

Spring 5-22-2020

The U.S. Creation of the South Vietnamese Air Force, 1955-1975

James C. Jumper Jr.
University of New Orleans, cal.jumper@gmail.com

Follow this and additional works at: <https://scholarworks.uno.edu/td>

Recommended Citation

Jumper, James C. Jr., "The U.S. Creation of the South Vietnamese Air Force, 1955-1975" (2020). *University of New Orleans Theses and Dissertations*. 2765.
<https://scholarworks.uno.edu/td/2765>

This Thesis-Restricted is protected by copyright and/or related rights. It has been brought to you by ScholarWorks@UNO with permission from the rights-holder(s). You are free to use this Thesis-Restricted in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/or on the work itself.

This Thesis-Restricted has been accepted for inclusion in University of New Orleans Theses and Dissertations by an authorized administrator of ScholarWorks@UNO. For more information, please contact scholarworks@uno.edu.

The U.S. Creation of the South Vietnamese Air Force, 1955-1975

A Thesis

Submitted to the Graduate Faculty of the
University of New Orleans
in partial fulfillment of the
requirements for the degree of

Master of Arts
in
History

by

James Calhoun Jumper Jr.

B.A. Vanderbilt University, 1978
M.A. Air War College, 2003

May, 2020

Acknowledgements

I would like to thank my thesis committee for their guidance, help, and support with this paper. Dr. Allan Millett chaired my committee. Dr. Marc Landry and Dr. John Fitzmorris also served as committee members. I would also like to acknowledge the UNO History Department and Dr. Gunter Bischof for providing help in the early structure and direction of this thesis. Finally, I want to acknowledge the outstanding support of the research staffs at the Vietnam Center and Sam Johnson Vietnam Archive, Texas Tech University, Lubbock, Texas and the Airforce Historical Research Agency, Air University, Maxwell AFB, Alabama.

Table of Contents

List of Figures	iv
Glossary of Abbreviations	v
Abstract	vi
Introduction.....	1
South Vietnamese Airforce 1955-1975	8
Early Growth, C3I, and Operation Farm Gate	11
Impact of Leadership Changes in 1963	14
Growth of C3I to Meet Changing Nature of War	17
Growth, Training, and Experience Challenges	19
Impacts of Tet and Spring 1972 Offensives on VNAF Growth	26
VNAF After Ceasefire and USAF Withdrawal	35
Conclusion	39
Notes on Sources.....	41
Bibliography	45
Vita.....	47

List of Figures

Morane-500 Cricket Aircraft	2
MD-315 Flamant Aircraft.....	2
A-1H Skyraider Aircraft	23
Map of Southeast Asia	27
Map of South Vietnamese Air Bases	29

Glossary of Abbreviations

AAA	Anti-Aircraft Artillery
AB	Air Base
AOC	Air Operations Center
ALO	Air Liaison Officer
ARVN	Army of the Republic of Vietnam
ASE	Automatic Stabilization Equipment
ASOC	Air Support Operations Center
C3I	Command, Control, Communications, and Intelligence
CCTS	Combat Crew Training Squadron
CHECO	Project Contemporary Historical Examination of Current Operations
CRIMP	Consolidated Republic of Vietnam Armed Forces Improvement and Modernization Plan
DASC	Direct Air Support Center
DoD	Department of Defense
ECM	Electronic Counter Measures
FAC	Forward Air Controller
FAC-A	Forward Air Controller-Airborne
MAAGV	Military Assistance Advisory Group, Vietnam
MR	Military Region
NCO	Non-Commissioned Officer
PACAF	Pacific Air Forces
PAVN	People's Army of Vietnam
RVNAF	Republic of Vietnam Armed Forces
SEAD	Suppression of Enemy Air Defenses
SEATO	South East Asia Treaty Organization
TAC	Tactical Air Command
TACS	Tactical Air Control System
TACP	Tactical Air Control Party
TASE	Tactical Air Support Element
T/O	Table of Organization
TOC	Tactical Operations Center
U.S.	United States
USAF	United States Air Force
USMC	United States Marine Corps
VFR	Visual Flight Rules
VNAF	South Vietnamese Air Force

Abstract

From 1962 until 1973 the United States Air Force (USAF) built a small but effective South Vietnamese Air Force (VNAF). VNAF grew from approximately 4,000 personnel in 1963, flying ninety-six aircraft in six squadrons, to 60,000 personnel and sixty-five squadrons with over 2,000 aircraft by 1973. There was continuous change in the type of aircraft provided to the VNAF as the USAF upgraded VNAF's capabilities. Training VNAF personnel was a continuing problem for both pilots and support personnel because of the almost constant aircraft upgrades and increase of size of the VNAF. VNAF was growing, developing doctrine, establishing its mission requirements, training, and acquiring new aircraft types while conducting major combat operations against the Viet Cong and North Vietnamese Army. After the USAF withdrew in 1973, the VNAF was unable to maintain its aircraft readiness levels, nor coordinate with the South Vietnamese Army to stop the North Vietnamese invasion, 1974-1975.

Key Words

VNAF, South Vietnamese Air Force, MACV, ARVN, RVNAF, Nha Trang.

Introduction

The South Vietnamese Air Force (VNAF) was an important part of the Republic of Vietnam's Armed Forces (RVNAF). The VNAF's roots are found in Vietnamese aviation units integrated with French aviation units shortly after World War II. Following World War II, France, with the help of Great Britain and the Chinese Nationalists, re-established its colonial rule in Indochina by military reoccupation. French military forces moved into the region, and by November 1946 Ho Chi Minh's Viet Minh forces waged full scale war with French forces. The United States was drawn into the French war in Indochina by 1950 because of the perceived threat of Chinese communism and its support of France as a NATO ally. With the help of United States funding and aircraft transfers, France established an aviation element in its expeditionary force in Vietnam. In an effort to expand the Vietnamese armed forces, the French established an air training center at Nha Trang airfield in 1951. At first, Vietnamese pilots and observers received training in Metropolitan France, but by March 1952 French instructors conducted training for small numbers of pilots, observers and maintenance personnel at Nha Trang. Vietnamese pilots and observers also began flying combat missions under French control by 1952. In 1953 the French activated two Vietnamese observation squadrons. They flew the Morane-500 Cricket, a small liaison aircraft used for visual reconnaissance. In 1954 the French activated an assault liaison squadron. It flew MD-315 Flamant a small transport aircraft that was also capable of delivering ordnance.



Morane-500 Cricket¹



MD-315 Flamant, picture from Dassault-aviation website²

¹ Smithsonian National Air and Space Museum, *Morane 500 Cricket*, Accessed 7 February 2020, <https://airandspace.si.edu/webimages/collections/full/76-17753.jpg>.

² Dassault-Aviation, *MD-315 Flamant*, accessed on 25 February 2020, https://images.dassault-aviation.com/f_auto,q_auto,g_auto,dpr_auto/wp-auto-upload/2/files/2018/06/DA00021310_Si.jpg.

The French did not allow independent operations by Vietnamese aviation units. They were fully integrated Vietnamese aviation units into the French Air Force's Indochina structure. French maintenance personnel supplied most of the maintenance and logistics support.³

My thesis is that the explosive growth of the VNAF between 1962 and 1973 was unsustainable, while training at all levels was inadequate for a self-sustaining air force. USAF methodologies and organization were not appropriate for a much smaller air force. Finally, command, control, communications and intelligence (C3I) systems were inadequate, and command relationships between VNAF and Army of the Republic of Vietnam (ARVN) were politicized, strained, and inadequate for providing enough combined and coordinated combat power, to stem the invasion from North Vietnam. A better organizational mindset for the VNAF would have centered on expeditionary organization. Nobody expected the VNAF to be ready for worldwide or even regional deployment, but the mindset that they should have everything necessary to accomplish the mission of internal defense in an austere environment is important in understanding the development of the VNAF. The US Marine Corps defines the expeditionary mindset as a force “that is constantly prepared for immediate deployment overseas into austere operating environments, bringing everything necessary to accomplish the mission.”⁴ The most important part of the quoted statement regarding VNAF organization is “bringing everything necessary to accomplish the mission.”⁵

Expeditionary organization requires the ability to operate autonomously under austere conditions. It implies commonality of parts, and standardization of equipment. VNAF needed to

³ Robert F. Futrell, *The United States Air Force in Southeast Asia: The Advisory Years 1950 to 1965* (Washington, DC: Office of Air Force History, 1971), 10-14.

⁴ Headquarters United States Marine Corps, 4 April 2018, Change 1 to Marine Corps Doctrine Publication 3, *Expeditionary Operations*. Approved by LtGen Robert S. Walsh (HQMC, Washington DC), 2-9.

⁵ *Ibid.*

be expeditionary in order to operate in the Mekong Delta and the Central Highlands, especially after the departure of the USAF. Expeditionary forces must have everything necessary to conduct all operational, reconnaissance, intelligence and maintenance mission tasks.

This thesis will establish clearly that the organization of VNAF command and control systems with ARVN did not facilitate employment of air power where it was most needed. Additionally, the equipment provided the VNAF was not standardized and was insufficient to meet the threat of an all-out North Vietnamese offensive. The VNAF was equipped to fight a low-level insurgent conflict with USAF support, as was experienced prior to the Tet Offensive in 1968 in which air superiority was not an issue. After the withdrawal of USAF support in 1973, the VNAF needed a robust reconnaissance capability for target acquisition, and it needed a robust C3I capability to coordinate with ARVN ground forces. Conditions on the ground changed after 1965, but the VNAF was not organized and equipped to establish even local air superiority that was required to enable completion of mission tasks. The VNAF was not equipped to challenge the surface-to-air threat deployed by People's Army of North Vietnam (PAVN) with its ground combat forces. North Vietnamese anti-aircraft systems, provided by the Soviets and deployed with North Vietnamese armor and infantry forces, prevented the VNAF from executing effective combat tasking. It was not equipped to fight an enemy that could employ sophisticated air defense systems.

After the French surrender at Dien Bien Phu on 7 May 1954 and subsequent withdrawal, completed in April 1956, the United States provided more support to the Republic of South Vietnam. The U.S. provided its support under the authority of the South East Asia Treaty Organization (SEATO). The United States Military Advisory Assistance Group Indochina was renamed the Military Advisory Assistance Group Vietnam (MAAGV) in 1956. The USAF

assumed the advisory support role for the VNAF from the French the same year. In 1962 MAAGV was designated the Military Assistance Command Vietnam (MACV). The VNAF became an independent air arm in 1955, but it only had a few hundred officers and men flying French transport and visual reconnaissance aircraft. After 1956, USAF training and advisory strategy was to build the VNAF into an organizational structure resembling the USAF's structure. U.S. aircraft replaced obsolete French aircraft as early as 1957, to allow for close alignment between VNAF and USAF processes and procedures. The USAF then began a slow program of VNAF reorganization until 1962, when a decision was made by the U.S. Secretary of Defense to grow the force. That growth was exponential, starting with about 4,000 personnel in 1962. The force had fewer than fifty aircraft, then increased to 16,000 personnel, flying 350 aircraft by 1968. VNAF missions grew to include interdiction, close air support, reconnaissance for maintaining internal security, air defense, transporting of troops and equipment, and building an air base structure that could support the growing force.⁶ By the January 1973 ceasefire agreement, the VNAF had 61,147 personnel, flying 2075 complicated and varied aircraft.⁷ Its mission requirements had grown along with the force and the VNAF became a critical part of the RVNAF. VNAF sortie production and combat potential were crucial to defeating North Vietnamese aggression. The consensus by 1973 among leading USAF and VNAF commanders, was that the VNAF could support the logistics and maintenance effort for two months of intense operations against a North Vietnamese offensive. They also assessed that reintroduction of U.S. air power would be required to defeat such a thrust.⁸ After August 1973, however, the

⁶ Maj. Oakah L Jones, Jr, USAF, *Organization, Mission, and Growth of the Vietnamese Air Arm, 1949-1968* (HQ PACAF: Project CHECO, September 20, 1968), v-x

⁷ Gen. William W. Momyer, USAF, *The Vietnamese Air Force, 1951-1975: An Analysis of Its Role in Combat*. (Montgomery: Air University, 1975), 64.

⁸ Capt. Thomas D DesBrisay, USAF. *VNAF Improvement and Modernization Program, July 1971 – December 1973* (HQ PACAF: Project CHECO, 1 January 1975), 185-186

reintroduction of U.S. combat forces of any kind was not politically supportable. Congress passed the Cooper-Church Amendment, attached to a State Department funding bill in August 1973, which prohibited the President from employing U.S. forces in Vietnam, Cambodia and Laos.⁹

The VNAF was a mirror image of USAF Tactical Air Command organization and missions, and it operated with the direct support of the USAF. This model of organization left the VNAF unable to adequately support ARVN ground forces after the withdrawal of USAF support. United States forces are currently involved in nation building operations and development of air forces in Afghanistan and Iraq and has aided in the development of air forces in Iran, South Korea, Israel, Saudi Arabia and other less well-known development efforts, such as in Argentina. While not a complete list of all countries that received air force aid from the United States, these air forces have different mission requirements and received different levels of U.S. commitment and support. The level of support was dependent on each air force's requirements and the country's level of economic and military development and level of common cause with the U.S. Perhaps the most successful example of U.S support to air force development occurred in Israel where the Israeli Air Force is the nation's strategic shield. The Israeli Air Force is known for its aggressive employment, as well as its command and control systems in support of its ground forces. Argentina, using U.S. supplied aircraft and ordnance, lost the air war for the Falklands in part because of poor training on aircraft ordnance arming and fusing times.

This study will look at the growth and development of the VNAF from a token force to one of the largest air forces in the world, by 1973. It will review in depth the VNAF training

⁹ Momyer, *The Vietnamese Air Force, 1951-1975*, 59.

systems, and table of organization, including the aircraft platforms it operated. Additionally, it will cover the command and control systems in place to support mission requirements in order to help determine why it ultimately did not succeed. Further, it will review the USAF's role in the development of VNAF. Was the VNAF truly self-sufficient when U.S. forces withdrew from Vietnam? Could the U.S. or should the U.S. have built the VNAF differently? Would an expeditionary organization that supported autonomous operations by emphasizing commonality of aircraft, effective defensive countermeasures, modern photo-reconnaissance capability, and a centralized command, control, communications, and intelligence (C3I) system work better for a small country, caught in the middle of a fight for its existence, than the model the U.S. left in Vietnam? Can lessons learned from this study be applied to future and ongoing efforts in Iraq, Afghanistan, and elsewhere?

South Vietnamese Air Force 1955-1975

Between 1955 and 1973, the United States Air Force advised and trained the South Vietnamese Air Force. The USAF modeled the VNAF after the force structure and missions flown by the USAF in tactical air operations. The USAF modeled VNAF command and control systems after USAF command and control systems. Command relationships, however, between VNAF and ARVN differed from the command relationships between USAF and US Army forces in theater in that VNAF air divisions were all placed under direct command of the ARVN Military Region commanders. The USAF retains command of joint and combined air forces and does not relinquish operational control to ground force commanders. The USAF works for the theater or joint or combined task force commander, and through him to a single air forces commander. There is a US C3I system in place that ensures air power is applied where it is needed. Another difference between USAF and VNAF organization for combat is that the U.S. Army flew the preponderance of helicopter sorties in direct support for its units. The U.S. Army ground forces included air assault helicopter battalions. Vietnamese forces placed helicopter capabilities and mission requirements within the VNAF command structure because the ARVN did not have any aviation expertise. Helicopter support was provided by VNAF to the ARVN, as requested through the command and control system.

In 1955 the VNAF became an independent service. In 1956 the Department of Defense (DoD) established the U.S. Military Assistance Advisory Group in South Vietnam, based on a support organization that had supported the French. The U.S. support forces for the Republic of South Vietnam armed forces soon reorganized and was named Military Advisory Command Vietnam (MACV). It was not until 1962 that the Secretary of Defense, with the support of the USAF and PACAF, decided to expand the VNAF into a modern air force. When the French

withdrew, the VNAF consisted of a few hundred officers and men, with a handful of observation and transport aircraft. By 1968, the VNAF grew to over 16,000 personnel and more than 350 aircraft. Between 1955 and 1962, VNAF development was very carefully controlled by USAF advisors. The VNAF development closely aligned with USAF organization, systems and procedures. The alignment is very apparent, when one considers basing systems, aircraft conversions, operational procedures, and training personnel. Considering these four areas are critical components of an air force, it becomes apparent that the VNAF was built to fly and fight like the USAF with the support of the USAF. Requirements for standardization made the close alignment of USAF and VNAF organization and procedures a requirement.¹⁰

In May 1971, VNAF flew more sorties in South Vietnam than the USAF did for the first time.¹¹ The VNAF, however, continued to be limited in its interdiction capability because of a lack of electronic counter measure (ECM) equipment, and an inability to operate in a sophisticated surface to air threat environment. North Vietnam reinforced its ground forces, LOCs, and staging areas with heavy anti-aircraft weapons both inside Vietnam and Laos. Their surface to air defenses included SA-2 and SA-7 surface to air missiles and radar directed anti-aircraft artillery (AAA).¹²

The VNAF experienced explosive growth between 1971 and 1973, and experienced the contingent problems of training personnel, both in support roles and as pilots. Many squadrons were established without enough personnel to repair and fly their aircraft. The expansion in personnel and aircraft did not always mean an immediate improvement in capability.¹³ Project Enhance and Project Enhance Plus were implemented by MACV and the USAF Advisory Group

¹⁰ Jones, *Organization, Mission, and Growth of the Vietnamese Air Arm 1949-1968*, 3-8.

¹¹ DesBrisay, *VNAF Improvement and Modernization Program, July 1971 – December 1973*, 1.

¹² Momyer, *The Vietnamese Air Force, 1951-1975*, 36-37, 42.

¹³ DesBrisay, *VNAF Improvement and Modernization Program, July 1971 – December 1973*, 5-9.

from May to December 1972 to further expand the VNAF's capabilities and to enhance the VNAF's air defense capabilities. By 1973 the VNAF ultimately established five squadrons of F-5 aircraft based at Bien Hoa AFB. The F-5 squadrons were capable of providing limited air defense in under Visual Flight Rules (VFR) conditions. The VNAF experienced growth in all mission capabilities and aircraft types during this period, but support shortfalls continued to limit the VNAF's capabilities. The explosive growth from 1971-1973, and continuous combat operations created training limitations that were very hard to overcome and ultimately were not corrected.¹⁴

¹⁴ Ibid., 195.

Early Growth, C3I, and Operation Farm Gate

When President Kennedy took office in January 1961, the VNAF only had six squadrons and 4000 personnel: two L-19 (O-1) liaison squadrons, two C-47 transport squadrons, one H-19 helicopter squadron and one AD-6 (A-1H) fighter/attack squadron flying outdated aircraft. The VNAF performed minor support roles to the ARVN including paradrop, reconnaissance, airlift, and medical evacuation. They did not have enough trained pilots or mechanics.¹⁵

In November 1961 the first USAF flying counterinsurgency unit the 4400th Combat Crew Training Squadron (CCTS) from Hurlburt Field, Florida deployed to Bien Hoa air base with older, propeller driven, T-28s, B-26s and C-47s. The operation was called Farm Gate. The mission was to train South Vietnamese pilots by flying with them. It was a covert deployment. The planes all had VNAF markings and the mission was initially to train South Vietnamese pilots in counterinsurgency operations.¹⁶

As the war heated up, Farm Gate crews found themselves flying more close air support and interdiction sorties than training sorties, but the Americans always had a requirement to have a South Vietnamese observer on board. The Kennedy Administration wanted to maintain plausible deniability that U.S. forces were actively involved in combat. By early 1965 two USAF air commando squadrons were flying 50 A-1E Skyraider aircraft with two seats. The A-1E Skyraiders replaced the old World War II era aircraft that were initially utilized for Farm Gate operations. The original Farm Gate deployment package became subsumed into USAF operations, as the USAF deployed multiple units to the region.¹⁷

¹⁵ John Schlight, *The War in South Vietnam the Years of the Offensive 1965-68 (The United States Air Force in Southeast Asia)*, (Washington, DC: Office of Air Force History United States Air Force, 1988), 3-4.

¹⁶ Ibid.

¹⁷ Ibid.

In 1963 early attempts to train South Vietnamese Forward Air Controllers (FAC) and to conduct visual reconnaissance did not meet much success. The USAF deployed twenty-three O-1 Bird Dog aircraft, and forty-four pilots to Bien Hoa AB in order to conduct the training. The Vietnamese siphoned off experienced pilots from FAC training into fighter and transport cockpits. VNAF FACs also tended to sit back and let better trained American FACs conduct combat missions. Few VNAF FACs developed enough competence to assume the mission requirement. By January 1965, the squadron was in American hands and had seventy-six (mostly American) FACs, stationed throughout the country. The VNAF shortage of FACs was a consistent limitation during the war and became a significant problem after U.S. withdrawal in 1973.¹⁸

Centralized command and control of aircraft was almost non-existent until 1962, when the USAF deployed the first air operations control center under the command of the 2nd Air Division at Tan Son Nhut Air Base with supporting centers at Danang and Pleiku. In theory the Vietnamese would man the centers with U.S. help, but in practice USAF personnel operated the centers as Vietnamese personnel trained on the equipment. South Vietnamese President Diem complicated centralized command and control of VNAF aircraft, by placing VNAF units under the command of geographical ARVN corps commanders. President Diem felt threatened by a 1960 coup attempt and the 1962 bombing of the presidential palace by dissident VNAF pilots. As a result, he insisted on the decentralized organization of military forces, with loyal officers in key billets. The commander of the VNAF, Colonel Nguyen Cao Ky, had to place VNAF units under the command of the four regional corps commanders, who were all ARVN generals. However, he was able to retain some centralized control because of his leadership abilities and

¹⁸ Ibid., 6.

political astuteness. The arrangement between VNAF and the corps commanders often frustrated USAF planners because decentralized corps commanders often refused to utilize VNAF aircraft for interdiction missions outside the corps area of responsibility. Early attempts at establishing centralized control of all air assets by USAF planners were also complicated by USAF and U.S. Army doctrinal disputes on command and control of helicopters. General Paul Harkins, commander U.S. Military Assistance Command, insisted that helicopters remain under Army control, while the senior air commander, General Robert C. Mathis, argued that they should be placed in the Tactical Air Control System (TACS). Each service believed that its doctrinal approach would increase effectiveness. The Army believed that helicopters should be controlled by the commander that used them, and the USAF believed that scarce assets were better utilized when centrally controlled.¹⁹ The command and control relationships established during the early years of direct U.S. involvement changed over time as USAF, Army, Marine Corps, Navy and Coast Guard aviation components grew larger, and efforts grew to add capability to the Republic of Vietnam Armed Forces (RVNAF). Many of the RVNAF doctrinal disputes and decentralization policies established early in U.S. involvement would affect VNAF's warfighting effectiveness after the US withdrawal in January-March 1973.

¹⁹ John Schlight, "A War To Long: Part I," *Air Power History*, Vol 62, Issue 2 (Summer 2015), p. 28-49, Historical Period: 1961 to 1975, accessed on 11/6/2019, <http://eds.a.ebscohost.com.ezproxy.uno.edu/eds/pdfviewer/pdfviewer?vid=10&sid=e515760d-9e8f-4462-a189-bb82fe4bd71d%40sdc-v-sessmgr01>.

Impact of Leadership Changes in 1963

As U.S. forces gradually increased their presence in South East Asia during 1962-1963, major leadership changes occurred in both South Vietnam and the United States. On November 2, 1963, President Ngo Dinh Diem and his brother, Ngo Diem Nhu, were deposed and executed by rebel ARVN officers. They were followed by a succession of weak governments until 1965. It was in June of that year, when one of the ruling ARVN generals, Nguyen Van Thieu, came to power and the commander of VNAF, Vice Air Marshal Nguyen Cao Ky, became premier. They would remain in power until the fall of Saigon, in 1975. While Air Vice Marshal Ky's elevation to Premier gave the VNAF new prestige and political clout, it also drained the VNAF of many key leaders who followed him to the national government.²⁰

On 22 November 1963, President Kennedy was assassinated and replaced by Vice President Lyndon B. Johnson. In January 1964 Major General Joseph Moore became commander of the 2nd Air Division in the Republic of Vietnam and General William C. Westmoreland assumed command of U.S. Military Assistance Command Vietnam (MACV). General Maxwell D. Taylor replaced Henry Cabot Lodge as ambassador to Saigon, and Admiral U.S. Grant Sharp became Commander in Chief of Pacific Command (CINCPAC) in Hawaii. American assistance to South Vietnam continued, but a strong partnership was not yet possible, because of the turmoil within the South Vietnamese government.²¹

By midyear 1964, the VNAF had grown to thirteen squadrons. The VNAF commander, Colonel Ky, organized them geographically instead of placing them under the direct command of the Military Region (MR) commanders in an attempt to maintain some centralized control without angering the more powerful ARVN ground commanders. This arrangement, however,

²⁰ John Schlight, "A War too Long: Part I," 35&39.

²¹ *Ibid.*, 35.

eventually gave the MR commanders the ability to deny VNAF support outside of their MR, especially after USAF withdrawal from the command and control system. The increase in aircraft did not immediately appreciably increase capability. VNAF needed time to train pilots and maintenance personnel. Poor training coupled with a weak support request network, as well as worn out aircraft, resulted in the VNAF only providing about half of the strike requests needed by ARVN forces. The situation improved mid-year when the worn-out T-28s and B-56s were replaced by A-1 Skyraiders in USAF and VNAF Farm Gate squadrons.²²

As the USAF presence gradually increased in South East Asia, its command structure changed. The 2nd Air Division became the 7th Air Force in April 1966 with General William W. Momyer in command. He was also designated as General Westmoreland's deputy commander for air operations.²³

Prior to 1965, the war in South Vietnam was viewed as an insurgency rather than a war of competing Vietnamese nations seeking unification. The French defeat at Dien Bien Phu was a battle between powerful conventional forces much like the battles fought in World War II and Korea. The war in South Vietnam prior to 1965 was one primarily one of guerrilla forces, well supplied and organized by North Vietnam. This perception led to development of the VNAF as an air force designed to deliver limited fire power to support ground forces and to conduct photographic reconnaissance. In addition to the improvement in fighter aircraft planned by the 2nd Air Division, emphasis was also placed on creating squadrons of L-19s for better visual reconnaissance capabilities and C-47s to transport small numbers of troops to reinforce district

²² Ibid., 37.

²³ Ibid., 40.

and provincial capitals when threatened by guerilla forces. There was no need for a centralized command and control system for so small a force of limited missions.²⁴

²⁴ Momyer, *The Vietnamese Air Force, 1951-1975*, 1-3.

Growth of C3I to Meet the Changing Nature of the War

As Operation Farm Gate grew, it became necessary to build an operational air-ground command and control system, responsive to the needs of the ground forces. Building on previously deployed air operations centers, the USAF developed a Tactical Air Control System, which enabled the successful employment of air power during the North Vietnamese offenses of 1968 and 1972 by all allied air forces. However, the VNAF/ARVN air ground coordination system remained slow and ineffective. Prior to 1962, ARVN divisions worked preplanned air requests and forwarded the requests to the corps Tactical Operation Center (TOC). If the corps staff had VNAF assets available, it assumed the mission. If no assets were available, the request was forwarded to the Joint General Staff Joint Operations Center (JOC) in Saigon, which would divert VNAF aircraft from another corps area. Once the mission was approved, it was passed to a VNAF Air Operations Center (AOC) for execution. The VNAF officers assigned in the various operations centers were typically junior in rank and unable to influence more senior ARVN commanders. Trained USAF air liaison officers (ALO) advisors were assigned to the centers early in Farm Gate and the system immediately improved, but it needed further adjustment as US forces grew in country. The USAF established an Air Support Operations Center (ASOC) at each ARVN Corps headquarters. They were jointly manned by VNAF and USAF personnel, and were later designated Direct Air Support Centers (DASC). The ASOC was closely located to the Corps Tactical Operations Center (TOC). Mission requests were passed from the Division to the TOC, then on to the ASOC for aircraft. If the ASOC did not have assets to support the request, it was forwarded on to the JOC. It was a great improvement, but regional corps commanders

retained the authority to refuse to release aircraft, if they felt they had a higher need. This system remained in place until the deployment of major U.S. forces in 1964.²⁵

²⁵ Ibid., 10-12.

Growth, Training, and Experience Challenges

Training was probably the most important factor in improving the VNAF. As early as 1957, Nha Trang Air Base combined all operations for training, and was designated the Air Training Base. Courses were established there to train Vietnamese enlisted technicians in USAF maintenance techniques for aircraft, engines, hydraulics, propellers and ordnance. The Air Force Advisory Group established an English language school there as well to prepare Vietnamese enlisted maintainers and officer pilots for travel to the United States where they would receive more advanced maintenance skills and pilot training. Training was also conducted at Bien Hoa Air Base during operation Farm Gate to prepare Vietnamese personnel for air support operations and offensive air operations. Specific objectives included training on striking Viet Cong villages, marshalling, and supply areas, and aerial drops, pre- and post-strike photo reconnaissance, and airlift operations. All of this was included as Farm Gate personnel and aircraft also conducted combat operations. While training during this early period was limited in scale, it provided the foundation for future growth of the VNAF.²⁶

The period 1962-1965 was one of explosive growth for the VNAF. The VNAF grew from six squadrons and approximately 4,000 personnel to sixteen squadrons and 13,000 personnel. The number of aircraft that VNAF pilots flew grew from 96 to 461. To facilitate flight training for such a large expansion, all pilot training was shifted to the United States in 1962. Organizational change was implemented in the VNAF to manage the new structure, while, the USAF dispatched a mobile training team to Nha Trang, in 1963, with U-17 aircraft to reestablish pilot training in country. By 1965, the VNAF had five operational wings, a base support group at Pleiku, the Nha Trang Air Training Center, and a logistics wing and supply

²⁶ Jones, *Organization, Mission, and Growth of the Vietnamese Air Arm 1949-1968*, 6-8.

depot established at Bien Hoa AB. To provide scope for the expansion in 1965, VNAF trained 7,153 officer and enlisted personnel. Only 317 of these personnel were trained as pilots or enlisted men with advanced technical skills in the U.S. During this period the first jet aircraft were transferred to the VNAF, which were four old B-57B bombers. Indicative of the training issues the VNAF faced, the B-57B aircraft arrived several months before the VNAF had qualified pilots to fly them. A similar problem was training enough A-1 pilots to meet the expansion of the fighter/attack force. This explosive growth left VNAF middle management and leadership stretched to the maximum. Limited flying experience was very evident among senior officers and had negative consequences for their relationships with ARVN leadership. Very few officers or enlisted men had over ten years' experience.²⁷

One very bright spot in the leadership ranks was Air Vice Marshal Nguyen Cao Ky. He was appointed commander of the VNAF at the age of thirty-three. Ky clearly commanded the loyalty of the VNAF. In September 1964 he used the VNAF to defeat a bloodless coup d'état of army generals. Five months later, on September 8, 1965, Ky led the first South Vietnamese strike into North Vietnam. He led a strike package of 24 A-1 Skyraiders against targets at the Vinh-Linh military compound. The Vinh-Linh military compound was located on an island off the coast of North Vietnam, just north of the Demilitarized Zone between North and South Vietnam. An estimated 90% of the targets were destroyed. Despite heavy anti-aircraft artillery (AAA) fire hitting every aircraft at least once, VNAF only lost one aircraft. The pilot of that aircraft was later recovered from the South China Sea. Ky's actions propelled him to national prominence and probably was the key reason he became premier in 1965.²⁸ Another limitation in overall RVNAF capabilities, tied to a lack of leadership, was a high desertion rate from the

²⁷ Ibid., 13,17.

²⁸ Ibid., 13-15.

ARVN. The VNAF did not suffer the same drain. Air Vice Marshal Ky's solid leadership is credited with allowing the VNAF to conduct its expansion, while avoiding the pitfalls of desertion seen elsewhere in the RVNAF.²⁹

After Korea the USAF dismantled the system built to control close air support (CAS) sorties, which reflected the USAF preference for the strategic bombing and interdiction missions. The USAF had to rebuild a CAS system in Vietnam. The first step was establishment of a Tactical Air Support Element (TASE) at Headquarters 7th Air Force to consolidate and prioritize all pre-planned support requests. Both the U.S. Army and ARVN passed such requests to the TASE. Another change was that USAF held about one-third of the force on alert to handle immediate requests. The VNAF did not have enough aircraft to hold any on alert, so the result was that immediate requests were usually taken by USAF assets regardless of who requested support, U.S. Army or ARVN. This led to a preference by ARVN commanders to look to USAF CAS support rather than to the VNAF.

Another capability that needed rebuilding was training Air Liaison Officers (ALO) and Forward Air Controllers (FAC). ALOs help ground commanders plan for air support, and FACs control strikes when ordnance is dropped close to friendly forces. Positive control from a FAC became a requirement for dropping ordnance in South Vietnam, as the war got closer to villages and cities. The USAF developed its own FAC capabilities, ultimately placing FACs at every echelon of command down to the battalion level. Additionally, by June 1969 there were 61 O-1, 285 O-2, and 96 OV-10 aircraft supporting the program as FAC-A airborne platforms.

Unfortunately, the VNAF was not able to train enough FACs to place them below the division

²⁹ Cecil Brownlow, Cecil, 10 May 1965, "VNAF Effectiveness Keyed to Leadership", *Aviation Week and Space Technology*, Folder 23, Box 03, Dr. Calvin Chapman Collection, Vietnam Center and Archive, Texas Tech University, accessed 04 Jun 2019, <https://www.vietnam.ttu.edu/virtualarchive/items.php?item=0380323039>.

level. VNAF was so strapped to train pilots for fighters, reconnaissance, and transport aircraft that it sent its newest and least experienced pilots to train as FACs. This often led to poor CAS control by VNAF pilots/FACs and resulted in a lack of confidence by ARVN commanders on VNAF ability to perform the CAS mission. While VNAF FAC capability got better later in the war, it remained a critical weakness.³⁰

Effective command and control is essential to expeditionary capability. FACs are critical in the close air support mission because they ensure there is no blue on blue fratricide and keep bombs from hitting villages and civilians. Command and control should be scalable in order to support the size of the forces employed and support all mission requirements. The VNAF wanted to expand its FAC capabilities but did not supply the experienced pilots required for the mission because it had so many competing priorities for pilots.

The growth of VNAF was so rapid through 1965 that there was a shortage of pilots in 1966. The VNAF was flying approximately one fifth of the in-country missions along with USAF, USMC and Navy aircraft, but was only flying about 1 one percent of the missions into North Vietnam. Air Marshal Ky had hoped to transfer training for A-1 pilots to Vietnamese squadrons, but a critical shortage of experienced pilots precluded the transition. The A-1H squadron at Nha Trang only had four flight lead qualified pilots out of nineteen assigned.

Only nine VNAF pilots assigned to the squadron were considered operationally qualified to fly as wingmen. The U.S. advisors to the squadrons often were required to lead flights in order to meet operational commitments.

³⁰ Momyer, *The Vietnamese Air Force, 1951-1975*, 13-15.



A-1H Skyraider³¹

Experience was weak in enlisted ranks as well. There was a broad base of very junior enlisted personnel with few senior non-commissioned officers (NCO) to lead them and provide experienced training. Because of the lack of experienced pilots, training for VNAF A-1 pilots was conducted at Hurlburt Field, Eglin Air Force Base, Florida. The program, including language school, initial pilot training, and A-1 transition training, took about nineteen months to complete. Of the sixteen squadrons only, half were considered C-1, meaning they had all of the equipment and personnel they rated and were sufficiently trained to meet operational commitments. Only one of six A-1H squadron was rated C-1.

Another problem caused by such rapid growth was that personnel were often several grades below the rank normally held for their billets. For example, it was not uncommon to find a first lieutenant serving as a squadron operations officer. In US squadrons usually fill that billet with a major or captain with ten to fifteen years of service. VNAF CH-34s were maintained at an operational level of about 75%, but the automatic stabilization equipment (ASE) was removed

³¹ Military Times, *A-1H Skyraider*, accessed on 7 February 2020, https://upload.wikimedia.org/wikipedia/commons/thumb/9/91/FileSvnuh1-a1_%28modified%29.jpg/640px-FileSvnuh1-a1_%28modified%29.jpg

to simplify maintenance efforts. Without ASE CH-34s were grounded in bad weather. A-1s were being maintained at about 78% operationally ready. O-1s were maintained at an 87% operational ready rate. A-1s operational commitments were so heavy that often training was conducted during combat missions. New pilots were sent to drop ordnance on free-strike zones that did not require close coordination with a FAC or risk dropping on friendly forces. CH-34s were primarily used for re-supply or medical evacuation, while Marine Corps and U.S. Army helicopters were used for most ARVN troop transport.³²

Between 1965 and 1968, the VNAF went through a period of modernization and professionalization. The USAF goal was to make the VNAF as self-sufficient service as possible, capable of meeting the aviation requirements of the Republic of Vietnam. Modernization of aircraft, introduction of processes to better command VNAF, development of a better ALO/FAC capability to meet increasing combat requirements, and development of leadership at all levels of command were specific objectives in USAF's VNAF modernization program. It should be noted, however, that VNAF was still being developed to fight a counterinsurgency war. The capabilities of VNAF certainly improved, but it still struggled to overcome the requirements to train for basic aviation skills such as night instrument capabilities because of combat commitments.³³

MACV estimated that approximately \$320 million U.S. dollars were dedicated to modernization of the VNAF during this three-year program. It was decided to convert one A-1 squadron to F-5s, and three to A-37s, in order to give the VNAF a more flexible jet capability,

³² C.M. Plattner, "VNAF Emphasizing Training Experience," *Aviation Week & Space Technology*, 04 April 1966, Folder 23, Box 03, Dr. Calvin Chapman Collection, Vietnam Center and Archive, Texas Tech University, accessed 04 Jun 2019, <https://www.vietnam.ttu.edu/virtualarchive/items.php?item=0380323073>.

³³ Jones, *Organization, Mission, and Growth of the Vietnamese Air Arm, 1949-1968*, 20-30

providing some air defense capability in the event allied air forces should be withdrawn. The helicopter fleet was upgraded to UH-1 aircraft, and the transport fleet was upgraded to C-119 aircraft. MACV developed plans to greatly expand the helicopter fleet through 1973. VNAF training challenges continued even as these aircraft improvements were made. For example, by March 1968, thirty-nine pilots were qualified to fly the H-1, and fifteen pilots were entering the transition program, every 90 days. The VNAF remained in a continuous state of change transitioning aircraft, training, and development, while at the same time meeting combat commitments.³⁴

³⁴ Ibid..

Impacts of the Tet 1968 and Spring 1972 Offensives on VNAF Growth

The Tet Offensive began on 30 January 1968. North Vietnamese and Viet Cong forces in South Vietnam totaled about 200,000 troops. These forces deployed minimal air defense capability. Anti-aircraft artillery (AAA) was limited to 12.7 millimeter and .50 caliber weapons assigned to People's Army of Vietnam (PAVN) ground forces. A massive U.S. deployment to South East Asia during the previous three years put approximately 1000 USAF, Marine Corps, Navy, and VNAF fighter-attack aircraft at the disposal of the 7th Air Force commander. The 7th Air Force had also developed a modern Tactical Air Control System (TACS) capable of controlling all assets under positive radar control. The TACS was jointly manned by USAF and VNAF personnel. USAF and VNAF combat losses during this period were only half an aircraft per 1,000 sorties. U.S. and ARVN ground forces fully expected unlimited air support during the Tet Offensive. Air power was the deciding factor in blunting the Tet offensive, because it was massed and PAVN had not yet deployed sophisticated surface to air defenses.³⁵

³⁵ Momyer, *The Vietnamese Air Force, 1951-1975*, 25-30.



Reprinted from John Slight's "A War too Long: Part I."³⁶

³⁶ John Schlight, "A War too Long: Part I," 31.

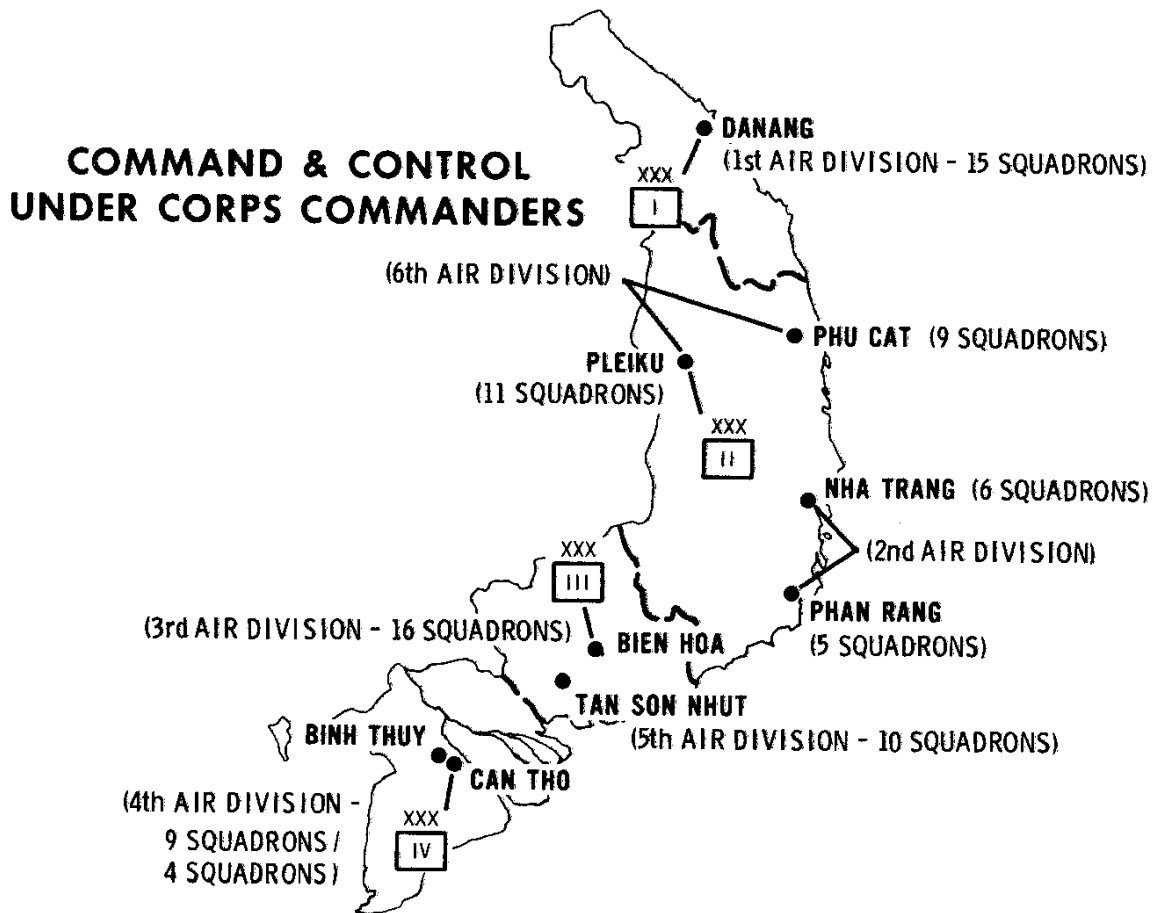
The VNAF transition from A-1 to A-37 fighter/attack aircraft had not yet occurred in early 1968. The VNAF primarily used A-1s in the military regions in which they were based because of their relatively slow speed to improve response time. The lack of VNAF flexibility during Tet did not matter, however, because of the massive airpower available from USAF, Marine Corps, and Navy aircraft. The VNAF performed well in each of the Corps regions, but as mentioned earlier the A-1s were limited by their range to regions in which they were based. Between January 30 and February 25, 1968, the VNAF performed well in support of ARVN ground forces, but they also counted on a massive allied air force to meet all of the requirements of the allied ground forces. The modernization and professionalization of VNAF during the previous three years was evident by the support the VNAF was able to provide during the Tet offensive. However, the massive infusion of U.S. air power minimized the missions the VNAF was required to take. The VNAF was still unable to bear the burden of meeting all Republic of Vietnam air power requirements. It was unable to support all ARVN CAS, interdiction, and transport requirements. Photo reconnaissance capability remained limited.³⁷

Tet was a decisive military defeat for North Vietnamese and Viet Cong forces, but reinforced to the American public that U.S. forces were not winning in South Vietnam as had been reported by our military and political leadership. By mid-1968 American policy began to change. Independence of a democratic South Vietnam was still the goal, but the U.S. would do so by building South Vietnamese capability, gradually withdrawing and would turn the war over to the Republic of Vietnam.³⁸

³⁷ Ibid., 25-30.

³⁸ John Schlight, "A War too Long: Part I," 48-49.

MACV implemented a Consolidated Republic of Vietnam Armed Forces Improvement and Modernization Plan (CRIMP). By July 1971, the VNAF had grown to thirty-seven squadrons and 36,000 personnel. The goal was a fifty-squadron structure by 1972. During May of 1971, the VNAF flew more combat sorties in South Vietnam than did U.S. air forces. It was an impressive accomplishment but was influenced as much by the VNAF weakness against its surface to air threats, as its ability to generate sorties. The surface to air threat inside South Vietnam was still much lower than with North Vietnamese forces north of the border, so the VNAF was focused on targets inside South Vietnam.³⁹



Reprinted from William W Momyer's *The Vietnamese Air Force, 1951-1975*.⁴⁰

³⁹ DesBrisay, *VNAF Improvement and Modernization Program, July 1971 – December 1973*, 1.

⁴⁰ Momyer, *The Vietnamese Air Force, 1951-1975*, 109.

The massive growth of the VNAF was complicated by the North Vietnamese Spring Offensive of March 30, 1972. The cessation of bombing in North Vietnam in 1968 had allowed the NVA to move much equipment and logistic support south. They were also able to move much of the sophisticated air defense network, SA-2 missiles and MIG aircraft, around Hanoi south to protect their forces. The North Vietnamese attacked with tanks, anti-tank weapons, and heavy artillery. The battles took on the characteristics of World War II and Korean War battles. Of note to air power, the North Vietnamese introduced SA-7s, shoulder-fired heat-seeking missiles, similar to U.S. Stinger missiles, and radar-controlled AAA. The North Vietnamese utilized Soviet tactics by integrating the heavy anti-aircraft capability with their ground forces.⁴¹

On May 1, 1972, a USAF O-2 and a VNAF A-1H were the first aircraft lost to SA-7 fire. Aircraft were forced above 10,000 feet, unless airspeeds were kept above 450 knots by the new threat. VNAF fighter squadrons were equipped with A-1s and A-37s. Neither of these aircraft were frontline U.S. attack aircraft like the F-4s and A-7s in the USAF inventory. The VNAF fighter/attack aircraft had limited range and, unlike U.S. aircraft, did not possess radar detection equipment and expendable defensive Electronic Counter Measures (ECM) equipment. While the VNAF performed well during the spring offensive, VNAF aircraft required USAF support in high threat environments. Weaknesses in performance and survivability of VNAF aircraft, became apparent, as they were unable to fly in high threat areas either inside or outside South Vietnam. Additionally, VNAF FACs performed poorly controlling CAS for ARVN ground forces. Deficiencies in VNAF FAC experience levels and tactical capability had not been

⁴¹ Momyer, *The Vietnamese Air Force, 1951-1975*, 42-51.

overcome in the rapid expansion following 1968. The poor performance and lack of survivability equipment on VNAF O-1 aircraft contributed to VNAF FAC's poor showing.⁴²

Developing the VNAF to the point of surviving a heavy surface to air threat from North Vietnamese forces was not a goal of the CRIMP. The VNAF was planned to develop a set of capabilities that would be effective in a counter insurgency war. Until U.S. strategic political changes occurred, causing the Vietnamization of the war effort, it was assumed that U.S. air power would be available in South East Asia to augment and support VNAF, for missions it was unable to perform. Additionally, the massive growth of the VNAF prior to 1971 to 50,000 personnel caused another huge deficit in middle management at all levels. It would take years to rectify all the problems this caused. For example, of nine fighter squadrons active in July 1971 eight were Operationally Ready (OR), but the pilot manning of the OR squadrons ranged from thirty-seven percent to ninety-six percent.⁴³ Trained and experienced personnel shortages in supply, maintenance, and support functions had to be overcome. There were some very good pilots with more than ten years of combat experience in the VNAF. However, they did not have a night, IFR all-weather capability. This was due to a command emphasis on daylight sorties, which meant that they could not generate night sorties. It was also due to a lack of emphasis on initial and follow on instrument flight training.

In order to remedy VNAF challenges of survivability and all-weather operational weaknesses, four Seek Point ground radar bombing systems were shipped to the VNAF by late 1973. The requirement to avoid heavy ground to air defenses neutralized VNAF tactical aviation's ability to deliver ordnance in close proximity to friendly troops and further strained

⁴² Ibid.

⁴³ DesBrisay, *VNAF Improvement and Modernization Program, July 1971 – December 1973*, 1-7.

VNAF coordination with ARVN forces. In Military Region (MR) One, CAS sorties were flown at about twenty percent of the frequency flown in the other MRs. One remedy for these weaknesses was to increase the gunship force from 16 AC-47's, to 52 AC-47s, and AC-119s by 1973. While the gunships also had to avoid high threat areas, they provided very effective night interdiction and CAS capability over illuminated targets.⁴⁴

The transport fleet is another example of problems in the VNAF modernization program during the expansion from 1971 to 1973. In 1971, the VNAF had one C-119 squadron, one C-47 squadron and a newly activated C-123 squadron. By 1973 all three squadrons were deactivated and replaced by three squadrons of C-7s and two squadrons of C-130s despite U.S. objections to giving VNAF C-130s prior to October 1972. The reasons given for the objections were always centered on the perception that the VNAF did not have the technical expertise to maintain the complicated avionics on C-130s.⁴⁵

By 1973, many of the earlier objections to add C-130s to VNAF's transport fleet appeared to be well founded. The VNAF C-130 fleet was suffering an operational ready rate of 35%, during April and May of 1973. The causes were wing cracks, fuel leaks, parts shortages, limited repair capabilities, and ground equipment deficiencies. The VNAF depended on contractor support for C-130 maintenance issues. Additionally, poor training of C-130 crews had a negative impact on C-130 resupply mission effectiveness. The helicopter fleet was subject to similar aggressive growth, increasing from 413 aircraft in July of 1971, to 894 aircraft in July of 1973. A program designated Enhance Plus dumped hundreds of aircraft on the VNAF from October to December of 1972. Many of the aircraft had to be put in long term storage until the VNAF could build the personnel capability to maintain and fly them. An example of the

⁴⁴ Ibid., 70-80.

⁴⁵ Ibid., 81-83.

excessive number of aircraft provided to the VNAF was the 300 UH-1 helicopters transferred to them during this period.⁴⁶

The FAC program continued to struggle through 1972. FAC training remained low priority to the VNAF with the best and most experienced pilots drained by the growth in the fighter force. ARVN commanders contributed to the problems by requiring O-1 Visual Reconnaissance aircraft to circle over their units, with an ARVN observer on board to communicate on enemy positions closest to friendly forces. ARVN/VNAF coordination and intelligence sharing was not ever sufficiently developed to meet U.S. standards.⁴⁷

MACV did not establish the Photo Reconnaissance mission properly in the VNAF. The VNAF was given eight RF-5 aircraft that had an old outdated camera system and twelve dated RC-47s. As of late 1973, two of the eight RF-5s were totally out of service. Due to the North Vietnamese surface to air threat in MR I and II, RC-47s were unusable. The poor camera system in the RF-5 rendered Photo Reconnaissance in these MRs impossible. The VNAF did provide Electronic Reconnaissance with EC-47s and intercepted voice communications. They provided airborne radio direction finding, but sortie rates were limited by low maintenance manning levels, and heavy maintenance requirements of the aging EC-47s.⁴⁸

The VNAF's growth through 1972 was problematic, in that personnel numbers had tripled over the course of four short years and had passed 50,000. Another 12,000 recruits were planned for by July of 1973. Aviation training has considerably long lead times owing to the technical nature of the skill sets required. Twenty percent of the VNAF was in initial training stage. The remaining maintenance force was concentrated at the lowest skill levels. The VNAF

⁴⁶ Ibid., 87-94.

⁴⁷ Ibid., 95.

⁴⁸ Ibid., 100-104.

used USAF coding for skill levels 1-9, with 9 being the highest. Manning at the 9, or highest skill level was only 1.6% of authorized strength. Level 3, or basically trained, but unskilled manning, was at 165% of authorized strength. Two thirds of the VNAF had less than three years of service.⁴⁹

⁴⁹ Ibid., 115-116.

VNAF After Ceasefire and USAF Withdrawal

Between October and December of 1973 in anticipation of and because of uncertainties surrounding the cease fire, the VNAF was given enough aircraft, equipment, parts and supplies to last one year of isolation. The logistics system of the VNAF, which already needed much USAF and contractor advisory assistance, was completely overwhelmed. Warehouses and accounting systems were inadequate to absorb the material. Many supplies, materials and aircraft spare parts were hastily stacked outdoors. The VNAF lost accountability because VNAF logisticians were not capable of entering such a large number of parts and equipment in their logistics accounting system in such a short time. The result was that if an airplane broke and needed a spare part, VNAF was often unable to find the part, regardless of the potential to have many of them in stock. The VNAF accountability issues led to maintenance actions such as cannibalizing parts from other aircraft that led to lower readiness levels.⁵⁰

Another logistics burden created by the rapid withdrawal of U.S. Forces was the rapid transfer of U.S. facilities to the VNAF, after the January 27, 1973 ceasefire date. From November 1972 through December 1973, the USAF transferred over 3,000 facilities to the VNAF. The facilities ranged from warehouses, to control towers, navigation aids, dining facilities, and basically anything required to support an air force, and were valued at more than \$175 million. The USAF transferred most of these facilities in the three months immediately preceding the ceasefire so the VNAF did not have time to absorb them into their logistics system. The effort completely overwhelmed the VNAF's inadequate civil engineering structure and the VNAF had to depend almost totally on ARVN supply support.⁵¹

⁵⁰ Ibid., 128-132.

⁵¹ Ibid., 150.

By the 1973 ceasefire, VNAF had 2,075 aircraft of twenty-five different types. VNAF had sixty-five squadrons and approximately 61,147 personnel. It was the fourth largest air force in the world. Planners presumed that the VNAF would over time develop sufficiently to manage such a force. One of the planning factors for giving them so many aircraft was the assumption that no additional equipment would be allowed post cease fire. 224 aircraft were put into storage by the VNAF, including all of its worn-out A-1s. Unfortunately, all fighting did not stop with the cease fire. At the end of December 1974, the VNAF had lost 299 aircraft to combat, mishaps, and transfers. The force had 1484 aircraft remaining. Manpower was at approximately 61,147 but had issues with appropriate experience and skill levels. Sortie rates were cut by the VNAF, to 51% in an effort to preserve ammunition and fuel stocks. Bomb loads were initially cut from four to two on A-37 and F-5 aircraft, but in November 1974 this decision was re-evaluated. At that time four bombs were loaded per aircraft, with a corresponding reduction in sorties. Pressure was applied to ARVN commanders by the JGS to ensure targets were well defined and appropriate for air attack. The VNAF had enough fuel and ammunition to maintain approximately two months of sustained combat operations. The VNAF aircraft still did not possess Electronic Counter Measures (ECM) equipment. It was unable to attack North Vietnamese LOCs and storage depots that were now protected by a sophisticated surface to air missile and AAA systems. The North Vietnamese build up prior to the 1975 offensive went unchallenged. All planning for VNAF development, prior to the 1973 cease fire was that USAF would be utilized to stop any all-out North Vietnamese offensive, just as it had in 1968 and 1972.⁵²

⁵² Mommyer, *The Vietnamese Air Force, 1951-1975*, 62-67.

Compounding VNAF's ineffectiveness prior to and during the 1975 offensive showed a decline in the command and control system that limited VNAF utility. All air forces were subordinate to the MR corps commanders, and the TACC was unable to move air power where it was most needed. With few exceptions, ARVN commanders refused to release VNAF aircraft to attack targets in other MRs, or on the LOCs North Vietnam was using to resupply attacks into other MRs. There was no system in place to develop targets in order to utilize the traditional strength and flexibility of air power. Essentially the VNAF had no organization in place to centrally control air power, and had been divided up, to be utilized by each regional MR Commander to meet local requirements.⁵³

North Vietnam initiated the spring 1975 offensive in December 1974. Early successes in the Phuoc Long Province and the Central Highlands were exploited by the PAVN, as President Thieu ordered a withdrawal of ARVN forces to the coast and south, to consolidate a defensive line farther south, effectively abandoning the northern half of the country. The withdrawal soon became a rout as South Vietnamese refugees clogged the roads. Thieu did not include the VNAF's commanders in his planning, resulting in slow notification and coordination in withdrawing VNAF aircraft, equipment and personnel to bases, such as Bien Hoa to continue the defense. Pilots in the VNAF abandoned many flyable aircraft, at places like Pleiku and Danang because of the lack of effective planning and coordination. There were several examples of the VNAF's initiative during the final offensive. A-37s at Phu Cat and Phan Rang were dropping bombs just outside the fence as the ARVN pulled out and continued to do so until the airfields were untenable, and they had to fly to Bien Hoa. C-130's dropped firebombs from high altitude and dropped nine 15,000-pound daisy cutter bombs. Efforts by the VNAF though, were largely

⁵³ Ibid., 75-76.

uncoordinated and too little, too late. Xuan Loc, just north of Bien Hoa, fell on April 22, 1975. By the fall of Saigon on April 30, just a few days later, the VNAF flew 132 aircraft to U-Tapao.⁵⁴

In July of 1975, Lt. Gen. Tran Van Minh, the last commander of the VNAF, held a round table discussion with several senior VNAF officers, at the Albert F. Simpson Historical Research Center, Air University, Maxwell AFB, Alabama. The panel confirmed that the VNAF's inability to operate in a modern surface to air threat environment, lack of coordination with ARVN, and inability to centrally control air interdiction and CAS sorties, were important factors in their defeat by the North Vietnamese. They also confirmed that they had believed, as had all levels of South Vietnamese government, that they expected the USAF would intervene when it became apparent the North Vietnamese would win. Air power dominated in 1968 and 1972, when major North Vietnamese offensives had been defeated, and would do so again.⁵⁵

⁵⁴ Ibid., 86-92.

⁵⁵ Tran Van Minh, Lt Gen, Chief VNAF, Vox Uan Lanh, Maj Gen, Deputy Chief VNAF, Dung Dinh Linh, Brig Gen, VNAF, DCS Materiel, and Col Hoang, VNAF DCS Intelligence, Round Table Panel conducted by Col Bowers and Dr. Hartsook, Air Force Current History Office, 16-17 July 1975 (Air Force Historical Research Center, Maxwell AFB).

Conclusion

The USAF organized the South Vietnamese Air Force on the assumption that it would always receive the support of United States, especially the USAF. VNAF leaders expected financial, equipment, and personnel assistance. They counted on USAF support in the many aviation capabilities the VNAF did not have, because of decisions by USAF and DoD planners to limit VNAF capabilities. They depended so heavily on USAF support that their logistics systems mirrored USAF systems, however, the VNAF never mastered the systems to ensure accountability of parts and equipment. Development of the complex C3I systems by the VNAF and ARVN, that the USAF employed with the US Army, Marine Corps, and US Navy aviation units never manifested. The VNAF was unable to fly in high threat environments, had limited reconnaissance capability, had very limited strategic or tactical mobility. It never developed the capability for effective terminal control of CAS, by air or ground controllers. In many cases, the VNAF was given equipment that was already replaced by newer more effective systems in United States forces. Examples were the A-1H Skyraiders and A-37s, which were slower and more vulnerable than US fighter attack aircraft, and C-130As, which suffered from fuel leaks and wing cracks because of their age. No VNAF aircraft were provided Electronic Counter Measures (ECM) equipment, which would have allowed VNAF to fly and fight in the high threat environment of 1972-1975.

If the assumption that U.S. support would always be available had not been made, a force structure much more streamlined and effective could have been built that would have enabled the VNAF and ARVN to fight and win in 1975. An expeditionary mindset that VNAF should possess all the required elements of air power to establish air superiority and fight, and to win without external support would have supported: 1) building a Command, Control,

Communications and Intelligence (C3I) structure, allowing proper coordination between the VNAF and ARVN, 2) effective accountability and control of logistics systems, 3) deployment of limited numbers of aircraft systems instead of the 25 different types of aircraft they ultimately received, 4) deployment of ECM capability on all aircraft, 5) deployment of Suppression of Enemy Air Defenses (SEAD) capabilities, 6) deployment of effective photo reconnaissance capability, and 7) effective training for terminal control of sorties and coordination with ground forces for FACs and TACPs.

As the United States undertakes nation building operations in Iraq and Afghanistan, it will be important to remember the lessons learned in Vietnam. The USAF is providing both countries with aviation capabilities to augment their air forces. Iraq is fighting a counter insurgency war against ISIS. Afghanistan is fighting a counter insurgency war against the Taliban. An expeditionary mindset that they should have everything necessary to accomplish the mission of internal defense should be stressed, to ensure that the aviation capabilities provided are capable of meeting and defeating any likely threat scenario, and are able to sustain themselves should the U.S., because of changing political or strategic interests, withdraw from the region.

Notes on Sources.

Most of the history written about the VNAF is included as part of the USAF's history in Southeast Asia. The history of both is closely linked from 1955-1973. Much of the subject primary source historiography is provided in Project Contemporary Historical Examination of Current Operations (CHECO) reports that document USAF operations in Southeast Asia. Robert Burch's *Single Management of Air in SVN* outlines the USAF preferred version of command and control for aviation. It is important information because the VNAF participated in the USAF command and control system. A USAF centric system insists on centralized command and decentralized control of air forces by the Air Component Commander. The details of command and control structure and problems are central to my thesis. Oakah L Jones Jr's *Organization, Mission, and Growth of the Vietnamese Air Arm, 1949-1968* reports on VNAF development during the period and details the explosive growth of VNAF from 1963-1968. He details growth in missions and personnel and aircraft numbers and types during the period. He also addresses the training system implementation that facilitated the growth and reports on combat operations. It is important to remember that the VNAF was engaged in significant combat operations, while at the same time trying to establish sufficient air base support, supply and maintenance support, and training support to enable a growing air force. Thomas D DesBrisay's *VNAF Improvement and Modernization Program, July 1971-December 1973* reports on many of the same topics Jones does but goes much further in describing the force left behind when United States forces withdrew from Vietnam. DesBrisay has much to report on, concerning the VNAF's weaknesses in fundamental support systems, such as air bases, supply and maintenance systems.

The CHECO reports on the VNAF all follow a similar pattern. They chronologically describe VNAF growth and development during the period reported on. The reports catalog training program

implementation and weakness, discussing pilot proficiency and qualifications. Notable is that many South Vietnamese pilots were not qualified to fly in non-visual flight rules conditions, especially in the years before 1965. In layman's terms they could not fly in the clouds and had significant limitations at night. The reports discuss commissioning squadrons of various aircraft types and the struggles the VNAF went through in developing enough qualified pilots and maintenance personnel to man these squadrons.

The CHECO reports describe VNAF organizational and command structure as the VNAF grows because the structure changed over time to accommodate larger force structure. A common theme in the reports is a lack of experienced middle management in the VNAF. It takes time to grow good leadership, and unfortunately the VNAF grew faster than its experienced leadership base. There were good leaders, but not enough of them. Leadership weakness was not just felt in squadron and wing organizational and maintenance structure. Jones' report details by name and qualification, key senior VNAF officers. Most importantly, skilled aviation leadership was not sufficient to support the force. It takes time to train a skilled pilot to a point where the pilot can lead in combat. Many of the VNAF squadrons were commissioned and aircraft provided before the squadrons had enough pilots to fly the aircraft. The pilots who joined new squadrons were required to learn basic aircraft systems before mastering the additional challenges of aviation combat tactics. Jones' report details the steps taken to improve training and ensure qualified personnel were available to man the squadrons. The reports also speak to the successes the VNAF accomplished, specifically reporting conversions to modern aircraft, increased sustained sortie rates and support provided ARVN after 1965.

Several secondary source books such as Robert F. Futrell's *The United States Air Force in Southeast Asia: The Advisory Years to 1965*, Jacob Van Staaveren's *Interdiction in Southern Laos 1960-68*, and John Schlight's *The War in South Vietnam the Years of the Offensive 1965-68* were

published by the Office of Air Force History, United States Air Force, and are good sources of information on the VNAF. USAF development of and coordination with the VNAF was integral to USAF activity and missions during the War in Southeast Asia. They describe in detail how VNAF missions, organization and capabilities evolved and grew over time. These works describe USAF - VNAF interoperability, coordination and combined operations.

One weakness in the historiography is that it is written from an American perspective. Even the CHECO reports reflect USAF biases. Having said that, the reports reflect mostly factual data and include interviews with VNAF officers. Available through the Air Force Historical Research Center is a panel discussion of high ranking VNAF officers held in 1975 after the fall of Saigon. Their discussion is enlightening concerning the limitations placed on them by ARVN command structure, the impact of US aid cuts, and their belief that the USAF would come to their rescue as they had done whenever required prior to withdrawing in 1973.

Headquarters Pacific Air Forces (PACAF) determined in 1962 to collect data and analysis on U.S. Air Force combat operations in South East Asia (SEA). The intent of the project was to provide timely reporting and analysis on current operations as might be required by the Air Force Staff. The entire CHECO program might be considered a primary source as it contains data, reports, analysis, maps, and records of current events and operations. There is also secondary source material available within the CHECO database. Primary sources include the CHECO reports already mentioned, memoranda and messages, unit and numbered air force histories. End of tour reports and oral histories, also included in CHECO, are available to help build a history of the VNAF's development and growth. This writer hopes to successfully use these sources to build and tell the story of the relationship between the USAF and the VNAF, at all levels of command. Development of the VNAF was an important part of PACAF operations.

In order to provide insight into what is available in the CHECO database, *Organization, Mission, and Growth of the Vietnamese Air Arm 1949-1968* by Maj Oakah L. Jones Jr is a good example. Jones' work contains a brief history of the VNAF from its conception shortly after World War II under French direction and support through the date of his report in 1968.

Jones' report uses data driven metrics to analyze the VNAF's mission, organization, personnel and command and control procedures. He shares keen perceptions into VNAF leadership and provides biographical data on specific commanders. Jones details facility issues, aircraft operations and problems encountered during the build-up. At the time of Jones' report, the VNAF was only thirteen years old and still had many problems, as one would expect in a complicated organization trying to define its mission and its organization, while, at the same time, conducting combat operations. He provides analysis of the VNAF's emerging mission sets as the air force grew in size and its capabilities became diversified. He does so by providing analysis to identifiable periods of development for the VNAF. Jones concentrates his analysis on two periods after 1962, when major US involvement in the war began. He further focuses on the rapid growth period between 1962 and 1965. Then he analyzes a period of modernization and professionalization between 1965 and 1968.

Another excellent primary source is Captain Thomas D DesBrisay's CHECO report, *VNAF Improvement and Modernization Program, July 1971 – December 1973*. This report establishes detailed information on size and capabilities of the VNAF in July 1971, and then again in December 1973, when U.S. withdrew from South Vietnam.

Bibliography

Primary Sources

- Deberry, Drew L. *Vietnamization of the Air War 1970-1971*, (HQ PACAF: Project CHECO, 8 Oct 71) Texas Tech University: The Vietnam Center and Sam Johnson Archive. Item Number: F031100100950.
- DesBrisay, Thomas D, Capt, USAF. *VNAF Improvement and Modernization Program, July 1971 – December 1973* (HQ PACAF: Project CHECO, 1 January 1975) Texas Tech University: The Vietnam Center and Sam Johnson Archive. Item Number: F031100430899
- Directorate of Plans, Pacific East Asia Division “Air Force Advisory Group Working Papers on VNAF”. 01/01/1969-01/01/1975. Air Force Historical Research Center, Maxwell AFB, Montgomery AL. K143.054-2 IRIS 1011977
- Jones, Jr. Oakah L, Maj, USAF. *Organization, Mission, and Growth of the Vietnamese Air Arm, 1949-1968*. (HQ PACAF: Project CHECO, September 20, 1968) Texas Tech University: The Vietnam Center and Sam Johnson Archive. Item Number: F031100050565.
- Momyer, William W., Gen, USAF, *The Vietnamese Air Force, 1951-1975: an analysis of its role in combat*. (Montgomery: Air University, 10 Sept, 1975) 168.7041-154 IRIS 1028272
- Tran Van Minh, Lt Gen, Chief VNAF, Vox Uan Lanh, Maj Gen, Deputy Chief VNAF, Dung Dinh Linh, Brig Gen, VNAF, DCS Materiel, and Col Hoang, VNAF DCS Intelligence, Round Table Panel conducted by Col Bowers and Dr. Hartsook, Air Force Current History Office, 16-17 July 1975 (Air Force Historical Research Center, Maxwell AFB) IRIS Number 01015365
- US Department of the Navy, Headquarters United States Marine Corps, 4 April 2018, Change 1 to Marine Corps Doctrine Publication 3, *Expeditionary Operations*. Approved by LtGen Robert S. Walsh. Washington DC.

Secondary Sources

- Burch, Robert, LtCol. *Single Management of Air in SVN*. (HQ PACAF: Project Contemporary Historical Examination of Current Operations (CHECO), March 18, 1969)
- Brownlow, Cecil, 10 May 1965. “VNAF Effectiveness Keyed to Leadership”, *Aviation Week and Space Technology*, Box 03, Folder 23, Dr. Calvin Chapman Collection, Vietnam Center and Archive, Texas Tech University, Accessed 04 Jun 2019.
<https://www.vietnam.ttu.edu/virtualarchive/items.php?item=0380323039>
- Clodfelter, Mark. *The Limits of Air Power: The American Bombing of North Vietnam*. (New York: Free Press; London: Collier Macmillan. 1989)

Cosmas, Graham A. *The Joint Chiefs of Staff and the War in Vietnam, 1960-1968. Part II*, pp 13-17. Washington DC: Government Printing Office, 2012.

Futrell, Robert F. *The United States Air Force in Southeast Asia: The Advisory Years 1950 to 1965*. Washington, DC: Office of Air Force History, 1971.
<https://www.cia.gov/library/readingroom/docs/CIA-RDP85B00236R00010001001-2.pdf>
Accessed on 02/03/2020.

Plattner, C.M. "VNAF Emphasizing Training Experience," *Aviation Week & Space Technology*. 04 April 1966, Box 03, Folder 23, Dr. Calvin Chapman Collection, Vietnam Center and Archive, Texas Tech University, <https://www.vietnam.ttu.edu/virtualarchive/items.php?item=0380323073>, Accessed 04 Jun 2019

Schlight, John. *The War in South Vietnam the Years of the Offensive 1965-68 (The United States Air Force in Southeast Asia)*. Washington, DC: Office of Air Force History United States Air Force, 1988.

Schlight, John. "A War To Long: Part I." *Air Power History*. Summer 2015, Vol. 62 Issue 2, p28-49. Historical Period: 1961 to 1975.
<http://eds.a.ebscohost.com.ezproxy.uno.edu/eds/pdfviewer/pdfviewer?vid=10&sid=e515760d-9e8f-4462-a189-bb82fe4bd71d%40sdc-v-sessmgr01>. accessed on 11/6/2019.

Schlight, John. "A War To Long: Part II." *Air Power History*. Fall 2015, Vol. 62 Issue 3, p6-33.
<http://eds.a.ebscohost.com.ezproxy.uno.edu/eds/pdfviewer/pdfviewer?vid=12&sid=e515760d-9e8f-4462-a189-bb82fe4bd71d%40sdc-v-sessmgr01>. accessed on 11/6/2019.

Vita

Born in Chattanooga, Tennessee, James Calhoun “Cal” Jumper Jr. graduated from the Baylor School for Boys in 1974. Cal received a Bachelor of Arts degree in Business Administration with a History minor from Vanderbilt University in Nashville, TN in 1978. Cal served in the United States Marine Corps for 28 years, was designated a Naval Aviator and was promoted to the rank of Colonel before retiring. He received a Master of Arts of Strategic Studies in 2003 from the Air War College, Maxwell AFB, AL. Residing in Slidell, Louisiana, Cal was accepted in Fall 2018 into the University of New Orleans Master of Arts program with a focus on Military History. Cal’s long interest and participation in military aviation and United States’ strategy combined to help him develop his interest in and hypothesis about the South Vietnamese Air Force.