



**NAVAL  
POSTGRADUATE  
SCHOOL**

**MONTEREY, CALIFORNIA**

**THESIS**

**ANALYSIS OF COMMUNIST VIETNAMESE SPECIAL  
OPERATIONS FORCES DURING THE VIETNAM WAR  
AND THE LESSONS THAT CAN BE APPLIED TO  
CURRENT AND FUTURE U.S. MILITARY OPERATIONS**

by

James M. Cloninger Jr.

June 2005

Thesis Advisor:  
Second Reader:

George Lober  
Kalev Sepp

**Approved for public release; distribution is unlimited**

THIS PAGE INTENTIONALLY LEFT BLANK

<b>REPORT DOCUMENTATION PAGE</b>			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
<b>1. AGENCY USE ONLY (Leave blank)</b>	<b>2. REPORT DATE</b> June 2005	<b>3. REPORT TYPE AND DATES COVERED</b> Master's Thesis		
<b>4. TITLE AND SUBTITLE:</b> Analysis of Communist Vietnamese Special Operations Forces during the Vietnam War and the Lessons that Can Be Applied to Current and Future US military Operations.			<b>5. FUNDING NUMBERS</b>	
<b>6. AUTHOR(S)</b> James M. Cloninger Jr.				
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b> Naval Postgraduate School Monterey, CA 93943-5000			<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>	
<b>9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b> N/A			<b>10. SPONSORING/MONITORING AGENCY REPORT NUMBER</b>	
<b>11. SUPPLEMENTARY NOTES</b> The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
<b>12a. DISTRIBUTION / AVAILABILITY STATEMENT</b> Approved for public release; distribution is unlimited			<b>12b. DISTRIBUTION CODE</b> A	
<b>13. ABSTRACT (maximum 200 words)</b>  This thesis examines the role of communist special operations forces during the Vietnam War and the relevancy of the lessons learned from these units. The United States military, specifically Army Special Forces, Rangers, and Navy SEALs, were not the only forces capable of conducting successful special operations during the conflict. The People's Army of Vietnam also had a highly organized, well trained, and well equipped organization capable of carrying out special operations. This organization was the sapper arm, and it was composed of three separate types of units. The Urban Sapper was concerned with intelligence gathering, terrorism, assassination, and special operations in the large urban areas such as Saigon and Hue. The Naval Sapper was responsible for attacking shipping, bridges, and bases located near waterways. The Field Sapper conducted operations against deployed US and South Vietnamese troops, trained other communist troops as sappers, and gave the communist leadership an elite force for lightning raids. The sapper force had certain operational principles, organizational constructs, and functional methods that set it apart from any other communist military element used during the Vietnam War.				
<b>14. SUBJECT TERMS</b> Vietnam, Sapper, Commando, PAVN, Special Operations Force			<b>15. NUMBER OF PAGES</b> 81	
			<b>16. PRICE CODE</b>	
<b>17. SECURITY CLASSIFICATION OF REPORT</b> Unclassified	<b>18. SECURITY CLASSIFICATION OF THIS PAGE</b> Unclassified	<b>19. SECURITY CLASSIFICATION OF ABSTRACT</b> Unclassified	<b>20. LIMITATION OF ABSTRACT</b> UL	

THIS PAGE INTENTIONALLY LEFT BLANK

**Approved for public release; distribution is unlimited**

**ANALYSIS OF COMMUNIST VIETNAMESE SPECIAL OPERATIONS FORCES  
DURING THE VIETNAM WAR AND THE LESSONS THAT CAN BE APPLIED  
TO CURRENT AND FUTURE U.S. MILITARY OPERATIONS**

James M. Cloninger Jr.  
Captain, United States Air Force  
B.A., University of South Carolina-Aiken, 1993

Submitted in partial fulfillment of the  
requirements for the degree of

**MASTER OF SCIENCE IN DEFENSE ANALYSIS**

from the

**NAVAL POSTGRADUATE SCHOOL  
June 2005**

Author: James M. Cloninger Jr.

Approved by: Professor George Lober  
Thesis Advisor

Professor Kalev Sepp  
Second Reader

Dr. Gordon McCormick  
Chairman, Department of Defense Analysis

THIS PAGE INTENTIONALLY LEFT BLANK

## **ABSTRACT**

This thesis examines the role of communist special operations forces during the Vietnam War and the relevancy of the lessons learned from these units. The United States military, specifically Army Special Forces, Rangers, and Navy SEALs, were not the only forces capable of conducting successful special operations during the conflict. The People's Army of Vietnam also had a highly organized, well trained, and well equipped organization capable of carrying out special operations. This organization was the sapper arm, and it was composed of three separate types of units. The Urban Sapper was concerned with intelligence gathering, terrorism, assassination, and special operations in the large urban areas such as Saigon and Hue. The Naval Sapper was responsible for attacking shipping, bridges, and bases located near waterways. The Field Sapper conducted operations against deployed US and South Vietnamese troops, trained other communist troops as sappers, and gave the communist leadership an elite force for lightning raids. The sapper force had certain operational principles, organizational constructs, and functional methods that set it apart from any other communist military element used during the Vietnam War.

THIS PAGE INTENTIONALLY LEFT BLANK

# TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	BACKGROUND .....	1
B.	SIGNIFICANCE OF STUDY .....	2
C.	SCOPE .....	3
D.	METHODOLOGY .....	3
E.	ASSUMPTIONS AND LIMITATIONS .....	3
F.	PRINCIPLES OF SPECIAL OPERATIONS .....	4
G.	DEFINITIONS OF KEY TERMS.....	5
II.	ORGANIZATION AND STRATEGY.....	7
A.	ORIGINATION .....	7
B.	COMMAND ORGANIZATION .....	8
C.	STRATEGY.....	11
III.	FIELD SAPPER.....	13
A.	MISSION .....	13
B.	ORGANIZATION .....	13
C.	TRAINING AND EQUIPMENT.....	14
1.	Training .....	14
a.	<i>Political Indoctrination.....</i>	15
b.	<i>Reconnaissance and Observation.....</i>	15
c.	<i>Movement Methods and Penetration Techniques .....</i>	16
d.	<i>Demolition and Assault Tactics.....</i>	16
e.	<i>Schoolhouse .....</i>	17
2.	Equipment .....	18
D.	TACTICS AND PROCEDURES.....	19
1.	Attacks on Garrisons and Headquarters.....	19
2.	Attacks on Fuel and Ammunition Dumps .....	20
3.	Attacks on Airfields .....	21
4.	Attacks on or Seizures of Bridges.....	21
5.	Attacks on Deployed Forces.....	22
6.	Support to Infantry Attacks.....	22
7.	Attacks with Artillery .....	23
E.	POTENTIAL LESSONS TO BE LEARNED .....	23
1.	Advantages for Field Sappers.....	23
2.	Disadvantages for Field Sappers .....	24
IV.	WATER / NAVAL SAPPER.....	25
A.	MISSION .....	25
B.	ORGANIZATION .....	25
C.	EQUIPMENT .....	27
D.	TACTICS AND PROCEDURES.....	28
1.	Water Ambush .....	28

2.	Waterborne Vessel Attack .....	29
3.	Bridge Attack .....	29
E.	POTENTIAL LESSONS TO BE LEARNED .....	30
1.	Advantages for Water Sappers.....	30
2.	Disadvantages for Water Sappers .....	31
IV.	URBAN SAPPER / SPECIAL ACTION UNIT .....	33
A.	MISSION .....	33
B.	ORGANIZATION .....	33
C.	EQUIPMENT .....	34
D.	TACTICS AND PROCEDURES.....	35
1.	Terrorism.....	35
2.	Assassination .....	36
3.	Propaganda.....	36
4.	Espionage.....	37
5.	Attacks on Government/Military Installations .....	37
E.	POTENTIAL LESSONS TO BE LEARNED .....	37
1.	Advantages for Urban Sappers.....	37
2.	Disadvantages for Urban Sappers .....	38
IV.	CONCLUSION .....	39
A.	CONCLUSION .....	39
B.	LESSONS FOR TODAY.....	41
	LIST OF REFERENCES.....	43
	BIBLIOGRAPHY .....	47
	APPENDIX A. COSVN ADMINISTRATIVE AND MILITARY REGIONS—1971 ....	53
	APPENDIX B. THE RAID THAT FAILED: THE SAPPER ATTACK ON THE US EMBASSY DURING THE 1968 TET OFFENSIVE.....	55
	APPENDIX C. ANALYSIS OF SAPPER ATTACK ON LIMA SITE 85, LAOS.....	59
	INITIAL DISTRIBUTION LIST .....	65

## LIST OF FIGURES

Figure 1.	Organizational Chart of the 429 <sup>th</sup> Sapper Group (From: Westphal, 1971, p. 11) .....	10
Figure 2.	Organizational Chart for 9 <sup>th</sup> Sapper Battalion (From: Westphal, 1971, p. 10) .....	14
Figure 3.	Order of Battle for 8 <sup>th</sup> Naval Sapper Battalion (From: Noyes, 1971, p. 8).....	27
Figure 4.	Organizational Chart for C-10 Urban Sapper Battalion. (From: <i>VC/NVA Sapper/Engineer Order of Battle: ST67-045</i> , 1967, p. C-III-7) .....	34
Figure 5.	COSVN Regions (From: Viet Cong Political Geography of South Vietnam, 1971, p. 26) .....	53
Figure 6.	PLAF Sapper targets in Saigon during the Tet Offensive (From: Hoang, 1978, p. 58) .....	55
Figure 7.	Map of Lima Site 85, Laos (From: <a href="http://star.vietnam.ttu.edu/starweb/vva/servlet.starweb">http://star.vietnam.ttu.edu/starweb/vva/servlet.starweb</a> ) .....	59

THIS PAGE INTENTIONALLY LEFT BLANK

## LIST OF TABLES

Table 1.	Extract of a 1966 Training Program (From: <i>VC/NVA Sapper/Engineer Order of Battle: ST67-045</i> , 1967, pp. B-2/3).....	18
----------	---	----

THIS PAGE INTENTIONALLY LEFT BLANK

## **ACKNOWLEDGMENTS**

I would like to thank Professor George Lober, my primary thesis advisor, for sticking with me and making sure that this paper is what it is. I also must thank Professor Kalev Sepp, my second reader, who ensured I did not stray too far from my original goals. I am deeply indebted to The Vietnam Center at Texas Tech University and their staff, Dr. James Reckner, Steve Maxner, Dr. Richard Verrone, and Dr. Laura Calkins, without whose help very little of my research material would have been available. Finally, I must thank my wife and my father for their help and faith in me.

THIS PAGE INTENTIONALLY LEFT BLANK

# I. INTRODUCTION

## A. BACKGROUND

During the Vietnam War, communist forces were able to operate in both the conventional and guerrilla spheres. That is to say, the communist military forces were able to conduct force-on-force operations as well as use classic insurgent tactics against US and Allied military forces. These conventional and guerrilla operations could be simultaneous, independent, or supportive of each other. Operating in between the conventional and guerrilla realm was a separate force that acted as both a conventional and guerrilla force. This force was as well trained, well equipped, and highly motivated. Most personal memoirs and histories of the Vietnam War mention this force, often referred to as the “dreaded” Sapper, but little is known or understood today about the Sapper.

The US military historically has had few opportunities to deal with actual enemy special operations forces during combat operations. Enemy special operations or special operations forces often have been cited as a clear danger to US military operations, but rarely has their successes been discussed. This threat was especially true when talking of the Soviet Union and North Korea. However, according to US military history and doctrine, the US has not had to face enemy special operations on a large scale since the end of World War II. Unfortunately, this statement ignores the US military experience in Vietnam. Vietnam should have been a great example of how the enemy could conduct special operations and what the effects on the battlefield could be. Regrettably, American pride has ignored this fact. It seems very ironic that the most well know communist special operation against the US forces, the attack on the American embassy during the Tet Offensive of 1968, has been nearly ignored for what it was.

Much has been written about Tet and the attack on the US embassy in Saigon in 1968, but not about the communist forces that were directly involved in the attack on the embassy. Although the attacking force has been called everything from terrorists to commandos, exactly who these forces were and why they attacked the embassy are questions that seem to have never been addressed. The initial research for this thesis

indicated that the attackers were members of the C-10 Sapper Battalion. In turn, the initial definition of a sapper dealt with combat engineers. Yet it did not make sense that a combat engineer would be involved in an attack such as that on the US embassy, and the information on hand did not give a satisfactory answer about who this force was. After more research, though, a pattern developed regarding the war in Vietnam. The communists had certain specialized forces that carried out unique missions. These missions were similar to US Special Forces direct action missions.

Further research has enabled the author to categorize these specialized Vietnamese forces into three sub-categories. The first would be the Special Action Group / Urban Sapper. The second sub-category would be the Field Sapper, and the final sub-category would be the Water Sapper. Each of these elements had a very specific mission that required more training than the ordinary communist soldier received. Not only did their mission require more training, but their mission was also very specialized and incorporated unique elements not associated with ordinary communist military forces. Because these Vietnamese forces did not meet the standard US definition of special forces, they tended to be overlooked or ignored. Unfortunately by this standard definition, only a few nations' special forces would be worthy of serious study. However, this would be a mistake to assume that because a special operations unit does not meet our expectations it is of little consequence or threat.

## **B. SIGNIFICANCE OF STUDY**

With the current fighting in Iraq and Afghanistan, there has been a significant review of insurgent warfare methods and the counter-insurgency (COIN) principles needed to defeat the insurgents. The US military has a long and checkered history with COIN. In some instances, the US was able to defeat the insurgent force and prevail, but at other times the insurgent forces were able to overcome the strength of the US military and inflict defeat through the use of protracted war.

One aspect of insurgent warfare that has received little or no methodical analysis by the US military has been the use of special operations by insurgent forces. These operations are seen by the insurgents as a force-multiplier to overcome their numerical inferiority. Small numbers of insurgents are able to inflict great damage to a numerically

superior enemy through well planned and executed special operations. In many cases, the use of special operations has gone un-acknowledged by the US military. This analysis will show that insurgent use of Special Operations in Vietnam had a significant effect upon the battlefield, both in the tactical and strategic realm.

### **C. SCOPE**

The timeframe covered by this research paper will be between 1963 and 1975. This timeframe allows analysis during the American “advisory” period, the American War, and the final phase when South Vietnam fought alone. Combat actions that will be analyzed include attacks labeled as “terrorist” attacks, attacks on naval shipping, attacks on military base camps, actions during the Tet Offensive, as well as numerous other military operations. This paper will explore the training requirements of the sapper force and how they changed during the course of the war. The period from 1946 to 1962 will not be investigated as the availability of sources on the subject is extremely limited. That is not to say, however, that Sappers did not exist during the French War in Indochina.

### **D. METHODOLOGY**

The analysis of Vietnamese Communist special operations forces will rely mainly upon translated captured enemy documents, prisoner of war interrogations, defector reports, and contemporary intelligence reports. The first two chapters will discuss the significance, organization, and strategic context of the sappers. Chapters III through V will break down the sappers into their core mission areas and procedures. These core areas will include topics ranging from attacks upon command posts and supply dumps to terrorism and assassinations. The advantages and disadvantages that each type of sapper force had will also be discussed. The final chapter concludes with an overall analysis of the success of the Sapper force and the lessons from Vietnam that can be applied to the conflicts today and those in the future.

### **E. ASSUMPTIONS AND LIMITATIONS**

There are a number of important assumptions made regarding the source material for this paper. Because the research sources relied upon consist primarily of translated

captured documents, prisoner-of-war interrogation reports, defector reports, and intelligence analysis reports, an authorial assumption has been made that the documents captured and translated were not forged and that the translators were accurate. Another assumption is that the prisoners-of-war and defectors were mostly truthful and not attempting to placate or mislead their captors. The author acknowledges that while this source material is not 100% accurate, it is, nonetheless, as accurate as can be expected, given that the war has been over for 30 years.

A few limitations exist concerning this analysis. Though they are primary source, there is a heavy reliance on captured documents as well as interrogation and intelligence reports. The information that is missing is documentation from sources in the Democratic Republic of Vietnam (DRV). Unfortunately, the DRV is still a closed society and gaining access to military reports and analysis on Sapper operations is impossible at this time. Another limitation is that there has been no scholarly investigation into Sapper operations during the Vietnam War.

## **F. PRINCIPLES OF SPECIAL OPERATIONS**

The difference between a conventional operation and a special operation can be very vague. Both operations seek to destroy an enemy element in further support of some military or political goal. The two operations are conducted by trained personnel using equipment designed for a particular purpose. The forces carrying out each operation are composed of a unit or units that meet specific criteria to conclude the operation successfully. The differences between conventional and special operations are small but extremely important.

What differentiates a special operation from conventional operations are the size of the units involved, the depth of training, and the emphasis on specific tactics. Special operations are carried out by units made up of small numbers of operators as opposed to conventional operations where the maneuver unit typically is a battalion or larger. Although the forces involved in both types of operations are well trained, the forces conducting special operations train to a much higher standard with greater proficiency in individual skills. Special operations require greater emphasis on the following principles: simplicity, security, repetition, surprise, speed, and purpose (McRaven, p. 11). These

principles are the building blocks from which special operations tactics are derived. Another factor that distinguishes special operations from conventional operations is the amount of extreme risk involved. Combat always involves risk, but a special operation includes much greater risk because it normally occurs behind enemy lines by small units that rely on their tactics to achieve superiority at a given point in time over a numerically superior force.

## **G. DEFINITIONS OF KEY TERMS**

**Sapper** (Western)- 1: a military engineer who lays or detects and disarms mines  
2: a military engineer who does sapping (digging trenches or undermining fortifications) (WordReference.com).

**Sapper** (Vietnam)- As used by the Vietnamese retains the combat engineer connotation; however, the sapper mission encompasses those tasks normally assigned to units of the commando-raider-ranger type. The sapper unit ceases to be a combat support element but is in fact a combat arm (*Impact of the Sapper on the Vietnam War*. p. 3).

**Biet Dong** – Term used in South Vietnam by communist forces referring to commando.

**Bo Doi Dac Cong** – Term used in North Vietnam referring to special forces or sapper.

**Combat Engineer** - Combat engineering, Mobility/Counter-Mobility/Survivability (M/CM/S), is focused on the support of combined arms maneuver. Combat engineering enhances operational movement, maneuver, and force protection by facilitating M/CM/S operations (FM 3-34 p. 1-16).

**Engineer** - General engineering encompasses the construction and repair of Lines of Communications, main supply routes (MSRs), airfields, utility systems, and logistic facilities to support joint and Army military operations. It may be performed in direct support (DS) of combat operations such as battle damage repair (BDR) (FM 3-34 p. 1-20).

**PAVN** – People’s Army of Vietnam. Also known as the North Vietnamese Army (NVA) or the Vietnamese People’s Army (VPA). These were the communist military forces that originated from North Vietnam.

**PLAF** – People’s Liberation Armed Forces. Also known as the Viet Cong (VC), a contraction for “Vietnamese Communist”. The military wing of the National Liberation Front. These were the communist military forces that originated in South Vietnam.

**ARVN** – Army of Vietnam. South Vietnamese military forces allied with the US.

**COSVN** – Central Office of South Vietnam. The Communist headquarters composed of the People’s Revolutionary Government and the People’s Liberation Armed Forces. COSVN operated in Cambodia during the war.

**Special Operation** – Operation conducted by forces specially trained, equipped, and supported forces for a specific target whose destruction, elimination, or in the case of hostages, the rescue of, is a political or military imperative (McRaven, p. 3).

**Special Operations** - Defined as operations conducted by specially trained, equipped and organized Department of Defense forces against strategic or tactical targets in pursuit of national military, political, economic or psychological objectives. These operations may be conducted during periods of peace or hostilities. They may support conventional operations, or they may be undertaken independently when the use of conventional forces is either inappropriate or infeasible. (United States Army Special Operations Command Web Page).

## II. ORGANIZATION AND STRATEGY

### ***Sapper Branch requirements according to Chairman Ho:***

*Adoption of sapper tactics must be flexible.*

*Acquaintance must be made with combat techniques.*

*Morale must be stable.*

*Discipline must be strict.*

*Determination to win and destroy the enemy must be strong.*

*Be loyal to the party and the people.*

*Accomplish all missions and overcome any difficulties.*

(Felix, *Report on an Oct 69 Sapper Conference held by Headquarters, SVNLA*, p. 44)

### A. ORIGINATION

For the European and American military expert, the term Sapper has been used in connotation with a military engineer that specializes in building fortifications or working with mines and explosives. The term sapper can be traced back to France in the 1500's and to America during the Revolutionary War period (Sapper Leader Course, 2004). Sapper originated from the word sap, meaning "to dig trenches." Sappers were essential to siege warfare up to the First World War, and then they were vital for construction and repair of trenches during the Great War. The US military did not normally use the term sapper except for the Combat Engineer school course that prepares US Army soldiers in combat engineer and infantry skills and tactics. The term sapper is still used in many European militaries to categorize what the US calls Combat Engineers.

For the Vietnamese, the sapper was involved in warfare continuously since the beginning of the militant Vietnamese independence movement during the mid-1940's. The Viet Minh, precursor to the PAVN, used sappers against the French during the First Indochina War. In his book about Dien Bien Phu, Martin Windrow (2004) discussed Viet Minh commandos attacking several French airfields (p. 297). Many authors and military analysts during the Second Indochina War referred to sappers as commandos, raiders, and ranger like forces. The Viet Minh commando operations as described by Windrow during the First Indochina War were very similar to airfield attacks by PLAF and PAVN sappers that were prevalent during the Second Indochina War. The Viet Minh commandos of 1954 began the sapper tradition that reached its pinnacle during the

Second Indochina War. The eminent American Vietnam war historian Douglas Pike traced the history of sappers during the Vietnam War to the Sapper Combat Arm of the 1950's (Pike, 1986, p. 108). The earliest mention in print of the origination of Vietnamese sappers was by Archimedes Patti in an interview with Sedgwick Tourison. In the interview, Patti, a former Office of Strategic Services (OSS) officer, states that he helped train Giap's Viet Minh Propaganda Teams in assassination techniques and that these teams were the forerunner of the sapper force (Tourison, 1995, pp. 2, 341). If Patti is correct, then the PAVN/PLAF sapper force that the US faced during the war was the invention of the US government under the auspices of the OSS.

The development of the sapper force in South Vietnam began soon after implementation of the 1954 Geneva Agreement that eventually split the nation into North and South Vietnam. This development began with former Viet Minh fighters who stayed in South Vietnam, as well as by PAVN Sappers that moved into South Vietnam during the late 1950's (*National Liberation Front Military Operations*. 1966, p. 3). Through captured documents and prisoner debriefs, it becomes apparent that the various sapper operations in South Vietnam began early on in the conflict. The operations and forces began small, but as the war progressed, the size and scope of both grew into sophisticated operations and large organizations.

## **B. COMMAND ORGANIZATION**

The enemy that the US engaged during the Vietnam War was very different than any previous opponent. Unlike the German or Japanese military during Second World War, or the Chinese in Korea, the enemy in Vietnam was composed of two separate armies with the same overall goal but with very different organizations, strengths and weaknesses. The adversary in Vietnam was comprised of regular units (PAVN) as well as guerrilla units (PLAF). Found within the guerrilla forces were fulltime units (Main Force), regional units, and local units (part-time) that fought against the US.

Before discussing the command and control of sappers within the PLAF and PAVN, the relationship between the two organizations must be clarified. During the American Advisory period, 1960 to 1964, the PLAF was the main organization in conflict with the Government of South Vietnam. At that time, the PLAF received

significant military aid and advice from North Vietnam. Once the US committed combat forces into South Vietnam in 1965, the relationship between the PLAF and PAVN changed. Military command and control of communist forces in South Vietnam still fell under COSVN, but the military leadership within COSVN became increasingly North Vietnamese. From 1965 to 1968, PAVN forces operated in the Central Highlands and northern South Vietnam, while the PLAF operated along the coastline south of Da Nang to the interior of southern South Vietnam into the Mekong Delta. After significant losses due to the Tet Offensive in 1968, the PLAF became completely subordinate to the North Vietnamese even though COSVN still existed. From 1968 to the fall of Saigon in 1975, the war in South Vietnam was directed by the PAVN High Command in Hanoi using the COSVN as a liaison with PLAF military units.

The PLAF was the military wing of the National Liberation Front that administratively fell underneath the Central Office of South Vietnam (COSVN). The COSVN was the bureaucratic headquarters that controlled communist military forces, the PLAF, in South Vietnam. Appendix A shows the geographic divisions of COSVN found in South Vietnam. COSVN was made up of Special Regions (SR), Military Regions (MR), Special Zones, and the B-3 Front. Each of the regions, and special zones reported directly to COSVN.

COSVN contained the communist headquarters for the military command and civilian government. The military headquarters was composed of a number of departments or staff offices along with combat and support units. The sapper chain-of-command began at the military staff department. Within the military staff department, the Sapper Command or Sapper Office was the focal point for all sapper related issues with COSVN. From the Sapper Office at COSVN, the next command level down was the corresponding Sapper Office at the Military or Special Region Headquarters.

The military staff at each Military and Special Region Headquarters was responsible for all operations within that region. Within the military staff office, the Sapper Office/Command was responsible for the training, organizing, equipping, and planning for the PLAF Sapper force. These forces included Field Sappers, Urban Sappers, and Naval Sappers. As the war progressed and North Vietnam took more

responsibility for all aspects of operations within COSVN, the 429<sup>th</sup> Sapper Group was sent into Cambodia sometime in 1968 to assume responsibilities for PLAF Sappers. The 429<sup>th</sup> replaced the Sapper Office/Command within COSVN and now reported directly to the Sapper High Command in the PAVN High Command. As the diagram below illustrates, the 429<sup>th</sup> was a highly organized unit that had all the necessary functions to operate. The Sapper Office at each Military or Special Region within South Vietnam became subordinate to the 429<sup>th</sup> Sapper Group.

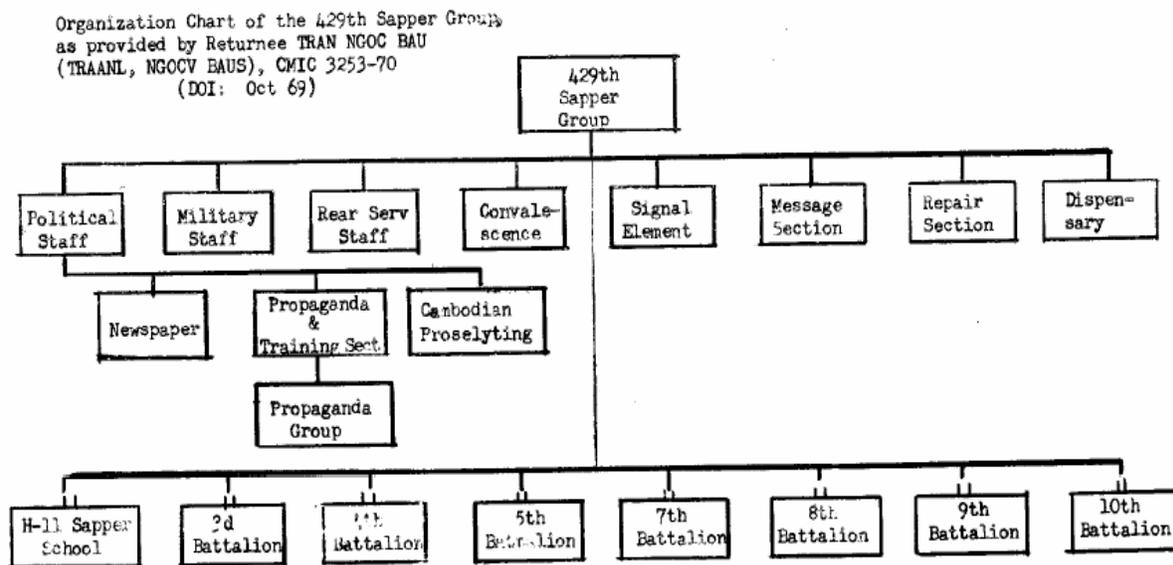


Figure 1. Organizational Chart of the 429<sup>th</sup> Sapper Group (From: Westphal, 1971, p. 11)

The PAVN command structure during the war was very similar to the organization of COSVN. At the top of the organization was the PAVN High Command that controlled the combat, support, and administrative within PAVN. Early in the war, PAVN Sappers were controlled from the Military General Staff Office just as PLAF Sappers were controlled by the Sapper Office/Command in COSVN. However, the PAVN command organization changed sometime in May of 1967 with the creation of the Sapper Headquarters or Sapper High Command (*The Impact of the Sapper on the Vietnam War*, 1969, p. 9). This command change increased the status of PAVN Sappers to the same level as their Air Defense, Armor, and Artillery Commands. The increase in status meant more emphasis on Sapper techniques, better equipment, and gave the

sappers a greater voice in their own use. The Sapper Headquarters controlled PAVN and PLAF Sappers for the duration of the war. After the war ended the Sapper Headquarters eventually became the PAVN Special Operations Force (Bo Tu Lenh Dac Cong) (Pike, 1986, p. 107).

### C. STRATEGY

Sapper fighting is a living symbol of our national character and soul, our indomitable fighting will, our creative energies. Sapper fighting is the essence of Vietnam.

Senior Col. Bach Ngoc Lien, from “The Few to Fight the Many” in *Nhan Dan*, December 19, 1979 (Pike, 1986, p. 121)

The idea of sapper fighting, a small and well trained force attacking a large force at a weak point, is not a new strategy or tactic in warfare. The premise behind sapper fighting for the Vietnamese is the concept of economy of force. This was simply to enable the few to fight the many, the weak to fight the strong. Economy of force was an essential element of guerrilla warfare in Vietnam and anywhere else that guerrillas mounted a campaign against a government. Although both share many similarities, sapper fighting and guerrilla warfare are not the same.

Some might consider sapper fighting as a tactic or element of guerrilla warfare. Early on during the Vietnam War this statement might have been true regarding sapper fighting. As PAVN officers took more control of the fighting in South Vietnam, the reasoning behind the use of sappers changed. This change was an economy of force with a twist. In guerrilla warfare, economy of force calls for a small guerrilla unit to attack and destroy an isolated and small government force. The more government units destroyed means the stronger and larger the guerrilla could become over time. For the sapper, however, economy of force carried a different meaning. This was the ability of a small and well trained force to attack a numerically superior force from within the enemies’ interior lines. PAVN General Dung Van Tien called this type of fighting the “blooming lotus” tactic (Turley, 1986, p. 178). The “blooming lotus” was the ability of sapper units to penetrate either a city or a command post and attack outwards while a conventional force attacked inwards from the perimeter.

THIS PAGE INTENTIONALLY LEFT BLANK

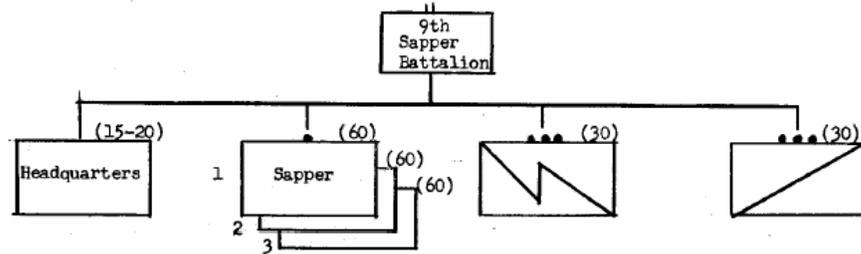
### **III. FIELD SAPPER**

#### **A. MISSION**

The Sapper or Field Sapper existed in both the PLAF and PAVN. Both organizations became more reliant upon Sappers as the war progressed because of previous successful sapper attacks. The mission of the Field Sapper was twofold. Primarily, the Field Sapper had the mission to clandestinely infiltrate ARVN/US positions for the purpose of eliminating specific targets such as command posts, ammunition dumps, airfields, and etc. The secondary mission of the Field Sapper was the training of sapper techniques to non-sapper forces. This included training conventional infantry in the art of perimeter penetration and shock attack. PAVN Field Sappers also established schools to train PLAF Sappers and other PAVN Sappers in Cambodia and communist-held areas of South Vietnam. According to Douglas Pike (1986) in his book, *People's Army of Vietnam*, PAVN Sapper units were some of the first combat formations sent by North Vietnam to fight in South Vietnam as early as 1957 (p.109).

#### **B. ORGANIZATION**

Field Sapper units were the model of organization for all PAVN and PLAF sapper units. Field Sapper units formed the building block that Naval and Urban Sapper units used to organize their hierarchy and combat power, as well as to initiate the pattern for part-time local force guerrilla sapper forces. The PLAF structured independent sapper units starting at the squad level, normally part-time units, all the way up to battalion strength while PAVN sapper units were found in battalion and regimental strength.



Note: Each company was divided into three sections of 20 men each.  
 Each section was divided into six cells of three men each.

Figure 2. Organizational Chart for 9<sup>th</sup> Sapper Battalion (From: Westphal, 1971, p. 10)

## C. TRAINING AND EQUIPMENT

### 1. Training

According to all available documents, both captured and US produced intelligence, the personnel that became sappers possessed certain special characteristics that not all PLAF or PAVN soldiers possessed. One document captured by US forces in 1966 lists five attributes, either singularly or in groups, particular to the sapper: loyalty, bravery, modesty and patience to bear hardships and overcome difficulties, accuracy, as well as organization and discipline (Blakley, 1966, pp. 2-4). Though these attributes were not quoted directly by every document dealing with sappers, a theme of sapper special characteristics is borne out by these qualities. Political loyalty to the communist party was inherently necessary to be selected as a sapper. As the war progressed and casualties piled up, political loyalty was overlooked at times during the recruiting process and not every sapper was communist. Bravery was a trait that was needed by sappers to accomplish their mission of attacking inside enemy lines. Ingenuity was a feature of every successful sapper mission. The sapper had to use creativity to overcome hardship and difficulties often faced by forces operating within enemy held territory or fighting against forces that were technologically superior. The sapper required a high degree of intelligence in order to operate in the independent manner that was required by sapper

operations. Successful sappers and sapper operations necessitated a higher level of organizational skill and a greater degree of discipline than the ordinary PLAF or PAVN soldier needed. Although not absolute, these sapper characteristics were institutional amongst Field, Naval, and Urban Sappers.

The special training received by sappers was consistent for all three types of sappers: Field, Urban, and Naval. This training consisted of political indoctrination, reconnaissance and observation, movement methods and penetration techniques, as well as demolition and assault tactics. Naval Sapper training only differed in that swimming and water movement was part of the training curriculum. Urban Sapper training diverged from Field Sapper training in that propaganda and assassination/terrorism techniques were heavily emphasized.

***a. Political Indoctrination***

Political indoctrination and training was an important component of the sappers training. This training was accomplished either during the initial part of the sappers' training, or on occasion during the preparation for infiltration into South Vietnam. Political indoctrination consisted of lectures on the political situations in North Vietnam, South Vietnam, and the United States. The importance and purpose of the revolution as well as the need for the destruction of the corrupt South Vietnamese regime and eviction of foreign aggressors, i.e., the US, was also a common theme during the training (Barnes, 1970, p. 4). The training was normally carried out by one of the political officers/commissars assigned to the sapper school. Not all sappers received political training as part of their overall sapper training. Many of the part-time guerrillas trained as sappers did not have the time or trainers to conduct political indoctrination adequately. It was not unusual for PLAF sappers to have little or no political indoctrination/training with the exception of PLAF Urban Sappers. Urban Sappers received heavy amounts of political training while attending sapper schools.

***b. Reconnaissance and Observation***

The very first procedure accomplished by the sapper was to reconnoiter their potential target or targets. Sapper reconnaissance and observation skills were essential to any successful operation. This skill-set included the proper use of a map and compass to effectively plan and coordinate an operation. The sapper also had to be very

proficient in the art of camouflage so that detection during observation was nearly impossible. Once safely in position to observe the enemy, the sapper had to be able to correctly identify defensive positions, guard routines, fields of fire, defensive barriers, command and control centers, and other critical targets (*VC/NVA Sapper Tactics, Organization, Armament, Training, and Effectiveness: ST69-10*. 1969, p. 19). This identification training was conducted through the use of pictures, models, sand-tables, and practical training. .

**c. Movement Methods and Penetration Techniques**

It was critical for the sapper to learn how to move from position of cover and infiltrate through US/ARVN defensive positions without being detected. This training included instruction in several ways of walking over hard ground such as walking on tiptoes, duck-walking, and crawling, as well as the ability to move across grassy areas, swamps, and water obstacles without being hindered or detected (Felix, *Organization and Activities of the Communist Sapper Branch*, pp. 14-17). Once at the defensive perimeter, the sapper needed the training to navigate through the defenses. This included deactivating or disabling mines, moving through barbed wire or concertina, and getting past wooden or bamboo fencing (Felix, *Organization and activities of the communist sapper branch*, p. 17).

**d. Demolition and Assault Tactics**

Once the sapper made it inside the US/ARVN defensive perimeter, the next phase in the attack was the destruction with explosive of a target. In order to accomplish the mission the sapper needed to be proficient with demolitions and assault tactics. A basic necessity for sappers was the capability to handle explosives, either home-made or manufactured, correctly and safely. The sapper was also instructed in the proper amounts of explosives that would destroy a specific target to ensure that enough explosives were carried by the assault cell (*VC/NVA Sapper Tactics, Organization, Armament, Training, and Effectiveness: ST69-10*. 1969, p. 22). The sapper assault training was a mix of basic infantry training updated for use with the three man cell of the sapper team.

*e. Schoolhouse*

This training was accomplished in sapper schools found in North Vietnam, Laos, Cambodia, and parts of South Vietnam. The sapper training schools in Cambodia and South Vietnam were administered by COSVN, either through the Sapper Office or eventually through the 429<sup>th</sup> Sapper Group while the schools in North Vietnam and Laos were directed from the PAVN High Command. Training for sappers in these schools could last from three to 18 months depending on the current military situation. The training time also depended on whether the unit was a part-time guerrilla force or a full-time unit. Another variable in the training of sapper units was that PAVN Field Sappers would move to a PLAF infantry unit designated to be retrained as a sapper unit. This type of training normally took place in the PLAF units' operating area, and the training did not last nearly as long as sapper units trained in specialized sapper schools. An example of this difference in training was the D-2 Infantry Battalion in the Quang Tin Province of South Vietnam. In 1970 six PAVN Field Sappers arrived in the D-2 base area to retrain the battalion in sapper methods. This training lasted almost two months (Anderson, 1970, p. 2). The following is an example of a document captured in 1966 that outlines the type of training and number of days for schoolhouse sapper training.

Theme	Days
Use of weapons	3
Grenade Use	1
Warning, patrols, guards	1
Interior Affairs	1
Reconnaissance Drill	2
Individual and Cell Attack	2
Squad Attack under art fire	1
Chemistry and First Aid	2
Mine Training	21
Explosive Charges	25
Tactics and Construction	26
Revision and Control	5
Total	93

Table 1. Extract of a 1966 Training Program (From: *VC/NVA Sapper/Engineer Order of Battle: ST67-045*, 1967, pp. B-2/3)

## 2. Equipment

The equipment of the Field Sapper was not uniform throughout the sapper forces. Some sapper units were heavily armed, more so than conventional infantry units of similar size, while other sapper units had the bare basics of weapons and equipment. The AK-47 assault rifle and the TNT satchel charge were the two most common weapons found in the Field Sapper arsenal as well as some type of radio communications equipment. According to numerous Order of Battle (OB) documents and prisoner debriefs, other types of weapons and equipment found amongst Field Sapper units were the B-40/41 Rocket Propelled Grenade (RPG), bangalore torpedoes, RPK light-machine guns, various grenades, mines and pistols, assorted rifles, and sub-machineguns. There were a number of Field Sapper units that had an organic heavy weapons section equipped with 57mm or 75mm recoilless rifles, 60mm or 82mm mortars, and in some cases even

flamethrowers (*VC/NVA Sapper/Engineer Order of Battle: ST67-045*, 1967, pp. C-I-9, C-III-3). This heavy weapons section had the responsibility of supporting a major sapper attack.

#### **D. TACTICS AND PROCEDURES**

The successful sapper, regardless of his specialty, whether in the field, the cities, or the water, followed certain principles best summarized in Chapter II of *VC/NVA Sapper Tactics, Organization, Armament, Training, and Effectiveness: ST69-10* (1969, p. 8). The successful sapper made a comprehensive reconnaissance of the target in order to learn all enemy details before attacking. Surprise was an essential element for any sapper attack and failure was almost certain without surprise. Sapper attacks had to utilize speed of maneuver in order to attack before the more powerful enemy could react and defeat the sapper. Sappers relied on numerous axis of attack so that the enemy could not pinpoint where the sapper elements were, and confusion and fear could be sown among the defenders. Finally, sappers could not remain in the battle area for long and had to rapidly extricate themselves for survival.

##### **1. Attacks on Garrisons and Headquarters**

An important element of the communist strategy was to destabilize the South Vietnamese regime in the countryside. An excellent method to weaken the governments control outside of Saigon was to attack military garrison headquarters as well as provincial and local administrative centers. With the exception of large cities like Hue or DaNang, PAVN and PLAF Field Sappers frequently targeted government facilities with the intent of destroying them. Actions in the large cities such as this were undertaken by Urban Sappers. By taking these actions, the communist leadership hoped to show how weak the government was. It was not unusual for Field Sappers to be assisted by local-force guerrillas who acted as guides during attacks on government infrastructure. Many of these facilities were well protected and very visible and their destruction gained the communists a large payoff for a small investment.

Attacks on military command posts and garrisons were an attempt to immobilize US and ARVN forces by affecting command and control and diminishing morale. According to a document captured from the PLAF in 1966 concerning sapper activities,

the most vital objective in attacking enemy bases/headquarters was “to make the enemy feel that they are living unsafely in the South territory. They must always be threatened by death and unsafe conditions. They must also have no safe place to plan attacking us.” (*National Liberation Front Military Operations*, 1966, pp. 12-13). These attacks on command centers could be in conjunction with larger-scale attacks such as the Tet Offensive in 1968, or individual attacks to hinder US and ARVN operations in a particular area.

Before an attack on a government headquarters or military garrison, Field Sappers conducted a thorough reconnaissance of the target. After reconnaissance, the sapper commander identified all enemy fighting positions as well as obstacles. With this knowledge, a plan of attack was derived based on the number of sappers available for the mission. The sappers were divided into three man cells and given their assignments of assault, destruction, or supporting fires. The attack force would then infiltrate the target perimeter and execute the attack. Immediately after the headquarters was destroyed, the sapper teams would exfiltrate the target area and then meet at a prearranged site to return to their base area.

## **2. Attacks on Fuel and Ammunition Dumps**

Because US and ARVN forces often had a firepower advantage over communist troops, PAVN and PLAF leadership looked for way to decrease the firepower advantage. One way to do this was for communist forces to attack US and ARVN ammunition and fuel dumps, which were primary targets for Field Sappers. These targets were well defended and gave little access to an enemy force.

An attack on a fuel or ammunition dump was very similar to an attack on a headquarters. Prior reconnaissance was necessary to identify weak points in the defensive perimeter and recognize defensive fighting positions. The sapper leader that conducted the reconnaissance also planned which avenues of attack the sapper cells would utilize, as well as where the support cell would emplace to provide support fires for the attack. This plan was based entirely on the number of sapper cells available for the attack as well as how diligent the defenders were. During the attack, sappers would quietly penetrate the dump’s perimeter and then place multiple TNT satchel charges set to explode simultaneously after the attack cells retrograded the target area. In many

instances, it was not unusual for the defenders to realize an attack was in progress until the satchel charges started to detonate (Foulke, 2003, p.2). Sometimes the defenders were even unsure if the explosions were caused by the enemy or by some accidental means. The support cell would only respond if the defenders discovered the attack cells. After the attack concluded, the cells would then meet at a prearranged site for movement back to their base area.

### **3. Attacks on Airfields**

Attacks by Field Sappers on airfields were almost identical to attacks on headquarters and dumps. There was an extensive reconnaissance phase prior to the attack where all routes and defenses were noted. The significant difference between the attacks on airfields and the previously mentioned attacks was that a larger force was needed. Airfields were more difficult targets because of their size, number of aircraft, and heavier in-depth defenses. A larger fire support element was needed as well as more attack cells to target multiple aircraft and other targets of opportunity. The attack cells generally relied upon stealth to get within the airfields perimeter and place their satchel charges. Once the charges were placed, the sappers would then egress from the airfield and move to their base area. From examination of all available reports dealing with sappers, attacks upon airfields were the least successful in terms of withdrawal without casualties. The evidence indicates that sapper attacks upon airfields were likely to be costly for the sapper and for US/ARVN forces.

### **4. Attacks on or Seizures of Bridges**

Another target attacked by Field Sappers was bridges found away from coastal areas or large waterways. Not every bridge attack in rural South Vietnam was carried out by sappers but some were conducted by local-force guerrillas. Nevertheless, when Field Sappers did target a bridge for destruction, the method was similar to Naval Sappers. The target was thoroughly reconnoitered with an attack plan based upon the size of the target, the defenses, and the targets accessibility. The attack cell or cells stealthily approached the target either using terrain cover or using a waterway if available. If the bridge was surrounded by a defensive perimeter, then the cells penetrated the perimeter in

the same manner as attack upon headquarters and dumps. The TNT charges or mines were set to detonate and the cells withdrew to a designated spot. From there the cells returned to their base area.

During large scale offensives such as the Tet Offensive in 1968, the Spring Offensive in 1972, and the final attack on Saigon in 1975, bridge seizures became a focus of Field Sapper operations. This was more the case in 1972 and 1975 because the PAVN military's use of mechanized forces. Seizure of these strategic targets allowed PAVN armor better access to ARVN targets and gave the communists an offensive advantage. During the final stages of the Vietnam War, PAVN sappers seized most of the crucial bridges in and around Saigon (Hoang, 2005, p. 230). Loss of these bridges prevented the defenders from maintaining a secure perimeter around Saigon. Because of this, PAVN armor was able to drive straight into the city and overrun critical facilities, including the Presidential Palace, which ended the war.

#### **5. Attacks on Deployed Forces**

Sapper attacks upon forces in the field did happen, but such attacks were not the normal method of operations for the Field Sapper. Deployed forces were not considered strategic or vital targets that sappers would normally target. Because of their unpredictability, deployed forces were difficult to target. Sappers normally would not have the necessary time required to conduct a complete reconnaissance of the target prior to attack. These types of attacks would be haphazard at best and very risky. Although sappers were not averse to high risk, the payoff needed to be high. Attacking a unit operating in the field did not have a high payoff. When sappers did attack deployed forces, the same methods as above were used. The main difference according to all evidence available is that the fire support cell or cells would open fire once the defensive perimeter had been breached by the attack cells. This caused confusion and distraction amongst the defenders and allowed the attack cells to locate their target, normally a command post, and place their explosives. Withdrawal from this attack was extremely difficult for the sappers.

#### **6. Support to Infantry Attacks**

Field Sappers provided direct support to conventional infantry attacks against US/ARVN fortified positions. This support normally entailed a sapper force breaching a

defensive perimeter thus allowing a conventional infantry assault to proceed through the breach. As with a sapper attack against deployed forces, this type of attack could be very hazardous to the sapper. Once the sapper force breached the perimeter, usually through the use of bangalore torpedoes, the sappers' most important asset, clandestinity, was lost. At this point in the attack, the sapper cells had endure the same dangers as the infantry once the defenders were alerted to the presence of an attack force. If the base was not quickly overrun by the infantry force, all units were subject to the possibility of heavy casualties.

### **7. Attacks with Artillery**

Not only did some Field Sapper units possess light artillery, such as recoilless rifles or rocket launchers, to support sapper attacks, there were times when sapper units operated in conjunction with preplanned artillery barrages against US/ARVN targets or directly supported artillery units (*The Impact of the Sapper on the Vietnam War*, 1969, p. 7). In this role the sapper's main function was to provide detailed reconnaissance data to the artillery unit to help pinpoint acceptable targets. During the barrage, sappers were expected to observe the results of the attack and report back to the artillery unit. Although probable, there was no direct evidence that the sapper cells actually controlled the artillery barrage by adjusting the fires.

Sappers could take advantage of an artillery barrage to attack a target such as a headquarters or dump. The sapper commander would observe a number of barrages against the target installation to scrutinize how the defenders reacted. If a weakness in the defense was detected then the sappers would use the artillery barrage to their advantage. As the artillery barrage began, attack cells would penetrate the perimeter and advance to the target. Once at the target, the cells would leave satchel charges and egress away from the target while the barrage was still ongoing. Because the barrage alerted the defenders, the attack cells dealt with more risk than an attack using pure stealth.

## **E. POTENTIAL LESSONS TO BE LEARNED**

### **1. Advantages for Field Sappers**

- High payoff targets. An obvious weakness of both US and ARVN forces was the large number of headquarters and ammunition dumps they needed

to support operations. Not all of them could be adequately defended because of the limited number of troops. PAVN and PLAF commanders recognized this weakness and attacked to sow confusion and cause paralysis.

- Small numbers. Because of superior technology and firepower, communist forces had to attack weak points. Forces had to be developed that could penetrate enemy positions, attack the targets, and then withdraw without alerting the enemy.
- Training. It was nearly impossible to stop a well trained sapper when attacking under the right conditions. So long as the sapper commander had the independence to conduct the attack as planned, the operation was likely to succeed.

## **2. Disadvantages for Field Sappers**

- Misuse. As with any specialized force, Field Sappers were prone to misuse. Because of their high status, Field Sappers could find themselves being used as shock infantry against a tough target. Sappers were inappropriate to attack and hold a target for long periods of time. Sappers were also human and made mistakes. If not allowed to rest and recuperate or forced to operate under abnormal constraints, Field Sappers were more likely to be discovered during an attack and sustain unacceptable casualties.
- Technology deficit. Communist forces could not hope to keep pace with the US/ARVN forces when it came to technology. If the sapper leader did not conduct enough reconnaissance and identify the technological aspects of the defense, the attack force was bound to suffer needless casualties.

## **V. WATER / NAVAL SAPPER**

### **A. MISSION**

The Water or Naval Sapper was an important component of the Communist Sapper force. Both the PLAF and PAVN used Naval Sappers during the conflict with the US and South Vietnam. As the name implies, the area of responsibility for the Naval Sapper was any water-body including ocean, estuary, canal, and river. Naval Sappers were tasked with interdicting the US and Allied use of the multiple waterways found throughout South Vietnam. Naval Sapper targets included commercial and military shipping, bridges, and piers, floating military bases, shore bases, power plants, and any other target that was near enough to water to allow access to the Naval Sapper (Watkins and Jahn, 1970, p. 1). As the war progressed and sapper capabilities matured, land based objectives that included military bases, patrols, and lines-of-communication near water became targets for the Naval Sapper.

### **B. ORGANIZATION**

Naval Sappers were organized just as other sapper units found in PLAF and PAVN forces with platoons, companies, and battalions. The main difference between PLAF and PAVN Naval Sappers was that PLAF Naval Sappers tended to be less hierarchical and more centralized and flexible in their organization. This flexibility was indicative of the fact that some PLAF Sapper units were Main Force while others were Local Force. Examination of the interrogation debriefs and defector reports from former PLAF members showed that the PLAF referred to Naval Sappers in terms of “unit” and not company or battalion. This is somewhat contradicted by the 1967 *VC/NVA Sapper/Engineer Order of Battle* produced by the Combined Intelligence Center, Vietnam. Annex C of the document detailed the complete order of battle (OB) from regimental size down to independent squads found throughout South Vietnam. The US produced document was very specific in detailing PLAF sapper units as battalions, companies, and platoons whereas former PLAF members were more imprecise when discussing PLAF Naval Sappers. There were also instances of PLAF Field Sapper battalions with a Naval Sapper company or platoon within the organization. These

composite battalions were typically found in or near large urban areas, such as Saigon, that lay close to a large river or along the coast. In the areas around Saigon and deep in the Mekong Delta it wasn't unusual for PLAF Naval Sapper platoons or squads to exist independently and report directly to the Military Region Headquarters. These units were often local force or part-time guerrillas whose training and efficiency were not as high as the Main Force or full-time PLAF units.

The highest tactical formation for PAVN Naval Sappers was the battalion. The battalion headquarters normally consisted of a commander, executive officer, a political officer, and a small support staff if the manpower existed. The support staff was typically responsible for logistics, medical support, and any other support as needed. In some of the larger Naval Sapper battalions, the political officer had an assistant. The size of the PAVN Naval Sapper battalion ranged anywhere from 75 to 300 members. The Naval sapper battalion was organized with two to three sapper companies each numbering 30 to 100 members. Each company had a commander, executive officer, and political officer with a small support staff. The company was made up of two or more platoons usually numbering 10 or more men each. Within the platoon, two combat cells of two to five men existed. It was the combat cell that conducted missions against US and ARVN forces. One organizational feature that seemed to be consistent for all Naval Sapper units was that there was no absolute organizational standard. No two units had the same make up.

The following schematic of the 8<sup>th</sup> Naval Sapper Battalion, Special Region 4 (Quang Tri-Hue City area) best represented the typical structure of Naval Sapper Battalions found in South Vietnam (Noyes, 1971, p. 8). It was a small battalion with a headquarters element and two small Sapper companies. The third company was an infantry company recently added to the Table of Organization. It was probable that this third infantry company would be converted to a Sapper company or that the infantry company would be used to augment the Sapper companies in large-scale attacks.

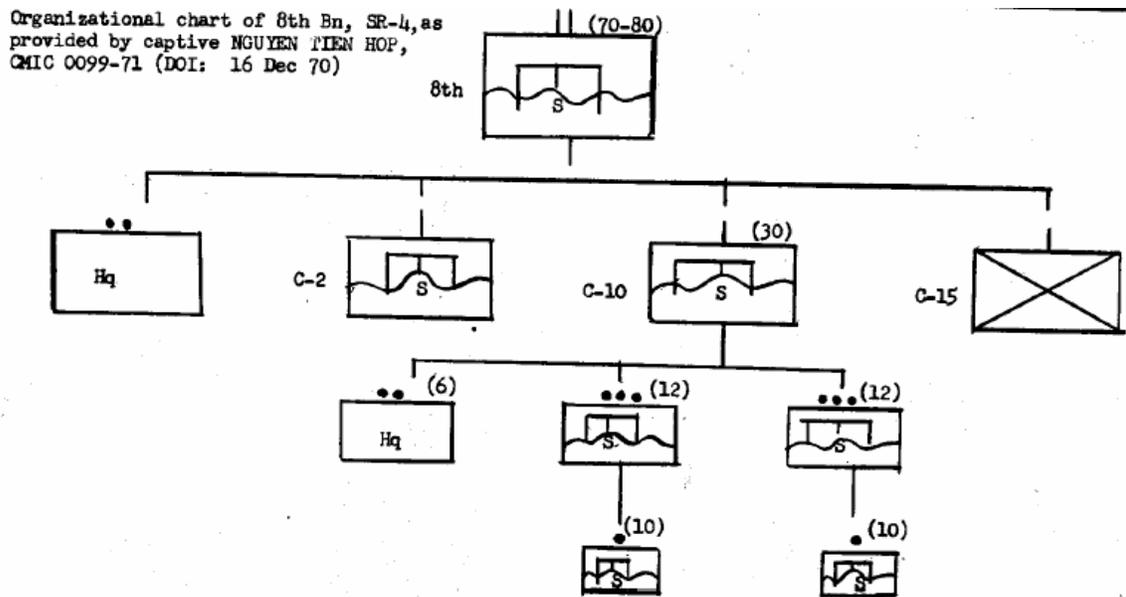


Figure 3. Order of Battle for 8<sup>th</sup> Naval Sapper Battalion (From: Noyes, 1971, p. 8)

### C. EQUIPMENT

PLAF and PAVN Naval Sappers used equipment that was unique to their special mission needs as well as equipment that was common to other types of sappers. The AK-47, RPG, and TNT satchel charges were universal amongst all communist sappers. PAVN Naval Sappers that operated in northern South Vietnam were more heavily armed and were equipped with more sophisticated anti-shiping or water mines. According to OB reports found within the *VC/NVA Sapper/Engineer Order of Battle* produced by the Combined Intelligence Center, Vietnam, many PLAF Naval Sapper units utilized TNT charges, 60mm and 82mm mortars, and recoilless rifles to attack shipping.

Naval Sapper swimmers used various methods to attack waterborne vessels. The three most frequently utilized ways to deliver the swimmer were through snorkeling, the sampan, and Self-Contained Underwater Breathing Apparatus (SCUBA). The most primitive and common swimmer method was to hollow out bamboo and use it as a snorkel. This procedure allowed the swimmer to blend in with the typical shoreline found in Vietnam and provided the swimmer with an almost unlimited source of snorkeling material. Using snorkels did have some inherent disadvantages for the swimmer. He was forced to stay close to the surface of the water, thereby potentially exposing himself, and if seen by an alert sentry, the swimmer could not stay submerged

for a long enough period of time to escape. If not using snorkels or after exit, the next most used method of swimmer insertion was from a sampan. Sampans were the most commonly found waterborne vessel in Vietnam and so were the perfect covert insertion vehicle for the swimmer. The sampan allowed the swimmer to extend his range from the main base and carry more or heavier gear. Sampans also blended in with “normal” waterway traffic which made them the perfect reconnaissance platform for the swimmer. The main disadvantage was that sampans were easily outclassed by US/ARVN patrol vessels and could not escape if discovered. A modern method of insertion by the swimmer was by SCUBA. On February 5<sup>th</sup> 1968 the first use of SCUBA by Naval Sappers was discovered and identified (*The Impact of the Sapper on the Vietnam War*, 1969, p. 15). Although limited in use during the war, the introduction of SCUBA gear greatly enhanced the capabilities of Naval Sappers to clandestinely attack targets throughout South Vietnam.

#### **D. TACTICS AND PROCEDURES**

The Naval Sapper employed many techniques to attack enemy targets. These attacks ranged from water ambushes, placement of explosives onto waterborne vessels, and destruction of enemy bridges. Shore based targets near water such as airfields, storage sites, and bases were attacked identically the same way as by Field and Urban Sappers. The main difference was the method of insertion of the attacking team. Just as with all other types of sappers, Naval Sappers relied on prior reconnaissance of the target or target area.

##### **1. Water Ambush**

The water ambush was composed of two different operations. The simplest and least risky water ambush called for the placement of an explosive charge onto the bottom of a waterway. Once placed, there were two ways for the explosive to be detonated. The charge could be set off by contact with a boat, or the charge could be exploded by command detonation. Detonation by contact with the boat was the safest technique of water ambush but did not allow for a choice of target that command detonation allowed. The risk to the swimmer cell was minimal when leaving a contact explosive, but substantially increased when command detonating a charge.

The second and riskier water ambush technique was for a number of swimmer cells to engage a target from the shoreline. A normal ambush began with the use of an underwater charge, typically command detonated. Once the charge was detonated, one swimmer cell then engaged the target with RPGs while another swimmer cell attacked with recoilless rifle fire or machine gun fire. When the required damage was completed or the return fire grew too heavy, the swimmer cells then melted away into the terrain. This type of ambush could be quite deadly to the defenders especially when they were not vigilant. If the defenders were vigilant or support was close by, then the swimmer cells could be at great risk of casualties.

## **2. Waterborne Vessel Attack**

An attack on a waterborne vessel called for the placement of an explosive charge directly onto the hull of the target. The swimmer had several ways to accomplish the task but first had to arrive at the target covertly. Depending on where the vessel was moored, the swimmer had to get close enough to the target with his explosive charge. This was accomplished by swimming from shore or being dropped off by sampan. Once close enough to the target, the normal method was to swim using a snorkel and drag the explosive charge to the vessel. The two man swimmer cell either carried an explosive charge individually or assisted each other to carry a single large charge. The cell members normally tied a rope between themselves to facilitate the attack and keep each other from becoming separated (Watkins and Jahn, 1970, p. 13). The two swimmers would approach the vessel and try and catch the anchor chain between them using their rope. Once they were able to catch the anchor chain, the swimmers could then maneuver and place the charge or charges against the hull of the target. This technique worked against all types of vessels regardless of whether they were moored in a river, along a pier, or out on the coast. Once the explosive was attached, either magnetically or tied to the hull, the fuse was activated. This could be command detonated or time-delayed. Time-delayed seemed to be the preferred method as it required no more activity by the swimmer cell.

## **3. Bridge Attack**

For the Field and Urban Sapper there was just too much risk involved in attacking a bridge over land, where it was best defended. Because of that risk, bridge attacks

became the specialty of the Naval Sapper. The standard technique of the swimmer cell to attack a bridge was to enter the water upstream of the bridge and be carried by the current to the bridge. The cell members could tie themselves together with a rope or maintain visual contact with each other until reaching the bridge. One of the simplest covert methods used to float to the target was to grab a piece of floating debris found in the river and utilize it for cover. Just as in attacking a waterborne vessel, the swimmer cell had to carry the explosive charge individually or together to the target. Once the swimmer cell managed to get the charge to the bridge pilings, it was just a matter of attaching the explosives and setting the fuse. As Naval Sapper counter-measures increased around the vulnerable pilings, the swimmer sapper placed larger amounts of explosives below the center of a span. Once detonated, the explosive caused a large water spout that had the potential to damage or destroy that span (Watkins and Jahn, 1970, p. 27).

## **E. POTENTIAL LESSONS TO BE LEARNED**

### **1. Advantages for Water Sappers**

- Target rich environment. South Vietnam had considerable boat traffic because of the large number of waterways. The large number of waterways increased the governments' reliance on bridges and resupply vessels. The ability to insert swimmer cells near their target was made easier by the number of boats in use and the criticality of boat traffic for the Government of South Vietnam.
- Economy of force. A small swimmer cell or group of cells could cause considerable damage. As an example, not including water ambushes or bridge attacks, between 1962 and 1969 there were 88 successful swimmer attacks against shipping which resulted in the loss of only 20 swimmers for all attacks whether successful or not (Watkins and Jahn, 1970, p. 5). In terms of swimmer loss to shipping loss, for every four successful operations one swimmer was lost, the payoff was extremely advantageous for the Naval Sapper.
- Targets hard to defend. By their nature, waterborne vessels, bridges, and waterways were extremely difficult to defend. As the South Vietnamese grew to rely on the bridges and waterways, the greater the vulnerability of these potential targets became obvious. Technology could help tilt the balance towards the US/ARVN position, but only long enough for the ingenuity of the swimmer to come up with a way to counter the technology.

## **2. Disadvantages for Water Sappers**

- The swimmer is slow and less than maneuverable. Because the swimmer must carry the explosive charge on his own or with a cell member, a fast moving current or choppy sea could impede the progress of the swimmer cell.
- New technological defenses. The US/ARVN military constantly developed new technological defenses that had to be overcome by the swimmer. This placed even more reliance on pre-attack reconnaissance. If proper reconnaissance was not conducted or the swimmer cell had already launched and something about the target or defenses changed, the attack was likely to fail.
- Night restriction. The primary time for all attacks except water ambushes was at night. Darkness would inhibit the ability of the swimmer to successfully maneuver to the intended target. Once the opportunity was missed, the swimmer had to return to base and re-plan the attack.
- Misuse. Just as with all other sappers, Naval Sappers could be misused by attacking the wrong targets such as heavily defended bases better left to Field Sappers or being mismanaged from higher headquarters.

THIS PAGE INTENTIONALLY LEFT BLANK

## **IV. URBAN SAPPER / SPECIAL ACTION UNIT**

### **A. MISSION**

The missions of the Urban Sapper or Special Action Unit were very diverse. Urban Sappers had to be able to attack bases and installations within large cities just as Field Sappers attacked the same targets outside of the large cities. Another significant mission was armed propaganda actions against military and civilian populations deep within the enemy's rear. Special Action Units were also expected to build clandestine organizations inside enemy held cities for the purposes of sabotage, political agitation, and intelligence gathering (*PLAF-PAVN Special Action and Sapper Teams*, 1966, p. 15). Urban terrorism and intelligence collection were also missions carried out by Urban Sappers.

### **B. ORGANIZATION**

Of the three types of sappers, Urban Sappers had the least organizational structure. US order-of-battle intelligence specialists tried to place Special Action Units into an organizational hierarchy in order to fit into the conventional intelligence process. This was incorrect because there was no firm organizational construct for this type of unit. The missions assigned to Urban Sappers could be accomplished by individuals or groups of cells depending on the target. All evidence indicated that a formal command structure existed, but that the underlying units were fluid. This flexible structure allowed the unit to remain anonymous under police pressure while maintaining its ability to conduct operations in various parts of the city.

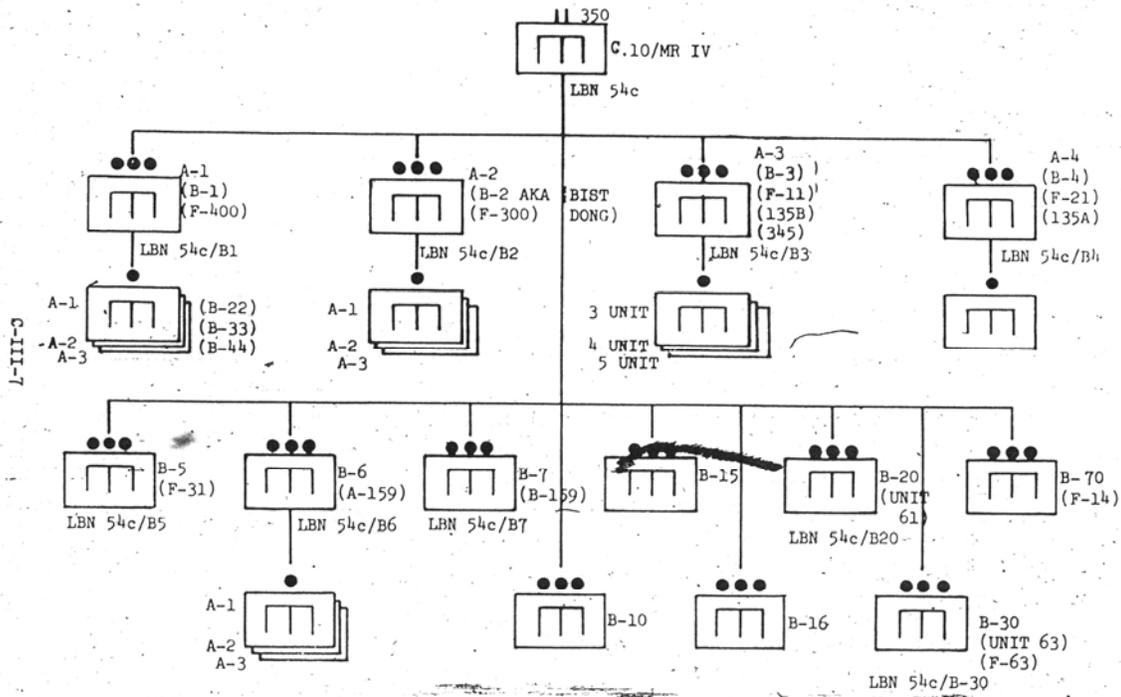


Figure 4. Organizational Chart for C-10 Urban Sapper Battalion. (From: *VC/NVA Sapper/Engineer Order of Battle: ST67-045*, 1967, p. C-III-7)

Because of size limitations and clandestine necessity, only those who were considered loyal to the party were recruited into Urban Sapper units. This included not only men, but also women (*National Liberation Front Military Operations*, 1966, p. 14). Women were better able to move through security checkpoints and were less visible on the street because of the fact that many young males were away fighting in the war. Although party loyalty was considered very important for the Urban Sapper, this characteristic was not always a priority if, as during the Tet Offensive, large numbers of casualties were absorbed by Special Action Units. In that case, replacement of casualties sometimes took priority over party devotion.

### C. EQUIPMENT

The Special Action Unit was equipped in the same manner as the Field Sapper with the exception that lighter weapons were the rule. Urban Sappers had little use for heavy weapons as they were hard to conceal and difficult to transport in a crowded urban environment. The preponderance of weapons carried by the Urban Sapper were small, such as pistols, AK-47's with folding stocks, grenades, TNT and C4, RPGs, and small

mines. Urban Sappers also used field glasses and small radios. Although potentially useful for all sapper units, employment of ARVN or government uniforms and equipment to infiltrate to the target easily were utilized by Special Action Units (VC Document captured 6 February, 1967, pp. 12-13).

## **D. TACTICS AND PROCEDURES**

### **1. Terrorism**

The use of terrorism by the PLAF was one of the earliest forms of insurgency in Vietnam. The communists used terror against the South Vietnamese from the mid-1950's until the fall of South Vietnam in 1975. A 1967 US Embassy paper on PLAF terrorism gave five reasons why the tactic of terrorism was used: 1) Build morale within the PLAF, 2) Advertise the movement, 3) Disorientation and psychological isolation, 4) Eliminate the opposition, and 5) Provoke the South Vietnamese government (*The Viet Cong Use of Terror*, 1967, pp. 50-53). As an underground movement, the PLAF needed to show the population of South Vietnam and the movement's own members that it could successfully attack the enemy. The PLAF hoped that the people of South Vietnam would become fearful, weak, and angry provoking a change in government. Any strong reprisal by the South Vietnamese government would be taken out on the population, thereby turning them towards the communists. However, not every terrorist act was conducted by Urban Sappers, but also by other elements of the PLAF.

The Urban Sapper conducted terrorism in the cities through a number of methods. The simplest form of terrorism practiced was kidnapping. The subject of the kidnapping was normally a government official, teacher, or other individual with high status in the society. If a ransom was paid, the subject might be released or murdered. Another method was to throw grenades or other small explosive. This was normally done to attack small police or military posts, government offices, or US sites. Though the physical damage was usually insignificant, the psychological damage to citizens could be high. Finally, the Special Action Unit would use a large bomb, similar to either a car-bomb or a package type of bomb. This type of attack inflicted the most significant damage and casualties of all the methods of terrorism. Before the bombing, the target

would be examined to note any security, avenues of attack and escape, and the best time for attack. The member or cell then placed the bomb, normally on a timer, and then escaped from the target area.

## **2. Assassination**

Although a subset of terrorism, the use of assassination by the communists was an insidiously effective technique in the struggle against the South Vietnamese government. Assassination was one of the earliest forms of insurgency conducted by the PLAF since the mid-1950's. One PLAF apparatus, though not exclusively, that carried out assassinations was the Special Action Unit. According to *The Viet Cong Tactic of Assassination* published in 1971, the following were motivations behind this technique: 1) Elimination of opposition leadership, 2) Terrorize the rural mass into granting support to the guerrillas, 3) Isolation of the population from the South Vietnamese government, 4) Damage the reputation of the South Vietnamese government, and 5) Weaken organizations and social classes that potentially threaten PLAF control (*The Viet Cong Tactic of Assassination*, pp. 1-2). Once a prospective target was identified by the party apparatus, surveillance was conducted to pinpoint the most favorable time to attack. This surveillance could be short or last a number of days depending on how much security the target had.

## **3. Propaganda**

Although not a primary mission for the Special Action Unit, the dissemination of propaganda was an essential task in the struggle to control the human element on the urban battlefield. The methods applied to spread the communist propaganda varied but were normally word of mouth, leaflets, and actions such as terrorism. Themes central to the propaganda effort: 1) Educate the masses about communist victories, 2) Imply that dissension against and amongst the government of South Vietnam has grown, 3) Portray the struggle as anti-colonial, nationalist against the US and their puppets, and 4) Suggest that newly liberated areas are prosperous (*Additional Guidance for the Propaganda Mission during the Present Phase*, 1964, pp. 2-4). Because the Urban Sapper operated within the cities, the organization was easily adaptable to spreading these communist messages.

#### **4. Espionage**

Espionage was a role well suited for the Urban Sapper, but was not a key mission area. Because of their training in surveillance and observation, sappers were better able to gather intelligence against the South Vietnamese government and military as well as any US activity. The intelligence gathered could be either tactical in nature to sustain a forthcoming military operation or strategic support to COSVN and the PAVN High Command. Another collection technique for the sapper was to infiltrate into a government or military organization. Once inside the organization, the sapper had easy access to data that could be gathered and then relayed back for use at higher levels. Sappers also maintained clandestine support networks that could be leveraged to supply intelligence about the population in specific parts of a city. This information was used to gauge the mood of the population regarding both the communists and the South Vietnamese government.

#### **5. Attacks on Government/Military Installations**

Just as Field Sappers could attack South Vietnamese and US installations, Special Action Units also attacked the same types of installations within the large urban areas. The procedures were generally the same with an emphasis on prior reconnaissance. After a thorough reconnaissance, an attack plan was drawn up for the number of cells required to accomplish the objective. That attack was carried out and follow-up forces relieved the sappers. The difference between Field Sapper attacks such as this and the Special Action Unit attacks on installations was that attempted seizures of installations in large urban areas only occurred during large-scale offensives such as Tet or the final attack on Saigon in 1975. It was much too dangerous for the Special Action Unit to seize a government installation unless other large infantry units were to relieve the sappers. During the times when no large offensives were ongoing, the primary focus of the Special Action unit was terrorism.

### **E. POTENTIAL LESSONS TO BE LEARNED**

#### **1. Advantages for Urban Sappers**

- Working on the inside. Special Action Units enjoyed an advantage over other sapper units because they were able to operate in areas considered

safe by the South Vietnamese government. Movement within the large cities was often uninhibited because it was almost impossible for the government to manage movement inside the city.

- Economy of force. These small sapper units were able to cause considerable damage and confusion to the government. It was extremely hard to defend against an enemy that moved easily amongst the population. The cost to the PLAF was minimal so long as the Special Action Units were not misused.
- Tactical and Strategic implications. The successful results of Urban Sapper operations often had tactical and strategic implications. When the government of South Vietnam was unable to stop a terrorist action or assassination, the people lost confidence. If an organization was doing well against the communists, it became a target of the sappers. Once attacked then that organization was no longer effectively conducting its mission.

## **2. Disadvantages for Urban Sappers**

- Security. Special Action Units required a higher level of security than other types of sappers. In order to survive, the sapper had to rely upon a small number of support cadre. If the support cadre or another sapper were captured, the clandestine network was easily unraveled.
- Misuse. Urban Sappers did not have the numbers or firepower to seize and hold an objective without receiving quick support from larger units. In offensives such as Tet, sappers were required to seize objectives but were not relieved quickly enough and were wiped out.
- Logistics. Special Action Units had difficulty maintaining the needed quantities of supplies such as TNT because of the security environment. Planning operations required much long-term thought in order that one operation's execution did not stop another operation from occurring.

## IV. CONCLUSION

### A. CONCLUSION

Communist Sappers used during the Vietnam War definitely were a form of special operations force. Although they came into existence because the type of warfare the communists were engaged upon dictated their need, PAVN and PLAF Sappers quickly set themselves apart from all other types of communist military forces. Just as any other military force, the three types of sapper forces had strengths and weaknesses. Sapper operations were often successful because the strengths of the sapper were maximized, and their weaknesses minimized.

The flexible organization the sappers fielded was one of their most effective attributes. According to their operating procedures, the size of the attacking force was dictated by mission requirements. Depending on necessity and type of unit, the size of the attack force could range from an individual sapper, up to a three man cell, or a task organization of company size or larger. The adaptable structure of the various sapper units allowed for the targeting of virtually any US or South Vietnamese objective. There was no type of unit or post that was immune to attack by sappers. This organizational flexibility allowed sappers to meet the needs of higher headquarters on an ever changing battlefield.

Another sapper characteristic that was extremely important was their ability to stealthily recon any potential target. What was even more important for this reconnaissance effort was that the mission commander was responsible for actually putting eyes on the target. This method of requiring the commander, not necessarily the unit commander, to conduct the pre-attack reconnaissance ensured that the mission planning took into account all possibilities and that the leader was most knowledgeable about the target. Sapper operations were rarely conducted without thorough reconnaissance, and those that did not carry out a methodical reconnaissance were more likely to fail.

The high level of training found amongst many sappers also contributed to their successes. Although not true for every sapper, the greater depth and length of sapper

training was found in all three types of sapper units. This high proficiency allowed the sappers to carry out missions that most US and ARVN members considered impossible or foolhardy. Their levels of training also allowed the sappers to be competent at many different skill sets. This competency gave the sappers a greater degree of flexibility during an actual operation. If one cell member became a casualty, then another member of the cell could take over the casualty's responsibilities. Another training benefit was that sappers had the skills that allowed them to operate autonomously. Fewer ties to other units permitted the sappers to take on assignments without worrying about support, as well as to maintain secrecy.

Another factor that guaranteed a higher degree of success for the sapper was that South Vietnam was a target- rich environment. The South Vietnamese government and military had no capability to provide adequate security for all potential targets found within the country. The US military was not in a better position than the South Vietnamese. For every combat unit, a large base existed to provide support to that unit. These bases and their infrastructure made ideal targets for the sapper. US and ARVN combat units were over extended trying to counter communist guerrilla and conventional operations. When US and South Vietnamese government programs, such as Civil Operations and Revolutionary Development Support (CORDS) had any success, they became priority targets for sapper operations. Once the communist military authorities recognized the value of sapper units in relation to the large number of high value targets, the number of sapper organizations increased and spread throughout communist controlled areas.

One possible argument against the assertion that PAVN and PLAF sappers were Special Operations Forces, has been that Vietnamese Sappers were just combat engineers fulfilling unique requirements. The author contends that the communist military self-identified this force as sappers to mislead their enemy. The US and ARVN military bought in to this deception and treated sappers as essentially engineering units. It seems that part of the reason for this was that the US military cannot readily accept the fact that a third world Asian nation fighting a non-traditional war could possibly employ special operations forces against the US. To compare Vietnamese Sappers with US Special Forces during the war is incorrect because the two forces had separate roles in the

conflict. The sappers were primarily concerned with direct action, while the US Army Special Forces focus was on training indigenous forces. What is interesting is to note the similarities between Vietnamese Sappers during the Vietnam War and US Special Forces in the Global War on Terrorism (GWOT). The correlation between the two forces is direct action and surveillance/reconnaissance. The necessities of the conflict, coupled with the skills of the forces, have been the reason for their role in the two conflicts. The same skeptics that would argue that Vietnamese Sappers were not special operations forces would have to grudgingly acknowledge that US Special Forces as used today in GWOT are not Special Operations Forces. As this is not the case and US Special Forces are just that, then one must consider Vietnamese Sappers a form of special operations forces.

## **B. LESSONS FOR TODAY**

The single most important lesson that comes from the US experience with Vietnamese Sappers is that the enemy can not be underestimated. Just because the US military faces non-traditional military forces during conflict, it should not assume that the enemy will have less capabilities than a modern opponent. American hubris regarding its expertise in the use of special operations forces must not blind the military to the fact that a Third World military has an advantage when conducting special operations on its own soil.

Better technology is not always the answer to this type of problem. The American military has always prided itself on countering any threat with improved technology. The US experience in Vietnam showed that this was flawed. On numerous occasions, the Vietnamese Sapper was able to modify their methods to simply overcome any newly developed defensive countermeasure. When fighting an opponent who has a technological disadvantage, the enemy will always adapt his methods to overcome the high tech US advantage. The solution is to use technology, but to rely on the human factor, both through US forces and indigenous security forces.

Another lesson to be learned from Vietnamese Sapper operations is the benefit that organization provided the Vietnamese in operating against the US and ARVN. The better the PLAF and PAVN Special Operations Forces organized, the more effective the

force as a whole became. This organizational ability allowed the Vietnamese to learn from successful and unsuccessful operations, to share tactics and procedures, and pass on tips and lessons learned throughout the organization. In essence, the greater extent to which the sappers organized themselves, the more dangerous the force became for US and ARVN forces. Today, it is imperative for US forces to understand the type of organizations that it battles, as well as how mature the organizations have become. The more effectively the US can destabilize enemy organizations, the less of a threat that they can become.

The final lesson to be learned is the need to recognize one's own centers of vulnerability. The weaker enemy will always attempt to strike at points that have the greatest chance of causing the most damage. US reliance on technology for command and control gives the enemy a perfect opportunity to attack using SOF. Because resources are finite, the US military must concentrate its command and control equipment into command posts, which are very obvious as to their importance. Because the US military has become so thinly stretched due to multiple conflicts, the reliance upon contractors and third country nationals to provide logistical support makes them clear targets. One method that an insurgent or guerrilla force could use to indirectly attack the US military logistical system would be by removing, through terror, contractors and third country nationals. This type of action would cripple US military operations in GWOT. Just as during the Vietnam War, US airbases and ammunition depots are extremely vulnerable to attack by SOF. What better way for the enemy to gain positive propaganda and hurt the US, but by attacking and causing significant damage to American logistics facilities. Enemy special operations forces are not supermen and can be stopped as long as they are recognized for who they are and what operations they are actually capable of conducting.

## LIST OF REFERENCES

- A Military Region Sapper Team's Surprise Attack on the TACAN Site on Pha-Thi Mountain. (1996). Chapter translated from the book entitled *Military Region 2, Several Battles during the War of Liberation 1945-1975, Volume III*. Hanoi: PAVN Publishing House. Vietnam Archive. Texas Tech University.
- Additional Guidance for the Propaganda Mission during the Present Phase*. (1964). Translated captured document. Retrieved 8 May 2005, from <http://www.vietnam.ttu.edu>
- Anderson, Kenneth J. (Prepared by) (1970). *Sapper Training in the RVN*. CMIC USMACV. History of the Vietnam War on Microfilm. Retrieved 19 May 2004, from <http://www.vietnam.ttu.edu>
- Barnes, Milton L. (Prepared by) (1970). *H-11 Sapper Training School*. CMIC USMACV. History of the Vietnam War on Microfilm. Retrieved 19 May 2004, from <http://www.vietnam.ttu.edu>
- Blakley, Raymond J. (Prepared by) (1966). *Indispensable Virtues of a Reconnaissance-Sapper Soldier*. CDEC USMACV. Retrieved 24 April 2005 from <http://www.vietnam.ttu.edu>
- Felix, Edward A. (Prepared by) (1971). *Organization and Activities of the Communist Sapper Branch*. CDEC COMUSMACV. Translation of a J2, Joint General Staff, Army of the Republic of Vietnam study. History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Felix, Edward A. (Prepared by) (1971). *Report on an Oct 69 Sapper Conference held by Headquarters, SVNLA*. CDEC COMUSMACV. History of the Vietnam War on Microfilm. Retrieved 24 April 2005, from <http://www.vietnam.ttu.edu>
- Foullke, William. (2003). *3<sup>rd</sup> Ordnance Depot Blown up VC*. Letter detailing pictures the author took of the depot after the attack. Retrieved 13 July 2004, from <http://www.vietnam.ttu.edu>
- FM 3-34 Engineer Operations.*, (2004). Headquarters Department of the Army.
- Ho, Khang. (2001). *The Tet Mau Than 1968 Event in South Vietnam*. Hanoi, Vietnam: The' Gioi Publishers.
- Hoang, Thai Van. (2005). *How South Vietnam Was Liberated*. Hanoi, Vietnam: The' Gioi Publishers.
- Hoang, Ngoc Lung. (1978). *The General Offensives of 1968-69*. General Research Corporation. Retrieved 2 June 2004, from <http://www.vietnam.ttu.edu>

- McRaven, William H. (1993). *The Theory of Special Operations*, Thesis retrieved 15 May 2004 from [http://library.nps.navy.mil/uhtbin/hyperion/93Jun\\_McRaven.pdf](http://library.nps.navy.mil/uhtbin/hyperion/93Jun_McRaven.pdf)
- National Liberation Front Military Operations*. (1966). Translated captured documents concerning sapper and special action units with Ninh Thuan province. History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Noyes, Jeffry C. (Prepared by) (1971). *Order of Battle of the 8<sup>th</sup> Naval Sapper Bn, SR-4. CMIC USMACV*. History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Order of Battle Study ST67-027: VC/NVA Attacks on Fixed Installations*. (1967). Combined Intelligence Center, Vietnam. Vietnam Archive. Texas Tech University.
- PAVN/PLAF Order of Battle data: PLAF Tay Do I*. (1972). CMIC USMACV. History of the Vietnam War on Microfilm. Vietnam Archive. Texas Tech University.
- Pike, Douglas. (1986). *PAVN—People's Army of Vietnam*. Novato, CA: Presidio Press.
- PLAF-PAVN Special Action and Sapper Teams*. (1966). Translated from captured enemy document titled: A Draft of the Proposed Development and Utilization of Reconnaissance, Sapper, and Special Action Sections in 1964 and 1965. History of the Vietnam War on Microfilm. Retrieved 19 May 2004, from <http://www.vietnam.ttu.edu>
- Sapper Leader Course (2004. November 22). US Army Engineer School. Retrieved 22 November 2004, from [http://www.wood.army.mil/sapper/SapperPage\\_files/SapperLeaderCourse.htm](http://www.wood.army.mil/sapper/SapperPage_files/SapperLeaderCourse.htm)
- The Impact of the Sapper on the Vietnam War*. (1969). Combined Intelligence Center-MACV. History of the Vietnam War on Microfilm. Retrieved 19 May 2004, from <http://www.vietnam.ttu.edu>
- The Viet Cong Tactic of Assassination*. (1971). Saigon: Joint US Public Affairs Office. Retrieved 17 August 2004, from <http://www.vietnam.ttu.edu>
- The Viet Cong Use of Terror*. (1967). Saigon: United States Mission in Vietnam. Retrieved 10 August 2004, from <http://www.vietnam.ttu.edu>
- Tourison, Sedgwick D. (1995). *Secret Army, Secret War: Washington's Tragic Spy Operation in North Vietnam*. Annapolis, MD: Naval Institute Press.
- Turley, William S. (1986). *The Second Indochina War-A Short Political and Military History, 1954-1975*. Boulder, Colorado: Westview Press.

- United States Army Special Operations Command Home Page. (2005). Retrieved 6 June 2005, from [http://www.soc.mil/hqs/hqs\\_home.htm](http://www.soc.mil/hqs/hqs_home.htm)
- Vallentyne, Edward. (Prepared by) (1968). *The Fall of Site 85*. Project CHECO Report. Directorate of Operations Analysis, HQ, Pacific Air Force. Vietnam Archive. Texas Tech University.
- VC Document captured 6 February, 1967 by US 25<sup>th</sup> Infantry Division during Operation Cedar Falls. Translated document dealing with Urban Sapper Movement. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- VC/NVA Sapper/Engineer Order of Battle: ST67-045*. (1967). Combined Intelligence Center, Vietnam. Vietnam Archive. Texas Tech University.
- VC/NVA Sapper Tactics, Organization, Armament, Training, and Effectiveness: ST69-10*. (1969). Combined Intelligence Center, Vietnam. Vietnam Archive. Texas Tech University.
- Viet Cong Political Geography of South Vietnam, January 1971*. (1971). Retrieved 26 February, 2005, from <http://www.vietnam.ttu.edu>
- Watkins, G. C., and Jahn, E. R. (1970). *Countering the Swimmer/Sapper*. San Francisco, CA: Commander US Naval Forces, Vietnam, Operations Analysis Branch. Retrieved 13 July 2004, from <http://infotrac.galegroup.com>
- Westphal, Gerald W. (Prepared by) (1971). OB of the 9<sup>th</sup> Sapper Battalion. CMIC USMACV. Retrieved 22 April 2005 from <http://www.vietnam.ttu.edu>
- Windrow, Martin. (2004). *The Last Valley—Dien Bien Phu and the French Defeat in Vietnam*. Cambridge, MA: Da Capo Press.
- WordReference.Com. (2005). Online Dictionary. Retrieved 6 June 2005, from <http://www.wordreference.com/definition/sapper.htm>

THIS PAGE INTENTIONALLY LEFT BLANK

## BIBLIOGRAPHY

- 7AF Local Base Defense Operations: July 1965-December 1968. (1968). Project CHECO Report. Directorate of Operations Analysis, HQ, Pacific Air Force. Vietnam Archive. Texas Tech University.
- Abbey, Thomas G. (Prepared by) (1971). Attack on Cam Ranh. Project Contemporary Historical Examination of Current Operations (CHECO) Report. Directorate of Operations Analysis, HQ, Pacific Air Force. Vietnam Archive. Texas Tech University.
- Baker, Brian M. (Prepared by) (1969). VC Sapper and Political Training. CMIC USMACV. History of the Vietnam War on Microfilm. Retrieved 19 May 2004, from <http://www.vietnam.ttu.edu>
- Brewer, Ralph J. (Prepared by) (1970). VCI of the Sapper High Command, R. CMIC USMACV. History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Buckalew, Ralph E. (Prepared by) (1971). Order of Battle of the T-89 Sapper Bn, Front 44. CMIC USMACV. History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Caughey, Thomas F. (Prepared by) (1970). Order of Battle of the 5th Sapper Bn, 16th sapper Div. CMIC USMACV. History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- City affairs congress held by the VC Region 5 Party Committee. (1972). Translated captured document. Vietnam Archive. Texas Tech University.
- Conley, Michael C. (1968). Communist thought and Viet Cong Tactics. Asian Survey, Vol. 8, No. 3, (March 1968), pp. 206-222. Retrieved 11 May 2004, from <http://www.jstor.org>
- Dannaker Jr., Robert E. (Prepared by) (1971). Sapper Tactics of the C-3 Sapper Company, Ben Tre(VC) City Unit, Ben Tre(VC) Province Unit, MR-2. CMIC USMACV. History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Dannaker Jr., Robert E. (Prepared by) (1971). Sapper Training of the C-2 Sapper Company, Tay Ninh Province Unit, R. CMIC USMACV. History of the Vietnam War on Microfilm. Retrieved 19 May 2004, from <http://www.vietnam.ttu.edu>
- Davidson, Phillip B. (1988). Vietnam at War--The History 1946-1975. Oxford, UK: Oxford University Press.

- Dees, Joseph L. (1968). The Viet Cong Attack that Failed. Department of State News Letter. Retrieved 13 July 2004, from <http://www.vietnam.ttu.edu>
- Dennison, John W., and Porter, Melvin F. (1971) Local Base Defense in RVN January 69-June 71. Project CHECO Report. Directorate of Operations Analysis, HQ, Pacific Air Force. Vietnam Archive. Texas Tech University.
- Development of City Sapper Activities in the Past Few Years. (1968). Translated from document prepared by Staff Department of COSVN. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Dukate, Carl R. (Prepared by) (1972). Tactical Lessons, B3 Front. CDEC COMUSMACV. Retrieved 10 August 2004, from <http://www.vietnam.ttu.edu>
- Dung, Van Tien. (1976). Sen Gen Van Tien Dung article: "Great Spring Victory." Foreign Broadcast Information Service Daily Report, Vol. IV, No. 110, Supp 38. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Felix, Edward A. (1971). Antipacification Activities, VC Sub-Region 5 Party Committee, COSVN. CDEC COMUSMACV. History of the Vietnam War on Microfilm. Vietnam Archive. Texas Tech University.
- Felix, Edward A. (Prepared by) (1971). Plan for Reorganization of Sapper Units, VC Quang Da Special Zone, VC Military Region 5. CDEC COMUSMACV. History of the Vietnam War on Microfilm. Retrieved 13 July 2004, from <http://www.vietnam.ttu.edu>
- Francis, D. G., and Vallentiny, E. (1968). Attack on Udorn. Project CHECO Report. Directorate of Operations Analysis, HQ, Pacific Air Force. Vietnam Archive. Texas Tech University.
- Graham, William R. (Prepared by) (1968). Communist Military and Political Plans, 1968-1969 Winter-Spring Campaign. CDEC COMUSMACV. Vietnam Archive, Texas Tech University.
- Graham, William R. (Prepared by) (1968). VC/NVA Offensive Techniques in Cities and Towns. CDEC-COMUSMACV. Translation of a J2, Joint General Staff, Army of the Republic of Vietnam Study. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Horne Jr., Kelso C. (Prepared by) (1972). 3<sup>rd</sup> Company, Z28 Sapper Bn, VC/NVA Military Region C40 in the Khmer Republic. CDEC COMUSMACV. History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>

- Horne Jr., Kelso C. (Prepared by) (1972). Planned Activities of the K20 Company, H5 Sapper Battalion, Sub-Region 6, Headquarters, SVNLA. CDEC COMUSMACV. History of the Vietnam War on Microfilm. Vietnam Archive. Texas Tech University.
- Hosmer, Stephen T., Jenkins, Brian M., and Kellen, Konrad. (1977). The Fall of South Vietnam: Statements by Vietnamese Military and Civilian Leaders. Santa Monica, CA: The Rand Corporation. Retrieved 13 July 2004, from <http://www.vietnam.ttu.edu>
- Kneipp, Nancy V. (1996). The Tet Offensive and the Principles of War. Naval War College. Retrieved 13 July 2004, from <http://www1.vietnam.ttu.edu>
- Krepinevich Jr., Andrew F. (1986). The Army and Vietnam. Baltimore, MD: The John Hopkins University Press.
- Laird Memorandum to President on Vietnam Trip: March 1969. (1969). History of the Vietnam War on Microfilm. Vietnam Archive. Texas Tech University.
- Le Gro, William E. (1981). Vietnam from Cease-Fire to Capitulation. U.S. Army Center of Military History. Retrieved 2 June 2004, from <http://www.vietnam.ttu.edu>
- Len, Hua Yen. (1998). The Line of Steel at Xuan Loc-12 Days and Nights of Ferocious Combat against the North Vietnamese Communists. Correspondence to Major General Le Minh Dao, former commander of the 18th Infantry Division(ARVN). Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Lessons Learned in Attacks Conducted in Local Areas by the Sapper Units to Foil The Enemy Pacification Program. (1972). Translated captured PLAF document. Vietnam Archive. Texas Tech University.
- List of Codes for Objectives, Prepared by an Artillery and Sapper Element of Sub-Region 3, COSVN. (1970). Translated enemy document-CDEC MACV. Retrieved 19 May 2004, from <http://www.vietnam.ttu.edu>
- Military and Enemy Proselyting Mission and Activities in Winter and Spring of 67-68. (1968). Translated captured document concerning military and enemy proselyting. Vietnam Archive. Texas Tech University.
- National Liberation Front Propaganda: An Analysis. (1962). Saigon: United States Information Agency. Retrieved 8 May 2005, from <http://www.vietnam.ttu.edu>
- New COSVN Policy on General Offensives. (1968). Translated enemy document-CDEC MACV. Retrieved 19 May 2004, from <http://www.vietnam.ttu.edu>
- Parks, Rolla S. (Prepared by) (1972). Recapitulation Report of the 1st Precinct Unit, VC Quang-Da Special Zone, VC Military Region 5. CDEC COMUSMACV. History of the Vietnam War on Microfilm. Vietnam Archive. Texas Tech University.

- Pike, Douglas. (1971). North Vietnam in 1971. Retrieved 19 May 2004, from <http://www.vietnam.ttu.edu>
- Preparation for 1968 Tet Offensive-Training Activities. (1968). CDEC MACV. Translated VC cadre notes before and after the Tet offensive. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- PLAF Directive on Tet 68 Offensive in Hue Area. (1968). Translated from captured enemy document covering Hue before and after the Tet Offensive. Retrieved 10 August 2004, from <http://www.vietnam.ttu.edu>
- PLAF Sapper Training—1974. (1974). History of the Vietnam War on Microfilm. Retrieved 19 May 2004, from <http://www.vietnam.ttu.edu>
- Preparations for the 1972 Spring-Summer Campaign by the VC Quang Nam Province Unit, VC Military Region 5. (1972). Translated captured document. CDEC USMACV. Vietnam Archive. Texas Tech University.
- Ronca, Theodore J. (Prepared by) (1970). Order of Battle of the 40th Sapper Bn. CMIC USMACV. History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Somerville, James B. (Prepared by) (1969). Three-Man Cell Tactics. CDEC COMUSMACV. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Study: National Liberation Front of South Vietnam—Organization/Strength. (1970). Study of various captured documents. Retrieved 13 July 2004, from <http://www.vietnam.ttu.edu>
- Suarez, Antonio L. (Prepared by) (1973). PLAF/PAVN Troop Strength by Unit-May 1973. DAO US Embassy, Saigon. History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- The Decline of VC Capabilities in Sub-Region 5, COSVN, 1969-1970. (1971). Contains analysis of captured documents relation to VC capabilities. Retrieved 13 July 2004, from <http://www.vietnam.ttu.edu>
- The “Super Guerrilla” Concept: Oct 1969 (Development of PLAF Sapper Teams). (1969). History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- The Viet Cong Infrastructure—A Background Paper. (1970). Saigon: United States Mission in Vietnam. Retrieved 10 August 2004, from <http://www.vietnam.ttu.edu>
- Turner, Jonathan F. (Prepared by) (1970). Order of Battle of the 8<sup>th</sup> Bn, 429th sapper Group. CMIC USMACV. History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>

- Todd, Elmer T. (Prepared by) (1971). 204<sup>th</sup> Bn Sapper Training School. CMIC USMACV. History of the Vietnam War on Microfilm. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- VC Anti-Election Campaigning. (1967). Translated sample of various captured documents. Retrieved 6 May 2004, from <http://www.vietnam.ttu.edu>
- Vy, Ton. (1968). On the Tri Thien front (From Hue to Khe Sahn). Vietnamese Studies, Number 20, 110-146. Retrieved 10 August 2004, from <http://www.vietnam.ttu.edu>
- Warren, John H. (Prepared by) (1970). City Fighting Tactics of the U Minh 10 Battalion. CMIC USMACV. Vietnam Archive. Texas Tech University.

THIS PAGE INTENTIONALLY LEFT BLANK

## APPENDIX A. COSVN ADMINISTRATIVE AND MILITARY REGIONS—1971



Figure 5. COSVN Regions (From: Viet Cong Political Geography of South Vietnam, 1971, p. 26)

THIS PAGE INTENTIONALLY LEFT BLANK

## APPENDIX B. THE RAID THAT FAILED: THE SAPPER ATTACK ON THE US EMBASSY DURING THE 1968 TET OFFENSIVE

Map 5 – Targets of Enemy Attack, Downtown Saigon

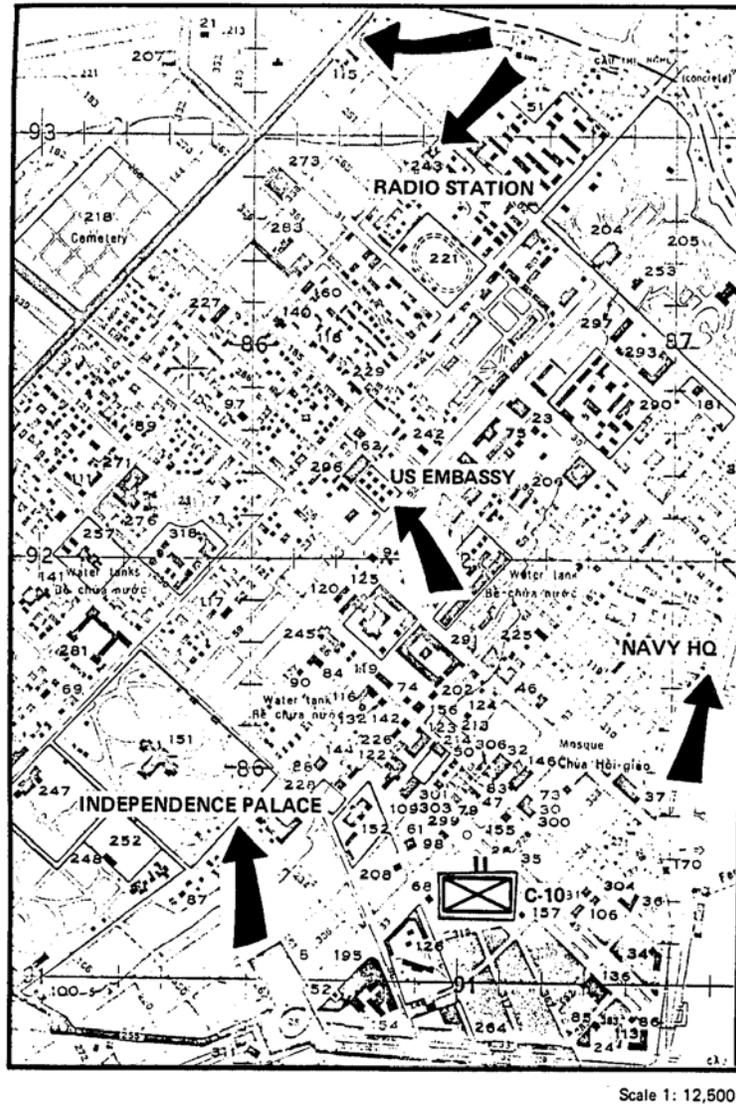


Figure 6. PLAF Sapper targets in Saigon during the Tet Offensive (From: Hoang, 1978, p. 58)

At approximately 0250 on the morning of January 31, 1968, seventeen members of the C-10 Urban Sapper Battalion began their assault on the US Embassy in downtown Saigon (Dees, 1968, p. 1). This was not the first time the embassy had been a target

during the war, but it was the first time that sappers attempted to seize the embassy. The attack upon the US Embassy was but one of five separate sapper attacks by the C-10 Urban Sapper Battalion throughout Saigon. The other targets of the sapper battalion included the Independence Palace, the South Vietnamese Naval Command, the South Vietnamese General Staff Headquarters, and the Broadcasting Station (Ho, 2001, pp. 70-72). Although all the sapper attacks surprised US and ARVN forces, the sappers were all killed or captured within a few hours of the initial assaults.

Communist planners had been working for a number of years prior to 1968 on a strategy to overthrow the South Vietnamese Government. It was decided by COSVN that a large-scale offensive designed to attack the large cities in South Vietnam would overwhelm the government. The plan called for PLAF Main Force units to infiltrate and seize various cities, thereby causing a popular uprising of disaffected citizens that US or ARVN forces would be unable to put down. In Saigon, this meant that elements of the C-10 Urban Sapper Battalion would attack key points inside the city with PLAF Main Force units quickly moving into Saigon to reinforce or relieve the sappers. These successful attacks would then spur the angry citizens of Saigon to rise up against the South Vietnamese government. Once all of the major cities of South Vietnam were captured by the communist forces, the South Vietnamese government would have no choice but to negotiate for peace or flee to another country.

The sappers' plan against the embassy was very simple, but not very realistic. Using a combination of shaped charges and RPG's, one sapper team was to blow a hole in the embassy wall so that the rest of the sappers could infiltrate into the compound. Once inside the compound another cell was to use RPG's to blow a hole in the main entrance so that the rest of the sappers could enter the actual embassy building. Once inside the embassy, the sappers were to wait until relieved by PLAF Main Force units. Unfortunately for the sappers, this plan did not take into consideration the security forces inside the embassy, or the external security forces nearby the embassy. The sappers did not seem to know the layout of the embassy very well, including where all the entrances were inside the compound. All information indicated that the sappers had thoroughly reconnoitered the outside of the embassy compound, but had little knowledge of the inner workings of the embassy.

Once the outer embassy perimeter was breached, the sapper cells were able to enter the compound and move into the courtyard. After killing some of the American Military Policemen guarding the embassy, the sappers became bogged down inside the courtyard. The sappers lost inertia because of the fire from security forces, as well as not knowing the exact layout of the embassy. Almost immediately after the first explosion at the embassy, the radio call went out relaying that the embassy was under attack. Once received, reinforcements began to make their way to the embassy. As more and more reinforcements entered the fight, the sappers became pinned down inside the courtyard by the heavy fire. By approximately 0900 the US embassy had been secured. American casualties were five killed and a number wounded while the sappers suffered fifteen dead and two captured, though no documentation can be found of what happened to the captured sappers (Dees, 1968, p.1).

Although the attack was bold and surprise was achieved, the sappers violated at least two of their principles. A thorough reconnaissance of the embassy was not completed prior to the attack, which led to a loss of inertia for the attack teams. Once inside the embassy compound, the teams were not relieved by PLAF Main Force units and subsequently had to fight against superior forces that only increased as time went by. An argument could also be made that the sappers did not utilize multiple-axis of advance during the attack. Once the perimeter wall was breached, all the cells used that breach and seemingly rushed towards the only known entry. To put it simply, the attack on the embassy failed because the sappers' plan was poor. The planners did not stick with their own principles of sapper operations.

THIS PAGE INTENTIONALLY LEFT BLANK

## APPENDIX C. ANALYSIS OF SAPPER ATTACK ON LIMA SITE 85, LAOS



(<http://www.cia.gov/cia/publications/factbook/geos/la.html>)

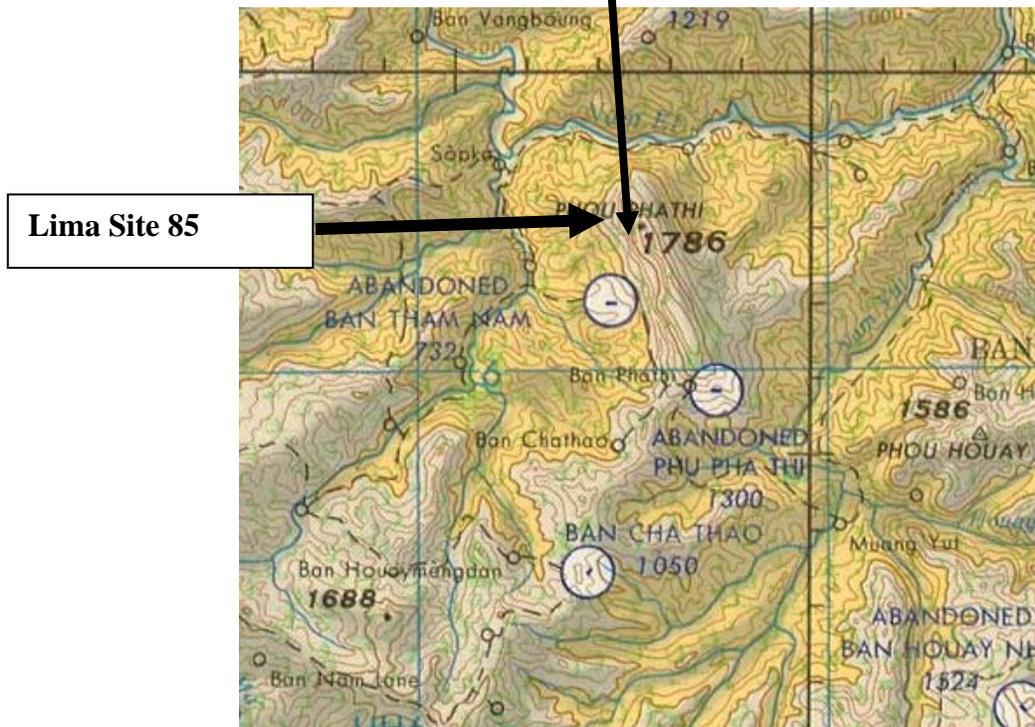


Figure 7. Map of Lima Site 85, Laos (From: <http://star.vietnam.ttu.edu/starweb/vva/servlet.starweb>)

Lima Site 85 sits on a hilltop in northern Laos near the border with North Vietnam. Originally, Lima Site 85 was a base area for anti-communist Laotian guerrillas, but by 1966 the American Air Force established a radar-site on Phou Pha Thi Mountain (Vallentyne, 1968, p. viii). This radar site was used for Tactical Air Control and Navigation (TACAN) for aircraft on bombing missions into North Vietnam and communist controlled Laos. American aircraft used the TACAN at Lima Site 85 for precise radar bombing in all types of weather. Security at the site was provided by hired Meo tribesmen with Central Intelligence Agency (CIA) support (Vallentyne, p. 4). There were no US military personnel at the site because of Laotian neutrality, but there were between 15 and 25 American radar technicians along with an odd assortment of US Embassy personnel and CIA officers (Vallentyne, p. ix). Lima Site 85 was an important installation for the US because of the sensitivity of its equipment and mission. Because of its mission, the site was also a vital target for the Pathet Lao and PAVN force operating in the area.

North Vietnamese forces had an intense interest in eliminating Lima Site 85. The non-communist guerrilla forces that operated in the area destabilized any communist control and potentially threatened the beginning routes that made up the Ho Chi Minh trail. It was also no secret that there was a radar site on the mountain although there is no evidence that the Vietnamese realized exactly how important the TACAN site was for US bombing efforts. By late 1967 battalion sized PAVN formations and smaller Pathet Lao units began operating in the general area of the TACAN site in an attempt to clear the non-communist forces. In early 1968 there were signs that communist forces were getting closer to the site. On 13 January 1968 between two and four AN-2 Colts flown by North Vietnamese pilots attacked the site with improvised bombs made from 120mm mortar rounds and 57mm rockets (Vallentyne, p. 12). No damage was done to the TACAN site nor were there any American casualties, but the local security force did suffer a small number of dead and wounded. At least two of the AN-2 Colts were downed by fire from defensive positions. Communist activity in the area continued subsequent to the air attack. PAVN and Pathet Lao forces seemed to be moving north and south of Lima Site 85 in an effort to surround it. By mid-February, communist forces moved close enough to hit the southern portions of the site with artillery (Vallentyne, p.

19). Later in the month, documents captured from communist forces indicated that a large ground attack was planned shortly against the TACAN site (Vallentyne, p. 22). By early March, PAVN and Pathet Lao forces had nearly encircled Lima Site 85, and it appeared likely that the ground assault could come at any time.

Beginning on the evening of March 10, 1968 PAVN and Pathet Lao forces began to shell Lima Site 85. The artillery barrage lasted approximately an hour and a half causing only minor damage to the actual TACAN equipment although the site defenses did sustain moderate damage (Vallentyne, p. 31). Later in the evening, another barrage struck the site, but as with the first barrage little damage was sustained. The situation grew quiet for the rest of the evening and into the early hours of March 11. The quiet was shattered by explosions and automatic weapons fire within the site itself. At approximately 0300, teams of PAVN sappers inside the site perimeter opened fire on the various TACAN facilities (*A Military Region Sapper Team's Surprise Attack on the TACAN Site on Pha-Thi Mountain*, 1996, p. 14). Within 45 minutes of the initial assault, PAVN sappers controlled Lima Site 85 and its sensitive TACAN equipment.

In mid-December of 1967, an eight man sapper team that included the units' leader and assistant leader conducted a thorough reconnaissance of Lima Site 85 (*A Military Region Sapper Team's Surprise Attack on the TACAN Site on Pha-Thi Mountain*, 1996, p. 9). This reconnaissance included a meticulous terrain analysis, detailed understanding of the defensive positions and guard movements, route ingress and egress study, and analysis of the normal day-to-day routine of the site. A second reconnaissance mission was carried out in January of 1968 with the objective to confirm the exact location of critical targets and probe the defensive positions (*A Military Region Sapper Team's Surprise Attack on the TACAN Site on Pha-Thi Mountain*, 1996, p. 10). Both reconnaissance missions went unnoticed by Lima Site 85 security personnel. From their reconnaissance, the sappers planned for the unit to split into two teams, one to deal with the site security personnel while the other team was to attack the TACAN site itself. The two sapper elements were composed of 33 personnel, three officers, 15 non-

commissioned officers, and 15 soldiers, who were armed with Ak-47s, RPGs, grenades, pistols, and carbines (*A Military Region Sapper Team's Surprise Attack on the TACAN Site on Pha-Thi Mountain*, 1996, p. 6).

The sapper unit started to move towards Lima Site 85 from its staging area the first week of March 1968. Beginning on 8 March, the team began to slip past the outer defenses near the intended target without being detected. On the morning of 10 March the sapper teams arrived at the base of the mountain on which Lima Site 85 sat, a 2000ft climb (*A Military Region Sapper Team's Surprise Attack on the TACAN Site on Pha-Thi Mountain*, 1996, p. 13). The sapper teams moved out in the early evening towards their actual targets so that they would be in place by early morning on 11 March. At a pre-designated time, the two sapper teams broke into their assault cells and began movement into their attack positions. While moving into position, one cell encountered an unexpected defensive position and grenades were exchanged, thereby opening the attack upon Lima Site 85 (*A Military Region Sapper Team's Surprise Attack on the TACAN Site on Pha-Thi Mountain*, 1996, p. 14). The other assault cells were already in position so that when the grenades explosions were heard the cells began the assault. Using automatic weapons fire, grenades, and RPGs the sappers quickly overwhelmed the site security personnel and American technicians. The sapper force continued to hold Lima Site 85 for a few days and then withdrew after numerous air strikes. The daring sapper raid destroyed a significant radar site and left one American technician dead and 11 American technicians missing-in-action (Vallentiny, p. 22).

The sapper raid on Lima Site 85 succeeded because the sappers correctly used their established tactics and procedures. The sapper leader made a comprehensive reconnaissance of the objective, making sure to observe all defensive points and his ingress and egress routes. Until the very last minute of the attack, the sapper teams managed to keep their presence secret. The sappers were able to react quickly enough once the assault cells were detected. The teams maneuvered up the mountain, through the defensive perimeter, and to their different jump-off points. These jump-off points allowed the sappers to attack the site using multiple axis of attack that confused the

defenders and technicians. Because of their skill and determination, the sappers suffered few casualties and destroyed a key American site that controlled many of the bombing sorties into North Vietnam.

THIS PAGE INTENTIONALLY LEFT BLANK

## **INITIAL DISTRIBUTION LIST**

1. Defense Technical Information Center  
Ft. Belvoir, Virginia
2. Dudley Knox Library  
Naval Postgraduate School  
Monterey, California