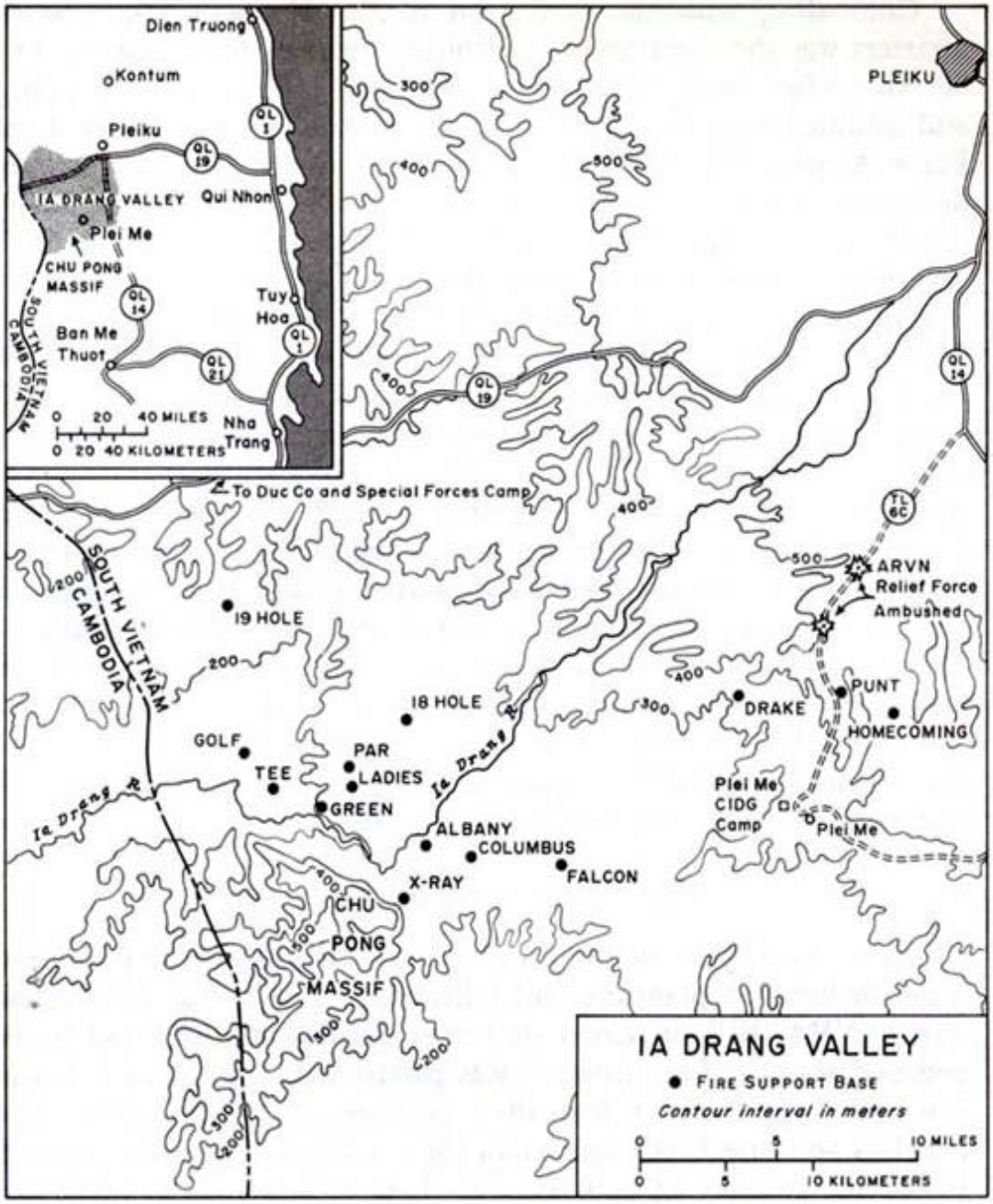
The Army today is transforming to the future force using DOTMLPF, but what should be of concern to each leader within the Army is the how we are counting upon future technological capabilities to build a force structure and doctrine which are going to fight on the battlefields today. One can only hope that these future capabilities guiding our force structure and doctrine come to fruition before we are fully restructured. That's a question we need to ask of ourselves. Is the Army counting on something that may not come to pass?

Fire support doctrine evolved based upon the introduction of the new doctrine of airmobility, introduction of new weapons systems and fighting on the complex battlefield of Vietnam. New emerging technologies, capabilities and the new doctrinal concept of airmobile operations changed the methods of employing fire support as well as the degree

by which fire support was balanced with maneuver. However, the basic premise for why we provided fire support remained unchanged.

APPENDIX A

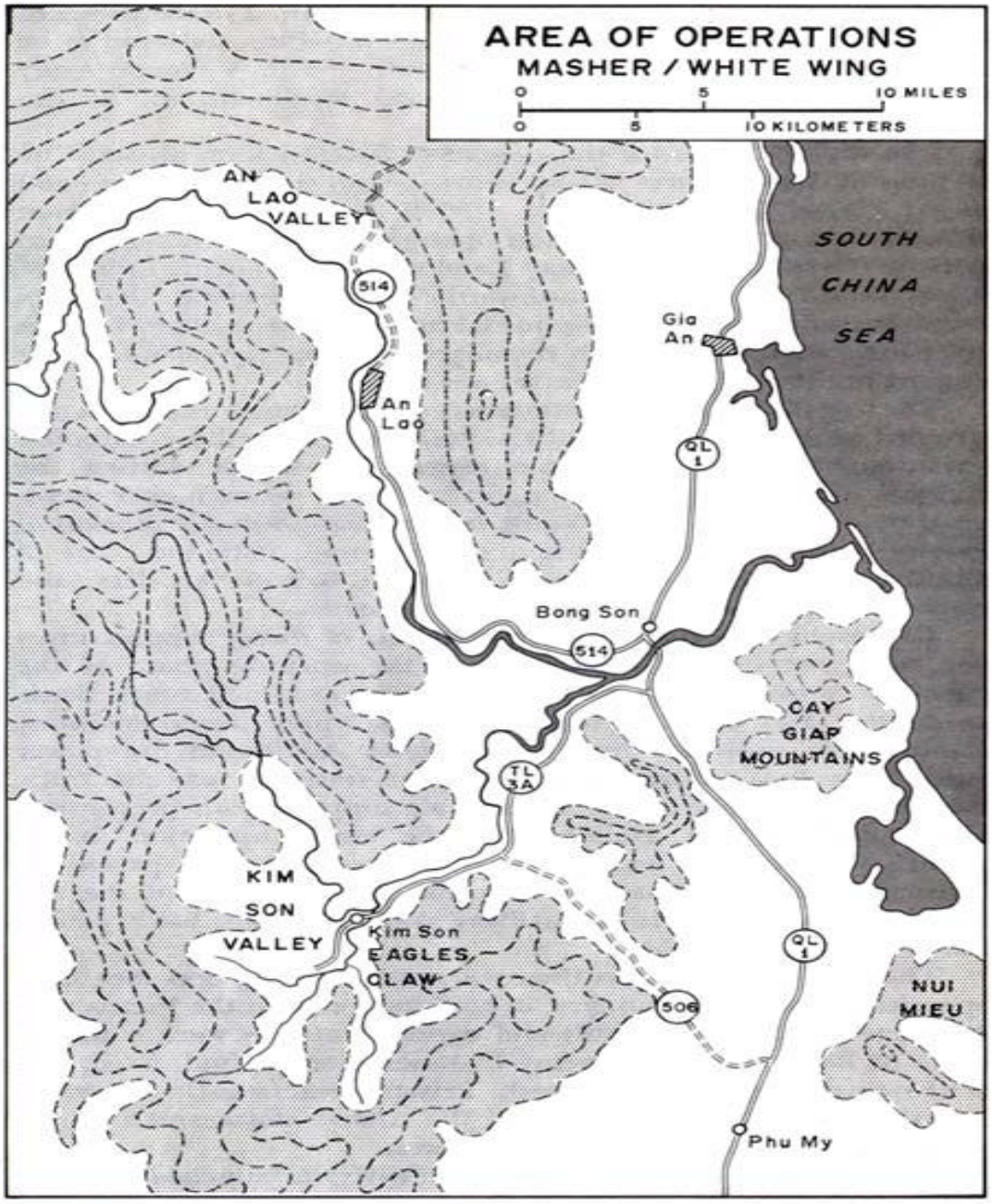
MAP OF PLEIKU *(IA DRANG VALLEY OPERATION)* CAMPAIGN



Source: David E. Ott, *Vietnam Studies: Field Artillery, 1954-1973* (Washington D.C.: Department of the Army, 1975), 88.

APPENDIX B

MAP OF COASTAL *(MASHER/WHITE WING OPERATION)* CAMPAIGN



Source: David E. Ott, *Vietnam Studies: Field Artillery, 1954-1973* (Washington, DC: Department of the Army, 1975), 99.

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