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4. TITLE AND SUBTITLE				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
				5d. PROJECT NUMBER	
6. AUTHOR(S)				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
				8. PERFORMING ORGANIZATION REPORT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Department of the Air Force Headquarters Pacific Air Forces, CHECO Division Hickam AFB, HI				10. SPONSOR/MONITOR'S ACRONYM(S)	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
				12. DISTRIBUTION/AVAILABILITY STATEMENT A -- Approved for Public Release	
13. SUPPLEMENTARY NOTES					
14. ABSTRACT Project CHECO was established in 1962 to document and analyze air operations in Southeast Asia. Over the years the meaning of the acronym changed several times to reflect the escalation of operations: Current Historical Evaluation of Counterinsurgency Operations, Contemporary Historical Evaluation of Combat Operations and Contemporary Historical Examination of Current Operations. Project CHECO and other U. S. Air Force Historical study programs provided the Air Force with timely and lasting corporate insights into operational, conceptual and doctrinal lessons from the war in SEA.					
15. SUBJECT TERMS CHECO reports, Vietnam War, War in Southeast Asia, Vietnam War- Aerial Operations, American					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
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REPORT

**ORGANIZATION, MISSION and GROWTH
of the
VIETNAMESE AIR FORCE
1949-1968**

8 OCTOBER 1968

HQ PACAF

**Directorate, Tactical Evaluation
CHECO Division**

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Prepared by:

MAJOR

OAKAH L. JONES, JR.

Project CHECO 7th AF, DOAC

[REDACTED]

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FOREWORD

This report presents an historical summary of the Vietnamese Air Force (VNAF) from its initial formation under the French following World War II through its establishment as an independent air arm in 1955 to its present (mid-1968) status. It concentrates upon the expansion of the VNAF after 1962 and its modernization phase from 1965 to the present. The report includes an analysis of VNAF's mission, organization, personnel, leadership, specific commanders, facilities, aircraft operations, command and control procedures, and specific problems.

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INTRODUCTION

The Vietnamese Air Force (VNAF) is a relatively young, yet developing Air Force. Scarcely more than thirteen years old, it is an outgrowth of a small air arm established by the French following World War II to combat Communist forces in Vietnam. When the French withdrew in 1955, the VNAF consisted of only a few hundred officers and airmen with a handful of observation planes and a few transport aircraft. By mid-1968, it had grown to more than 16,000 personnel and over 350 aircraft.

This phenomenal growth essentially began with the decision to expand VNAF forces in 1962, although some controlled development took place from the arrival of the United States Military Assistance Group in 1956. Between 1962 and 1968, the total number of personnel assigned to the VNAF more than quadrupled whereas the number of aircraft more than trebled. In addition, the mission of the VNAF took shape and its specific roles were diversified greatly.

Following the rapid build-up of VNAF during the period 1962-1965, an era of modernization, professionalization, and stabilization was begun. With the rapid expansion phase behind it, VNAF leaders and advisors began to concentrate on a controlled, gradual growth while emphasizing consolidation of gains previously achieved. The development of a modern, properly-equipped air arm became the goal of interested and responsible individuals, both in the VNAF and in the United States Air Force (USAF).

As could be expected, there were a great many problems encountered in

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the growth of the VNAF from its origins to the present day. Early difficulties with proper command and control procedures, diversion of leaders into political life, limited aircraft potential, training facilities, and logistical support were gradually overcome in varying degrees. Yet, certain older problems continued and new ones arose to plague the development of this service as it became a more complex military unit.

It is the purpose of this report to present in a straightforward manner the history of the Vietnamese Air Force from its obscure early days to the present time, 30 June 1968. Principal emphasis, however, has been placed upon the period 1962-1968 because of the change in nature of the war in Vietnam after 1962, the extensive United States involvement after that date, and the emergence of the VNAF in that period as one of the significant elements among the Free World Forces (FWF) defending South Vietnam (SVN). This report traces briefly the early history of the VNAF, but concentrates then on two important phases subsequent to 1962: the rapid build-up in the period 1962 through 1965, and the modernization phase from 1965 through 1968.

Throughout this study, efforts have been made to develop a balanced approach, recognizing strengths and weaknesses in the development of this young air force but realizing the limitations imposed by availability of documents and language restrictions. The report portrays the organization, leadership, personnel, and facilities of the VNAF in different periods of its history. In addition, it outlines the operational experience, command and control procedures, and combat policies of the VNAF. Finally, in each phase of its history some of the major problems confronted by the VNAF have

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been highlighted.

In view of the fact that the VNAF is a relatively new service, it cannot be judged entirely by exact application of standards accepted in the United States today, particularly those of the more mature, sophisticated U.S. Air Force. In analyzing the VNAF, one must compare and contrast its development to a corresponding period in the growth of the U.S. Army Air Corps. In many respects, the VNAF's thirteen year history, from its origins as an independent air arm in 1955 to mid-1968, corresponds to the 1926-1939 era of the Army Air Corps. The VNAF of 1968 can then be compared to the Air Corps of 1939. In developing an overall evaluation of the VNAF, this concept should be borne in mind.

Today, the mission of the VNAF has developed into a complicated, many-faceted expression of its roles in a war which has grown continuously more diversified as well. By mid-1968, the mission of the VNAF could be stated as follows:^{1/}

- To conduct tactical air reconnaissance, interdiction, and close air support operations to defeat Communist insurgency in RVN (Republic of Vietnam) and assist as appropriate in maintaining internal security.
- To deter external aggression and, in conjunction with U.S./Free World Forces, provide tactical air reconnaissance, interdiction, and close air support in support of defensive or counteroffensive operations against overt invasion.
- To participate in air defense of RVN.
- To provide airlift and re-supply for RVN forces within limitations of equipment.

- [REDACTED]
- To develop, operate, and maintain minimum essential ground environment to accommodate air operations.

Born in the combative post-World War II period in Southeast Asia (SEA), the VNAF originally was a part of the French Air Force, but its specific roles were restricted to observation and liaison work.^{2/} By 1961, under USAF guidance it was conducting tactical strikes against the Viet Cong (VC) and providing pre-strike and post-strike photographic reconnaissance, airlift, and aerial drops.^{3/} Four years later it had reached the level of a U.S. tactical air force tailored to the counterinsurgency role with tactical wings, a visual reconnaissance capability, support of ground forces in each of the four Corps areas of the RVN, and a political warfare function had been added.^{4/} Its primary objective was stated in 1965 "to provide immediate and effective air support of ground operations in order to bring Communist insurgency in RVN under control," and it was emphasized that to accomplish this goal VNAF participated in the air defense of RVN, provided airlift and re-supply of RVNAF forces, supplied air surveillance of the republic's borders, and protected the established government.^{5/} Tactical reconnaissance, interdiction, close air support, maintenance of internal security, air defense, airlift re-supply, protection of the government, and medical evacuation--all were roles assigned to the VNAF by 1966.^{6/}

By that time, the major part of VNAF's mission and specific roles had been formulated. As stated officially, the mission of VNAF had become: "to conduct tactical reconnaissance, interdiction, and close air support to bring Communist insurgency in RVN under control, and assist in maintaining internal security" while participating in the air defense of the country,

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providing airlift re-supply and medical evacuation for RVN forces, defending RVN territory, and protecting the established government.^{7/} Specific roles performed were listed as follows:^{8/}

- Assault sorties
- Photo and visual reconnaissance
- Search and rescue
- Troop transport
- Psychological warfare
- Interdiction
- Close air support
- Re-supply
- Medical evacuation
- Flare illumination
- Air cover for ground troops and convoys
- Escort
- Air drop of troops and cargoes
- Artillery spotting
- Target marking
- Defoliation
- Courier
- Observation
- Aircrew training

The foregoing analysis of the gradual expansion of the mission assigned to the VNAF allows a comprehension of the increasingly complex roles undertaken by the VNAF. Furthermore, it permits some understanding of how and why such a rapid expansion took place within the service, sometimes growing before either men or aircraft were available to perform the newly-assigned role.

SECRET


CHAPTER I

ORIGINS AND GROWTH OF THE VNAF, 1949-1962

During the heat of the French struggle in Southeast Asia following World War II, the Vietnamese Air Force came into being. Created primarily as an allied unit of French forces in what was then Indo-China, the VNAF did not take on its present name at the time nor was it a separate air arm until six years later. Its development under the French, and subsequently under United States guidance was at all times limited during the period 1955-1962. However, this existence, early training, and general organization served to facilitate its later rapid expansion and modernization after the war in Southeast Asia intensified following 1962.

The Armed Forces of the Republic of Vietnam were officially established in 1950,^{1/} although a tactical air base already had been built by the French at Nha Trang, on the coast of South Vietnam in 1949.^{2/} An Air Force Headquarters was officially founded on 1 July 1951 and was located in downtown Saigon at 110 Tran Quy Cap. It was officially called at the time the "Air Force Office."^{3/} Act No. 9 on 25 June 1951, preceding the foundation of the headquarters, had already authorized the establishment of an Air Training Center at Nha Trang,^{4/} at that time called French Air Base No. 194.^{5/} In fact, this was the only air base located in the RVN during the early 1950's, and the training facility was considered appropriate for Nha Trang because it had:^{6/}

- An airfield already constructed there.
- A healthy climate.

- 
- A topography zone of different shapes; the land forms included level terrain, mountains, and the sea, all considered good for flying training.
 - Excellent flying weather.

This close relationship between the origins of the VNAF and its Air Training Center (ATC) was important to the future growth of the service and it helps promote an understanding of the VNAF's early history as well as its later development. In reality, the training function was created at Nha Trang before the establishment of the "Air Force Office" itself, and Nha Trang Air Base thus became the oldest, continuously-used facility of the VNAF. Only one liaison flight in addition to the newly-founded training facility constituted the entire air arm by mid-summer of 1951,^{7/} but the French subsequently established the 312th Special Missions Squadron at Tan Son Nhut Air Base, near Saigon, on 1 August 1951 to supplement the meager forces at Nha Trang.^{8/}

Early pilot training for Vietnamese personnel was conducted in French flying schools,^{9/} such as Avord in France, Blida in Algeria, and Marrakech in Morocco. One of the later leaders of the VNAF, Air Vice Marshal Nguyen Cao Ky, is a splendid illustration of this type of training. He was sent to Marrakech in Morocco and later to France to complete his pilot training before he was twenty-five years of age.^{10/} Air Vice Marshal Ky's early experience then at Avord and Blida^{11/} is representative of the early training received by many of the present day leaders of the VNAF.^{12/} The first pilot training course actually conducted at Nha Trang began in March 1952, with a total student load of fifteen;^{13/} including Colonel Nguyen Ngoc Oanh,

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now the Commander of the Air Training Center; Colonel Duong Thieu Hung, presently Commander of the 33d Wing at Tan Son Nhut Air Base; and Colonel Vu Van Uoc, today's Commander of the 62d Wing at Nha Trang. ^{14/} Maintenance courses were also established soon thereafter, using the French Morane Saulnier, MS-500 (an observation and liaison type of aircraft). Later in 1952, a military training school was established at the Center, emphasizing cadet and recruit training. ^{15/} On 15 December 1952, the facility was officially redesignated as the "Air Instruction Center." ^{16/}

Expansion of the VNAF was relatively slow throughout the remainder of the French period. Two observation squadrons were added in 1953, but the French at all times retained command, administrative, and logistical control of the small air arm. Its total strength "never exceeded a few hundred men" in the period 1951-1955. ^{17/} For logistical support, the French used the main depot at Hanoi until it was evacuated and the materials were moved to Bien Hoa Air Base, where a depot was activated on 1 June 1955. ^{18/} By that date, the VNAF still remained essentially a small auxiliary air arm, entirely under the control of the French, with a limited training capability and an observation role within the French Air Force.

On 1 July 1955, however, VNAF separated completely from the French Air Force and was redesignated as the "Air Force Staff." At that time, it consisted of two transport squadrons, one combined liaison-tactical squadron, and two straight liaison squadrons, in addition to the training function at Nha Trang and the depot at Bien Hoa. It had thirty-two C-47 transport

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planes and "a number" of Morane Saulnier, MS-500, observation aircraft to perform its principal roles.^{19/} This date marks the official founding of the VNAF, although its headquarters was not moved to Tan Son Nhut Air Base until 1956 and the service was not officially designated as under the control of "Headquarters VNAF" until 3 October 1957.^{20/}

Although the French remained in an advisory capacity until the USAF assumed responsibility for military assistance in May 1956, the VNAF failed to grow appreciably, having only 92 pilots when the United States arrived on the scene.^{21/} However, after 1956, organization and change were to be the key thoughts in the gradual development of the VNAF and its conversion to systems resembling those used by the USAF. These concepts were apparent in three areas--base activation and redesignation, conversion of aircraft and operational procedures, and in the training of personnel.

Organization of new units and opening of bases occurred simultaneously at locations ranging from north to south in the Republic of Vietnam. The 1st Fighter Squadron was activated at Bien Hoa Air Base on 1 June 1956 out of the remnants of a Vietnamese unit which had formerly existed there. This squadron is today the 514th Tactical Fighter Squadron. On 1 November 1957, an air base was activated at Da Nang for logistical support initially; the 2d Fighter Squadron, originally founded at Nha Trang, was moved into this base nearly three years later. But the tactical fighter role was not the only one inaugurated by the VNAF in these years. In April, 1956, the 1st Helicopter Squadron at Tan Son Nhut Air Base was established and equipped with outdated H-13 helicopters. It was manned by four pilots and 25 enlisted

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men originally. A second helicopter squadron was established at Da Nang on 1 October 1961. Similarly, the 1st Air Transport Squadron was created at Tan Son Nhut with C-47 aircraft already located there. It had 35 pilots in its early days, only four of whom were qualified as instrument pilots. Liaison squadrons were also activated at Nha Trang, Tan Son Nhut, and Bien Hoa air bases.^{22/} Finally the VNAF officially established an air depot at Bien Hoa and all base locations were given specific numbers, as had been the case under the French experience.^{23/} These designations were:

Air Base 12	Nha Trang
Air Base 23	Bien Hoa
Air Base 33	Tan Son Nhut
Air Base 41	Da Nang
Air Base 62	Pleiku

Equally important in this period was the conversion of aircraft and personnel to new types and systems to establish a closer procedural relationship between the USAF and VNAF. Changes of aircraft were instituted to develop standardization through which the Military Assistance Program (MAP) could aid the VNAF. Emphasis in the aircraft inventory was placed upon the replacement of obsolete types, especially French models, with more familiar types of aircraft for that time period. This conversion affected fighter, helicopter, and liaison types of aircraft but not transport models. Grumman F8F "Bearcats" were first employed in the fighter units,^{24/} but these were soon replaced by the T-28 "Trojan", and late in the period by the first squadron of A-1H "Skyraider" types. Helicopter units were initially converted to the H-19 model, but subsequently obtained the H-34, whereas liaison squadrons all replaced the French Morane Saulnier with the Cessna L-19

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in 1957. Transport aircraft remained as before--equipped with the reliable C-47.^{25/} After the USAF had assumed its advisory function in May, 1956, it also undertook the retraining of personnel at the Bien Hoa Air Force Depot in U.S. supply and accounting procedures. Some individuals were sent to Pacific bases and to the United States for familiarization with the new techniques before converting the depot to the more familiar system.^{26/} Finally, an Air Tactical Command was formed to provide operational command and control. Redesignated as the "Air Operations Control Center" on 1 February 1956, it was established at Tan Son Nhut Air Base to coordinate all air operations. Again it was redesignated in 1961, this time being called the "Joint Air Operations Command," but it can readily be seen that this agency was the forerunner of today's Tactical Air Control Center (TACC).


Training procedures underwent considerable reorientation and reorganization during this period as well. On 7 July 1955, the training facility at Nha Trang became Tactical Base No. 1 with Major (now Colonel) Nguyen Ngoc Oanh as the commander of the training facility located there and Major (now Colonel) Vo Dinh as Base Commander. The two elements--base and training--were then combined in September, 1957, and the entire operation at Nha Trang was then called the "Air Training Base." Meanwhile, Vietnamese personnel gradually replaced French technicians and instructors while the Morane Saulnier aircraft was being replaced by the L-19, T-6, T-28, and U-17 models from the United States. Technical courses for enlisted personnel in the three to seven-level skills of enlisted classifications were initiated there in the fields of aircraft, engine, hydraulics, and propeller maintenance;

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in December, 1959, the first class of commissioned technical officers graduated from this training center. Three months earlier the English Language school was established there to provide basic familiarization with that language before sending personnel from the VNAF to the United States for more advanced training in either technical skills or flying.^{27/}

Nor was all VNAF training conducted at the Air Training Base. Beginning in late 1961, the USAF established a unit under Operation FARMGATE at Bien Hoa Air Base to train VNAF personnel in conducting offensive air operations and supplementing VNAF capabilities in support of the war effort. This training program began on 15 November 1961 for VNAF pilots and maintenance personnel and it continued for nearly three years. Joint operational missions were flown (by requirement, VNAF personnel had to accompany each mission) under FARMGATE. Specific roles and objectives included day and night tactical assignments; strikes against Viet Cong villages, marshalling areas, training centers, and re-supply facilities; aerial drops; pre-strike and post-strike photo reconnaissance; and airlift.^{28/}

In summary, the period 1949-1962 was one of pre-natal origins, birth, and early childhood for the VNAF. From one observation squadron and a training base in the early 1950's, it grew to five squadrons and two bases by 1955 entirely under French tutelage. Yet, that early experience enabled the VNAF to stand on its own two feet after it became an independent air service on 1 July 1955 with less than one hundred pilots and a small number of airplanes, mostly obsolete. Although the VNAF had become an independent service, it still needed support from someone to build a modernized,



well-trained force capable of competing favorably in the arena of tumult characterizing Southeast Asia of that era. The United States supplied that assistance at a critical period, but it was necessary for the VNAF to learn the new systems practiced by that country. From the French to the USAF manner of doing things represented a major change for the VNAF in the period 1955-1962, but it was this flexibility and development which provided the all-important existence and backdrop for the rapid growth it experienced and for the acceleration of the war thereafter. This foundation period provided the basis for the expansion in the years following.

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CHAPTER II

VNAF EXPANSION, 1962-1965

The decision in July, 1962, by the United States Secretary of Defense to prepare plans emphasizing the expansion of the VNAF over a three-year period was a major turning point in the history of this young service. This new emphasis was decided upon for two fundamental reasons: first, there was a definite need to build a balanced air arm to support fully the effort of the Republic of Vietnam's Armed Forces (RVNAF);^{1/} and second, it was needed to contain the growing Communist threat to South Vietnam.^{2/}

Brigadier General Albert W. Schinz, former Commander of the USAF Advisory Group to the VNAF, has described this rapid growth of the VNAF in the period 1962-1965 as:^{3/}

"...an unprogrammed, explosive expansion of a very small air force to a fairly large one. For example, this force has gone from 4,000 men to 15,000 in a little over three years. They have gone from six squadrons to sixteen and from 96 aircraft to 461 [sic] in the same period."

By 1962, VNAF had no more modern aircraft than the A-1H "Skyraider", and only one squadron of those, used primarily for counterinsurgency work. By 1965, it had greatly expanded its A-1 effort (comprised forty percent of VNAF assets then),^{4/} greatly diversified its roles and aircraft, developed a basic semblance of organization, demonstrated an important political role in South Vietnam, exerted the influence of some of its early leaders, and greatly expanded its operational capabilities. With little in the way of a logistics system in 1962, a limited reconnaissance capability, and a complete

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cessation of the flying school at Nha Trang as a temporary measure so that all pilot training could be conducted in the United States,^{5/} VNAF's status at the beginning of this era was not encouraging. However, its growth in the next three years was to be the most rapid in its entire history.

This significant period can be analyzed in more detail by looking at the organizational structure and personnel manning of the service, its leaders and commanders, the aircraft and facilities utilized, operations and command-control procedures, and the major problems encountered during the era.

Organization and Personnel

At the beginning of the period, the VNAF had little resemblance to a normal organizational concept with a distinct chain of command. Wings and squadrons were created in an unprogrammed fashion until all were redesignated, renumbered, and restructured in 1963. New units were added to the basic structure in rapid succession. Examples of this sudden growth included the following new units:^{6/}

December 1962	62d Wing organized at Pleiku but moved to Nha Trang in January, 1965.
15 October 1963	518th Tactical Fighter Squadron activated at Bien Hoa.
1 May 1964	217th Helicopter Squadron activated at Da Nang; then moved to Tan Son Nhut in July, 1964, for operational readiness training; finally to Binh Thuy in December, 1965.
16 June 1964	520th Tactical Fighter Squadron organized at Bien Hoa and transferred in August, 1965 to Binh Thuy.

[REDACTED]

1 January 1965

33d Tactical Wing activated at Tan Son Nhut directly under VNAF Headquarters.

June, 1965

522d Tactical Fighter Squadron formed at Tan Son Nhut.

Finally, by the end of calendar year 1965, VNAF had developed a normal chain of command organizational structure. There were then five operational wings plus a base support group at Pleiku, an Air Training Center at Nha Trang, and a logistics wing and supply depot at Bien Hoa. At this point, the USAF Advisory Group and its teams had completely collocated with the VNAF units. Organizationally, by 1965, the VNAF had developed the command structure and basic chain of command as depicted in Fig. 1.^{7/}

Between 1962 and July, 1963, the VNAF expanded in manpower from approximately four thousand^{8/} to a total of 7,711 officers and airmen.^{9/} On 1 January 1965, that figure had risen to 10,592 and by the end of that year there were 12,976 personnel in the VNAF.^{10/}

A regularized system of recruitment had been developed by the end of the period. Essential characteristics of the VNAF included these factors:^{11/}

- VNAF was an "all volunteer force".
- Officers came from Dalat and Thu Duc military schools as well as civilian universities and colleges.
- Enlisted personnel came principally from civilian life with some technicians transferred directly from the ARVN.
- Selective enlistment was practiced and the educational level of service personnel was generally higher than the national average.

- [REDACTED]
- Initial appointments and enlistments lasted three years with reenlistments ranging from six months to six years.

Training of personnel also underwent a major revision. In January, 1962, all flying training at the Air Training Center was transferred to the Continental United States (CONUS). The Center was left temporarily with only the technical and military schools, but by September the USAF had dispatched a Mobile Training Team (MTT) to Nha Trang to instruct VNAF personnel in the use of the U-17 aircraft in preparation for reopening flying training at the Center. Three pilot instructor classes graduated in the year following July, 1963, and Vietnamese instructors gradually replaced those from the USAF. A Communications and Electronics School was begun at the Center in 1964, and by October, 1965, the function of ATC and that of combat and support were again separated with the 62d Wing taking over the latter function after its move from Pleiku.^{12/} Cadets and airmen were required to undergo eight weeks minimum (316 hours) of basic military training upon entering the service. Conducted at ATC during this period, the program consisted of:^{13/}

Military physical training	35 hours
Military discipline and martial law	15 hours
Weapons and Marksmanship	90 hours
Tactics	40 hours
Communications	10 hours
Psychological and political warfare	30 hours
Processing and final exam	20 hours
Close order drill	30 hours
Topography	10 hours
Counterinsurgency warfare	6 hours
Sanitation and first aid	10 hours
Security	10 hours

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ORGANIZATION OF VNAF, 1965

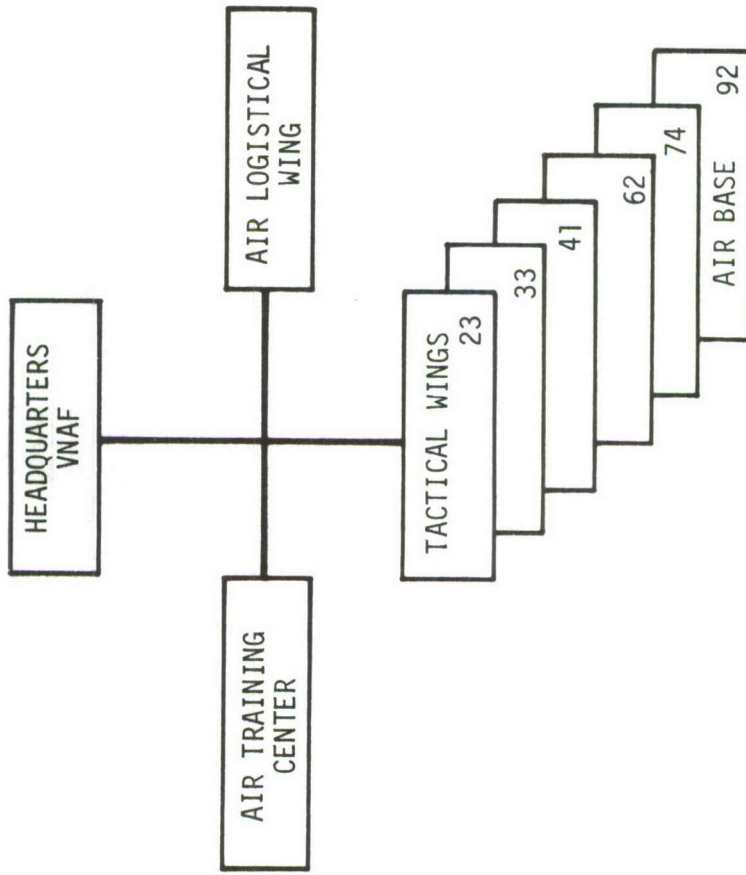


FIGURE 1

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In 1965, VNAF reportedly trained a total of 7,153 officers and airmen, of which 317 were trained offshore, mostly in flying positions and advanced technical skills. Some 5,289 Vietnamese personnel were trained in formal in-country courses while 1,547 received on-the-job (OJT) training usually at operational bases.^{14/} Thus, only about 4.4 percent of the total trained within VNAF were sent outside of RVN for course work and advanced pilot training.

Leadership and Commander

This explosive expansion of the VNAF unfortunately left the leadership and management skills within the force dangerously thin.^{15/} In fact, leadership at this time was a major problem because of the limited service and flying experience of personnel within the VNAF, especially the emerging senior officers. Maximum military experience totaled only ten years at the beginning of this period, yet the first rays of sunlight appeared with the emergence of some unified, responsible leaders in the following three years. It was also evident that these individuals could command the respect and loyalty of the service as a whole.

Without doubt, the single most important figure in the VNAF during this period was Nguyen Cao Ky. His rise to national importance in both the military and political sense was meteoric. He was appointed VNAF Commander at the age of thirty-three in December, 1963, following a November coup d'etat. He remained loyal to Major General Nguyen Khanh in the bloodless coup of 30 January 1964. Between the first political revolt in November, 1963, and 5 March 1964, Ky's loyalty was rewarded with promotions from the position

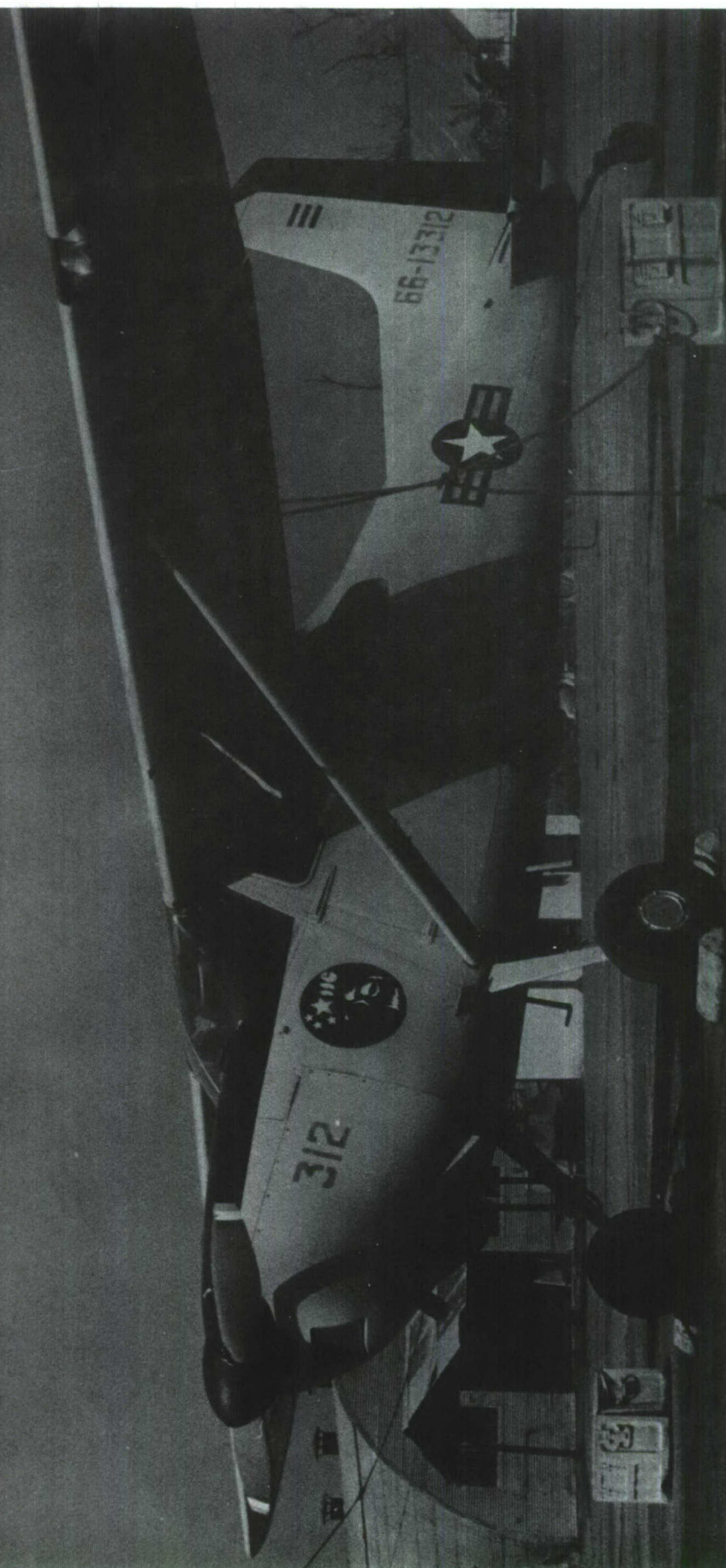
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of a Lieutenant Colonel commanding a VNAF group to that of a full Colonel ^{16/} commanding the VNAF and finally to a promotion as Air Vice Marshal.

Increasingly in the period thereafter, Air Vice Marshal Ky became involved in political developments in RVN and he carried with him the loyalty of the VNAF, which he simultaneously headed, as an important element in determining the political course of the nation. ^{17/}

The role of the VNAF in smashing the attempted coup d'etat of dissident army generals on 13-14 September 1964 illustrates the rise of Air Vice Marshal Ky and the VNAF simultaneously to positions of political importance, if not decisiveness. Without bloodshed, Ky made a "dramatic ...use of airpower" as a bargaining instrument against the rebellious army officers. ^{18/} When the coup began, the VNAF established a command post at their Tan Son Nhut headquarters. Ky, who was at Bien Hoa, twenty-eight kilometers away, immediately came to Tan Son Nhut and took charge of the situation. He armed the A-1H aircraft there with rockets, began aerial patrols over Saigon as a visible show of force, and obtained support from other units at Da Nang and Bien Hoa to solidify his resistance. ^{19/} Instead of going to the rebellious generals, Ky held out at Tan Son Nhut and made the leaders come to him on 14 September. ^{20/} With that move, the rebellion collapsed. Air Vice Marshal Ky's leadership and his use of the loyal VNAF were the decisive elements in breaking the back of this attempt to overthrow the government in September, 1964. He rallied the forces of opposition at a critical point, sent his armed fighter aircraft on low-level passes to harass and frighten his opponents, mustered VNAF C-47s to bring in outlying

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VNAF U-17 "Skywagon"
Figure 2

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VNAF A-1 Strike Mission
Figure 3

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forces to support the nucleus of his personnel at Tan Son Nhut, used his liaison aircraft to drop leaflets and make broadcasts to rebel elements to undermine their unity, and even stopped a convoy of troops en route to Saigon in one case.^{21/} His cool leadership qualities, organizational ability, understanding of the total problem, and willingness to use the VNAF were decisive elements not only in defeating the coup d'etat, but in enhancing his own prestige. Without doubt, this incident was an important stepping-stone on his path to the premiership by June, 1965. However, it also marked the emergence of the VNAF in the political activities of the nation and some of its lesser leaders would be appointed to political positions after Ky's success, thus draining the service itself of some of its better-trained and more experienced leaders.

Aircraft and Facilities

The personnel expansion of the VNAF and the emergence of recognized leaders in the period 1962-1965 were accompanied by a similar rapid growth in the numbers and types of aircraft assigned. In addition, the present base occupancy situation took on its modern configuration, concentrating upon the establishment of major bases at Tan Son Nhut, Bien Hoa, Da Nang, Nha Trang, and Binh Thuy. Thus, there was a headquarters and one major operational base in each of the four Corps zones delineated in the RVN.

Between December, 1961, and the same month four years later, the total aircraft inventory swelled from seventy^{22/} to 393.^{23/} Closer analysis of this expansion reveals that the force more than doubled in 1962 and added 65 more aircraft in the following year.^{24/} The overall increase of total aircraft in

[REDACTED]

the year 1965 alone totaled 108 (an increase of 38 percent in the inventory), with 285 airplanes at the start of the year and 393 at the conclusion.^{25/}

Not only was there an enormous expansion in the total number of aircraft assigned, but there were major changes in the types employed by the VNAF. Equipped essentially in 1962 with T-28 fighter aircraft, the VNAF had only one squadron of A-1H "Skyraider" fighters.^{26/} Its helicopter fleet was largely in the process of converting from the old H-19 to the newer H-34. Likewise its total forces were being augmented by the creation of new bases and activation of new wings throughout the country. At the beginning of 1964, VNAF had 29 T-28's of the fighter version and was in the process of receiving 18 more for reconnaissance purposes. It also still had one squadron of 22 A-1 aircraft, but it was programmed to receive a second such squadron in February of that year. There were, in addition, two squadrons of H-34 helicopters, comprising 24 aircraft; two squadrons of C-47's, each with 17 aircraft; and three squadrons of L-19 observation and liaison aircraft, totaling 48 planes.^{27/}

Modernization of VNAF aircraft was well underway by the end of 1965, thus beginning a transitory phase which would be accelerated in the next three years. At the start of 1965, implementing an expansion and modernization program approved in 1964, VNAF had four tactical fighter squadrons equipped with T-28 and A-1 aircraft, four helicopter squadrons with H-19's and H-34's, two troop transport squadrons with the C-47's, and four liaison squadrons equipped with the O-1 and U-17 models.^{28/} However, the T-28 was being

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replaced by the A-1H and A-1G (two-seat version) since the new equipment was more versatile, had greater speed, and could carry more ordnance than the T-28. The last of the older T-28's was transferred out of the inventory in April, 1965.^{29/} Likewise, the H-19 was phased out in favor of uniformity and modernity as represented at that time by the H-34. This change was almost complete by the start of 1965, although the last H-19 was not dropped from the inventory until May of that year.^{30/}

Expansion was still a major characteristic of the VNAF during 1965. The number of A-1 squadrons grew from four to six with one squadron being activated on 1 May and another on 15 September. The number of A-1 aircraft, therefore, rose from 89 at the beginning of the year to 146 after all six squadrons were operational by the end of 1965. Furthermore, the liaison fleet increased considerably over the same period. The O-1A inventory more than doubled in size (37 in January to 84 in December) and the number of U-17 aircraft grew from 25 to 46 in the same period. Finally, Air Vice Marshal Ky's long-standing interest in establishing a jet capability for the VNAF resulted in the interim measure of transferring four B-57's from the USAF to the VNAF in August, 1965, although no crews had been trained to fly them until the end of the year.^{31/} By December, 1965, as a result of these many changes within the past twelve months, the VNAF had six fighter squadrons of A-1 aircraft, four helicopter squadrons of H-34's, two troop carrier squadrons of C-47's, four liaison squadrons of O-1A's, a flying school squadron at Nha Trang of U-17's, a detachment of U-6A observation planes, and four special mission B-57's. This constituted a force more than double that of the VNAF

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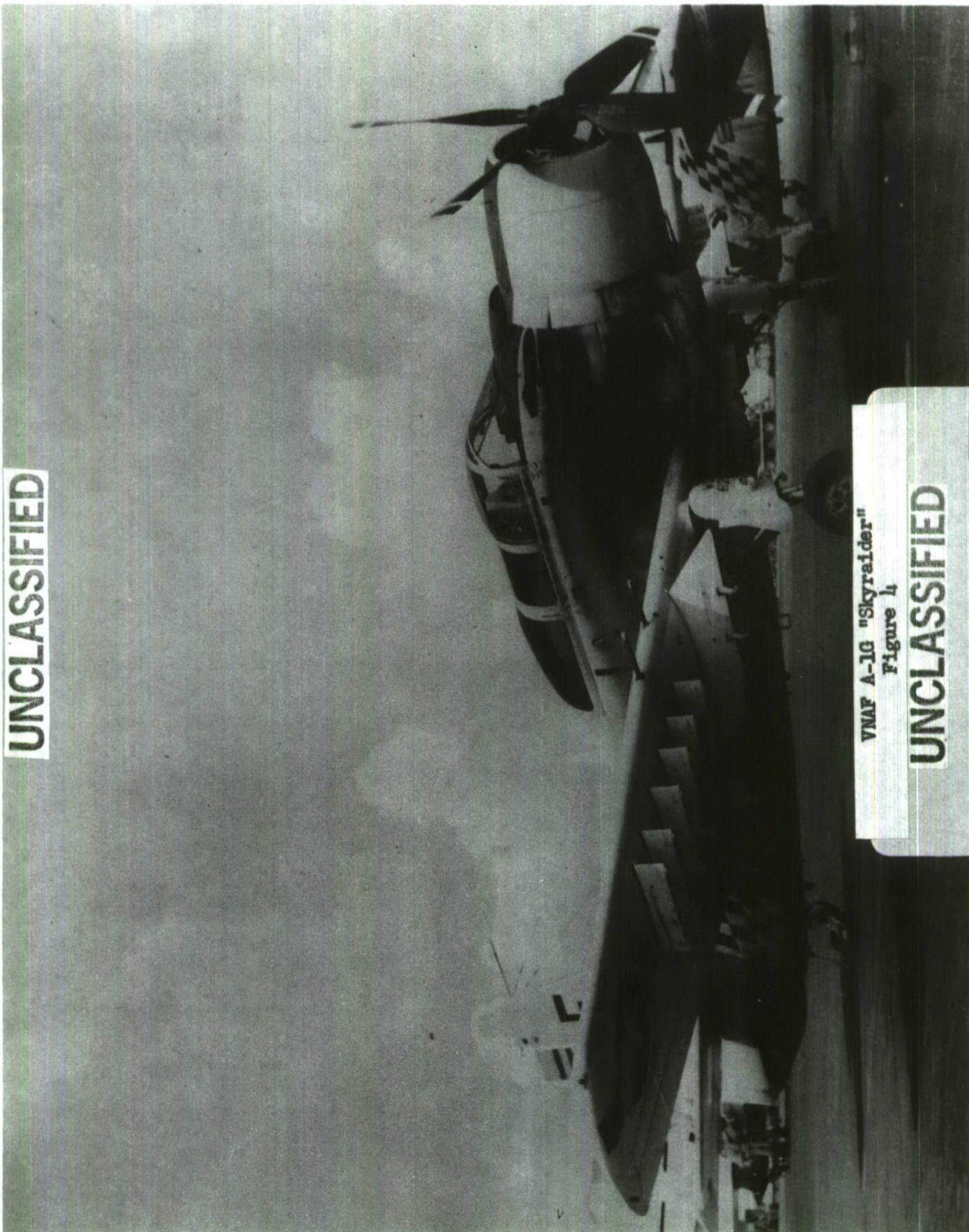
aircraft inventory in July, 1962, when the United States first became openly committed to the rapid build-up of forces in Vietnam.^{32/}

Organization of principal VNAF base facilities also began to assume a more recognizable modern structure during the 1962-1965 period. By 1964, the VNAF had established four basic tactical wings with one at each base within each Corps Tactical Zone. These wings were located at Da Nang, Pleiku, Bien Hoa, and Can Tho. In addition, there was a reconnaissance-transport wing at Tan Son Nhut,^{33/} and the Air Training Center at Nha Trang. A new base near Can Tho (Binh Thuy) was under construction in March, 1964, and there was extensive reconstruction under way at Da Nang.^{34/} In the following year the 62d Wing moved from Pleiku to Nha Trang,^{35/} operational helicopter and fighter units were moved to the new base at Binh Thuy in the Mekong Delta country during the August-December months after undergoing activation and operational training elsewhere,^{36/} and the 33d Combat Wing was activated at Tan Son Nhut Air Base,^{37/} thus bringing VNAF up to its present five operational wings.

Operations and Command-Control

VNAF air operations in the period 1962-1965 expanded in intensity, number, scope of targets selected, and nature of specific missions. In the early stages of the era, the VNAF stood virtually alone in meeting the problem imposed by North Vietnamese aggression. However, as the war intensified, joint missions with USAF aircraft and the number of independent sorties both increased. The proliferation of specific roles was reflected in the diversification and growth of the aircraft inventory discussed previously. As could be expected, there were perplexing problems in the operations

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VNAF A-1G "Skyraider"
Figure 4

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VNAF A-1G "Skyraider" (Armed)
Figure 5

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area, the foremost of which was the need to improve VNAF responsiveness to the call of ARVN units for air support. An effective command and control system remained one of the great operational problems of the period, although steps were taken to develop a modern, coordinated, and effective system.

Before USAF aircraft arrived in the RVN, the VNAF carried the entire combat, liaison, and forward air control load, averaging about 2,200 sorties per month as late as the beginning months of 1963.^{38/} Under Operation FARM-GATE, instituted in late 1961 to train the VNAF in improving their operational capability,^{39/} joint VNAF-USAF combat sorties amounted to a total of 2,500 out of some 7,000 overall such missions (35 percent) during the first six months of 1962, while in the same period the VNAF also flew 1,900 interdiction missions.^{40/} Examples of these joint operations occurred in May and September, 1962. In the first case, B-26, AD-6, and T-28 aircraft flew 28 napalm and other strike sorties in the southern portion of I Corps, destroying a Viet Cong assembly area and an active radio installation.^{41/} In September, ten VNAF T-28's and an equal number of H-34's participated in another joint operation with the USAF in I Corps. A total of 79 sorties were flown in this combined operation.^{42/} Joint exercises under FARMGATE accounted for about 38 percent of the Viet Cong killed in the first eight months of 1963.^{43/} During 1963, VNAF/USAF units flew 2,388 escort missions for trains and VNAF C-47's also joined USAF C-123's for flare illumination missions every night, beginning in June.^{44/}

Numbers of sorties and total flying hours also showed a healthy increase, especially toward the end of the period. They are important indications of

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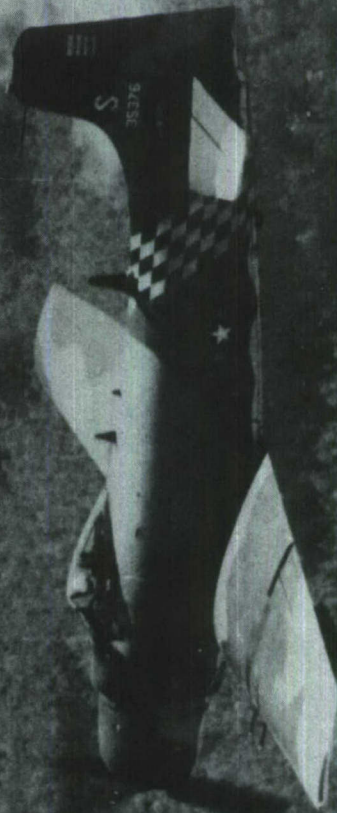
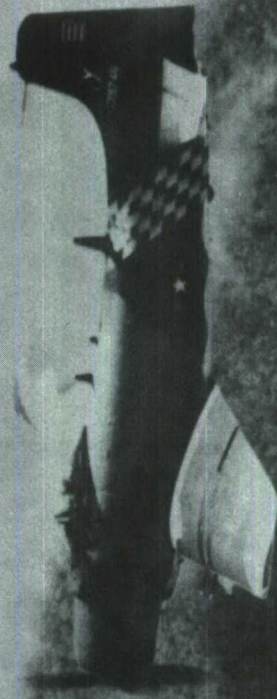
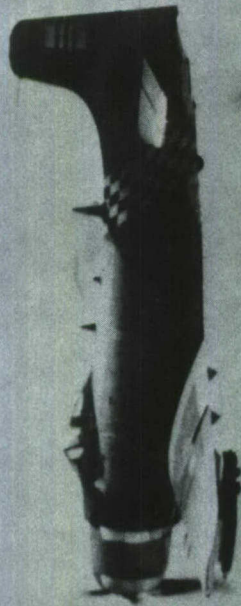
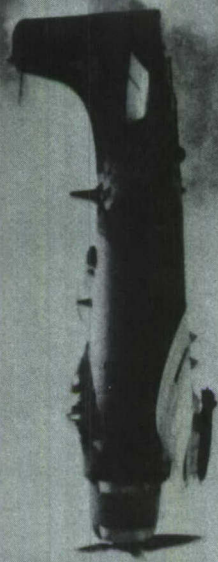
the total operational performance of the VNAF during this phase. In calendar year 1964, for example, VNAF fighter pilots flew 14,251 sorties for a total of 24,139 operational hours, an average of 281 hours and 166 sorties per pilot during the year. During the next year these figures increased to 65,349 operational hours and 3,238 sorties with each pilot averaging 454 hours and 231 sorties for the year.^{45/} This amounts to sorties actually flown on two of every three days during the year. One must remember that this increase was also accomplished in the very period when the VNAF had the problem of training enough A-1 pilots to meet the expansion and conversion of its wings. This training began in May, 1964, yet the number of A-1 sorties rose from 145 in June to 324 in December while flying hours for that aircraft increased from 1,616 to 3,278 in the same time period.^{46/} Although there were problems in other areas, especially helicopters retraining from the H-19 aircraft,^{47/} the VNAF had no problem in picking up their operational performance. By 1965, the VNAF flew a grand total of 118,120 operational sorties^{48/} and its monthly flying hours increased from 14,142 (January) to 19,564 (December).^{49/}

Two particularly important operational achievements took place during the period 1962-1965: the first VNAF raids into North Vietnam and the recognition of the outstanding performance of the 23d Wing at Bien Hoa.

On 8 February 1965, VNAF pilots, led by Air Vice Marshal Ky, mounted their "first multi-plane bombing attack on North Vietnam." Ky, who had in the earlier period of April, 1961-July, 1962 similarly led a series of C-47 night missions to the area above Hanoi to drop sabotage teams charged with

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VNAF A-1 FLIGHT
Figure 6

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blowing up roads, bridges, and power plants, now in early 1965 flew one of the lead A-1H fighters. He had with him a total of 24 aircraft, all A-1's organized into six flights of four planes each. Only the most experienced pilots in the VNAF accompanied Ky on this strike. The raid took off from Da Nang and was considered a success, reportedly destroying 90 percent of the Vinh-Linh military establishment. Although heavy antiaircraft fire was encountered on the strike and every plane was hit at least once, all but one succeeded in returning intact to Da Nang. Lt. Colonel Duong Thieu Hung bailed out of his stricken craft over the South China Sea but he was subsequently rescued by helicopter.^{50/} This significant military event, occurring only five months after Ky had thwarted the political coup d'etat by rebellious army generals, certainly enhanced his prestige and set the scene militarily for his assumption of the role of Premier in June, 1965. In addition, the daring strike over enemy territory at such a little loss of life must have contributed to the esprit de corps of the VNAF and certainly its unswerving loyalty for its leader.

In April of the same year, the 514th Tactical Fighter Squadron of the VNAF was awarded the Presidential Unit Citation from the United States. This act was intended to reward the squadron for its heroism and outstanding performance of duty against the enemy in the period 1 January 1964-28 February 1965.^{51/} It was an act of singular importance in the history of the VNAF for it enhanced the young service's prestige and demonstrated that its operational capabilities were fully recognized by the United States after nearly nine years of continuous military assistance.

[REDACTED]

Command and control continued to be one of the major operational problems affecting the performance of VNAF's strike mission throughout the period, although some improvements were made and steps were taken to alleviate the problem. The Joint Air Operations Command, established at Tan Son Nhut Air Base in 1961, was not functioning effectively in support of ground operations and requests from ARVN for close air support. Therefore, a Tactical Air Control System (TACS) was proposed in late 1961 to provide the structure for the proper employment of VNAF resources and to train the Vietnamese in the actual operation of the system so that eventually they could run it alone after U.S. forces withdrew. Deployment to the new Tactical Air Control Center (TACC) began on 1 January 1962 and the entire system was in operation fourteen days later. By April of that year, USAF Air Liaison Officers (ALOs) and Forward Air Controllers (FACs) had been assigned to Army Corps and Division levels to serve as air advisors until such time as the VNAF was ready to provide its own personnel at these echelons of command. ^{52/}

With the acceleration of the war effort in South Vietnam, increased U.S. participation, and the necessity for establishing close air support, the TACS came under close scrutiny in order to bring about certain modifications of the system to increase its effectiveness. By the end of 1964, there was some improvement in VNAF's air support responsiveness because of the increased number of air patrol missions, utilization of their own VNAF air request net in some areas to expedite passage of emergency requests for air support, and the encouragement of training for their own ALOs and FACs to operate with and in support of ARVN units. ^{53/} In the following year plans were made to

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bring about an expansion of the existing TACS to overcome its deficiencies. New masonry radar towers used by the system were completed at Pleiku in October, but supply and construction difficulties at Tan Son Nhut delayed completion of a radar site there.^{54/} Nevertheless, it was evident that the most serious weakness in the entire system was the lack of qualified VNAF personnel in key positions, especially at the ALO/FAC level, by the end of 1965.^{55/}

Problems

The sudden growth of the VNAF was not all a record of achievement. A variety of problems arose as the service grew and the degree of United States commitment increased during the period 1962-1965. Some of these difficulties were overcome during the era, but others were passed on to the modernization phase to follow. In fact, some of these problems, although improvements have been made, have not been completely resolved as of mid-summer, 1968.

One of the most pressing problems which arose during the years following 1962 was that of overcrowding on VNAF bases. The explosive expansion of U.S. military forces in the RVN intensified the problem already apparent because of the VNAF's growth. It was fortunate that the VNAF was in existence and had already begun its expansion before the U.S. increase began; or the problem could have been even worse. In most cases incoming U.S. forces and units tended to establish themselves around already-existing VNAF bases. As an example, there were, by 1966, over 24,000 military personnel at Tan Son Nhut alone and 400 aircraft there. The base was originally designed for fewer than

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4,000 personnel and 75 aircraft during the 1950's. There was no orderly planning in this dynamic phase of VNAF history. Organized base development and proper beddown of forces were neglected aspects of the overall problem. By 1955, the USAF emphasized that plans must be drawn up in conjunction with the VNAF for future base development to meet requirements of all users.^{56/}

Likewise, there were personnel, organizational, and leadership problems experienced by the VNAF. By 1965, this service was still being run at the squadron level. Higher levels of command were not functioning properly; there was little coordination and intermediary effort between the Headquarters and the squadrons; there were no command posts at wing and headquarters echelons; and, the rapid expansion of the force had left management skills dangerously thin.^{57/} This problem of leadership was accentuated after June, 1965, when it was noted that the VNAF seemed to suffer from a lack of positive direction since Air Vice Marshal Ky was "preoccupied with politics."^{58/} However, several field grade officers had shown promise as good future leaders. In addition, pilot proficiency in the VNAF ranged from "excellent" to "poor" and included a general lack of instrument capability. Finally, there were deficiencies in behind-the-lines support personnel and equipment,^{59/} probably reflecting such inadequacies as that of the Air Depot at Bien Hoa.

Although the USAF concept of specialized maintenance was introduced to the VNAF during 1965 and the shops and specialists were consolidated so that the entire command structure was reorganized,^{60/} there were still many maintenance problems at this stage of VNAF's historical experience. Aircraft

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maintenance personnel seemed to build up at a much slower pace than that of the operational sector. The result was a slight drop in the operational readiness rate during the period May-August, 1965.^{61/} Furthermore, there were no maintenance control centers.^{62/} The distribution of munitions was also a major problem since there was a shortage of bomb-handling equipment at all bases and access by road between bases and supply points was often hampered by enemy activity.^{63/}

In the operational area, in addition to the TACS problem noted above, there were difficulties created by a lack of communications facilities. Also, there was no reporting system, no way to analyze the effectiveness of the VNAF, no effective control over day-to-day operations, and very little meaningful emphasis upon safety. The preoccupation with combat operations left little time for essential training and instrument night flying.^{64/} Complaints about operational difficulties were directed particularly at the IV Corps area where the new base at Binh Thuy and squadrons were just getting started.^{65/}

The overly-rapid expansion of the VNAF in the period 1962-1965 helped to create some of the above problems. Yet the achievements in the same era were many. The conversion of aircraft, training of personnel in-country, increased operational capability, emergence of leaders to positions of national importance, beginning of VNAF raids over North Vietnam, and recognition of the outstanding performance of certain units within the VNAF, all should be considered before appraising the era as a whole. Certainly the service built esprit de corps, loyalty to its emerging leaders, and

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fundamental organizational concepts. Recognizing the fact that VNAF's
unprogrammed expansion lay behind it, Brig. Gen. Schinz concluded: ^{66/}

*"Now is the time to stabilize and professionalize the
force. When this is accomplished, we are obligated
to a program of modernization...."*

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33d Wing C-119
Aerial Drop of ARVN Troops
Figure 7

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CHAPTER III

MODERNIZATION OF THE VNAF, 1965-1968

Calendar year 1965 was an especially important transition period for the VNAF. It marked the end of the phenomenal expansive phase and the beginning of the modernization and professionalization program. This new emphasis came to dominate all aspects of the VNAF, including men, money, and materials. Controlled expansion became a facet of this modernization program, which reached into all areas of the maturing air service. Although the program has been underway for three years, it is obvious that certain achievements have already been made and problems have also appeared. Some of the latter were continuations of difficulties experienced in the preceding period; although solutions to some of these occurred, others continued to plague the VNAF by early summer, 1968. The modernization program uncovered, in addition, new problem areas. It must also be remembered that this program is a continuing one, with some plans projected now for the VNAF into the future as far as Fiscal Year (FY) 1973.

Modernization Program

Toward the end of 1965, plans were developed to begin the modernization of the VNAF while providing a greater degree of control over the expansion of the service. In October, 1965, the Commander of the 2d Air Division felt that the VNAF had progressed sufficiently to warrant its buildup and "orderly modernization."^{1/} This feeling and recommendation were concurred in by the Commander of the USAF Advisory Group, who pointed out that the VNAF "is a healthy child that needs to mature." He further emphasized that it suffered

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from growing pains and that in spite of its problems, the potential was there, for it was "well on its way to becoming one of the most efficient and effective Air Forces in the Far East." Money, time, and effort provided by the United States in support of the VNAF were wise investments in his estimation. Modernization over the next few years was an ambitious program, but the keys to it lay in emphasis upon training and joint use of bases, both of which would aid the VNAF in the operation of its facilities over the period following U.S. withdrawal.^{2/}

The basic aim of the modernization program was to make the VNAF a self-sufficient, combat ready service, capable of supporting the objectives of the government of the Republic of Vietnam. There were four principal areas delineated as the specific objectives of the program. First, there was to be a modernization of the aircraft inventory. Second, plans called for the overall expansion of VNAF resources and equipment to meet the needs of ARVN and especially in the general areas of increased ALO/FAC requirements as the war intensified. Third, the program stressed the need for establishing an effective AC&W net for air defense of RVN. Finally, there was to be an expansion and general improvement in the realm of communications.^{3/}

The modernization plan was approved by the Secretary of Defense in 1966. It was essentially the same as the proposal submitted by the USAF Advisory Group earlier and was predicated on the concept of self-sufficiency for the VNAF to assume all RVN missions upon withdrawal of allied air forces.^{4/} In September, 1966, it was noted that the costs for modernization amounted to \$122 million in a total program for the VNAF assistance amounting to

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\$453.7 million.^{5/} The overall cost of a three-year program devoted to modernization of the VNAF was estimated at \$320 million.^{6/}

One of the most significant aspects of the entire program was the modernization of the aircraft inventory. Undertaken to add higher performance fixed and rotary wing aircraft, it was also designed to expand the total inventory, especially in the helicopter resources of the VNAF.^{7/} In the fighter area, given special attention, it was decided first to convert two squadrons in central Vietnam to the F-5 "Freedom Fighter" jet aircraft so as to provide quick reaction capability either north or south for close air support and other tactical missions. This would allow the VNAF to assume air defense roles should the USAF ultimately be withdrawn. Although it was originally planned to have four squadrons of A-1 aircraft--one in each Corps area,^{8/} --these plans were subsequently modified in an overall reevaluation of the fighter capability. Therefore, it was finally decided to convert only one squadron to F-5's, three to the A-37 jet aircraft, and leave two with the A-1. In addition to the fighter program, helicopter, transport, and reconnaissance aircraft were to undergo considerable revision. Four of the existing five helicopter squadrons were to be converted beginning 1 June 1968, to the newer model UH-1. By March, 1968, thirty-nine pilots had completed the in-country check-out for the new helicopter and fifteen more were entering training every ninety days. VNAF's transport squadrons were to be reorganized in three ways: one squadron was to transition from the C-47 to the C-119 aircraft, another would adopt the AC-47 gunship, and a third was to remain with the present C-47 model. The one reconnaissance

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squadron located at Tan Son Nhut Air Base was to convert its RC-47's to RF-5's and retain its U-6A and EC-47 aircraft. Finally, a long-range plan through FY1973 called for considerable expansion in the helicopter area, predicated upon the absence of U.S. forces by that time; there were to be eleven more helicopter squadrons and one additional C-47 squadron.^{9/} By March 1968, the modernization program for the aircraft inventory resembled that shown in Fig. 8.

However, aircraft conversion and projected expansion of the VNAF were not the only aspects of the modernization program. Professionalization was to be emphasized at all levels also. This area included extensive training throughout the VNAF, publication of manuals for all aircrew operations, formalization of command post procedures, development of instrument flying capability, and construction of adequate communications and electronics facilities.^{10/} Since the rapid expansion of the preceding three years had diluted the numbers of available skilled technicians and leaders to meet the increased demands of the VNAF, a professionalization program would include the establishment of a more effective command and control system, leadership training in management and disciplinary responsibilities, and increased technical capabilities to provide the skill levels needed by a modern air force.^{11/}

Organization and Personnel

VNAF organization during the period 1965-1968 assumed a normal, functional chain-of-command status. New staff agencies were created at the headquarters level, new functions were established within the service, and

[REDACTED]

MODERNIZATION OF VNAF AIRCRAFT

CONVERSION

<u>Type of Aircraft</u>	<u>Former Model</u>	<u>Converted Model</u>	<u>Time Sequence</u>
Fighter	6 squadrons A-1	1 squadron to F-5	FY4/67 (Completed)
		1 squadron to A-37	FY2/69
		1 squadron to A-37	FY3/69
		1 squadron to A-37	FY4/69
		2 squadrons remain A-1	
Helicopter	5 squadrons H-34	2 squadrons to UH-1	FY69
		2 squadrons to UH-1	FY70
		1 squadron remain H-34	
Transport	3 squadrons C-47	1 squadron to C-119	FY3/68 (Completed)
		1 squadron to AC-47	FY3/68 (Completed)
		1 squadron remain C-47	
Reconnaissance	1 squadron U-6A, EC-47, RC-47	1 RC-47 to 2 RF-5	FY71
		1 RC-47 to 2 RF-5	FY72
		1 RC-47 to 2 RF-5	FY73

EXPANSION

4 squadrons UH-1 (UE 31 each)	124 aircraft	FY70
4 squadrons UH-1 (UE 31 each)	124 aircraft	FY71
3 squadrons UH-1 (UE 31 each)	93 aircraft	FY72
1 squadron C-47 (UE 16)	16 aircraft	FY72
TOTAL	357 aircraft	

FIGURE 8

[REDACTED]

[REDACTED]

outlying bases and units were consolidated so that their relationship to the overall commander of VNAF was delineated clearly. Figure 9 illustrates the present organizational structure of the VNAF.

Directly under the Commander, VNAF, were the subordinate units: five operational wings--the 23d at Bien Hoa, 33d at Tan Son Nhut, 41st at Da Nang, 62d at Nha Trang, and 74th at Binh Thuy--an Air Base Support unit at Pleiku, the Air Logistics Wing at Bien Hoa, and the Air Training Center in Nha Trang. In addition, staff functions were regularized with the Deputy Chief of Staff (DCS) System. Five of these were given special places in the VNAF Headquarters--Personnel, Operations, Materiel, Political Warfare, and Communications and Electronics. Six assistants were also established, including those for training, inspection, finance, safety, legal, and surgeon's activities.^{12/}

New agencies and sub-offices of other elements were apparent throughout the period. The increasing emphasis upon political warfare in Vietnam led to the establishment of a full directorate charged with the administration of psychological operations, civic action, internal social service plans, and public information as well as better community relations. Specific goals in this area included increased participation of aerial psychological operations, more attention to civic action programs, and an improved press relationship between the VNAF and the news media. Social services such as cooperative commissaries and libraries for each base were stressed also. Briefings, press kits, and unit news releases were developed to improve the VNAF's formerly unfavorable position vis-a-vis the public press.^{13/} An internal investigation function similar to the Office of Special Investigation

[REDACTED]

was also created within Headquarters VNAF and a Special Protection Unit was detailed to furnish personal guardianship over Air Vice Marshal Ky. With two basic projects, known as FASTBACK and BEST FOOT II, in 1966, the training of personnel for these functions was undertaken in-country largely by an MTT composed of ten USAF highly-trained agents who also aided in the procurement of technical equipment for the VNAF. Detachments were established at each base, a Basic Investigator's School was begun at Tan Son Nhut, and detachment commanders were sent to the United States for special training. BEST FOOT II concentrated on the training of four men as bodyguards for Premier/VNAF Commander Ky and his family.^{14/} Finally, an Air Intelligence capability, characterized by an increased staff, a training program, and the creation of new activities, was also developed to improve overall combat support within the VNAF.^{15/}

Of special note was the rapid improvement of the Air Training Center at Nha Trang in the period June, 1967 through the same month of the following year. Most of the training of VNAF personnel in 1963 was accomplished through the expensive process of sending them to the United States. In-country training was stressed by 1965-1966, particularly at the ATC. Yearly in-country training had increased by about 500 percent since 1963 and there were over 8,000 men trained in FY 1966 by either OJT or formal courses.^{16/} Although there was some retrogression in this program during FY 1967, this decline was reversed in the next fiscal year with the assignment of an experienced, forceful, intelligent commander at ATC and the support of the headquarters for the training function.^{17/}

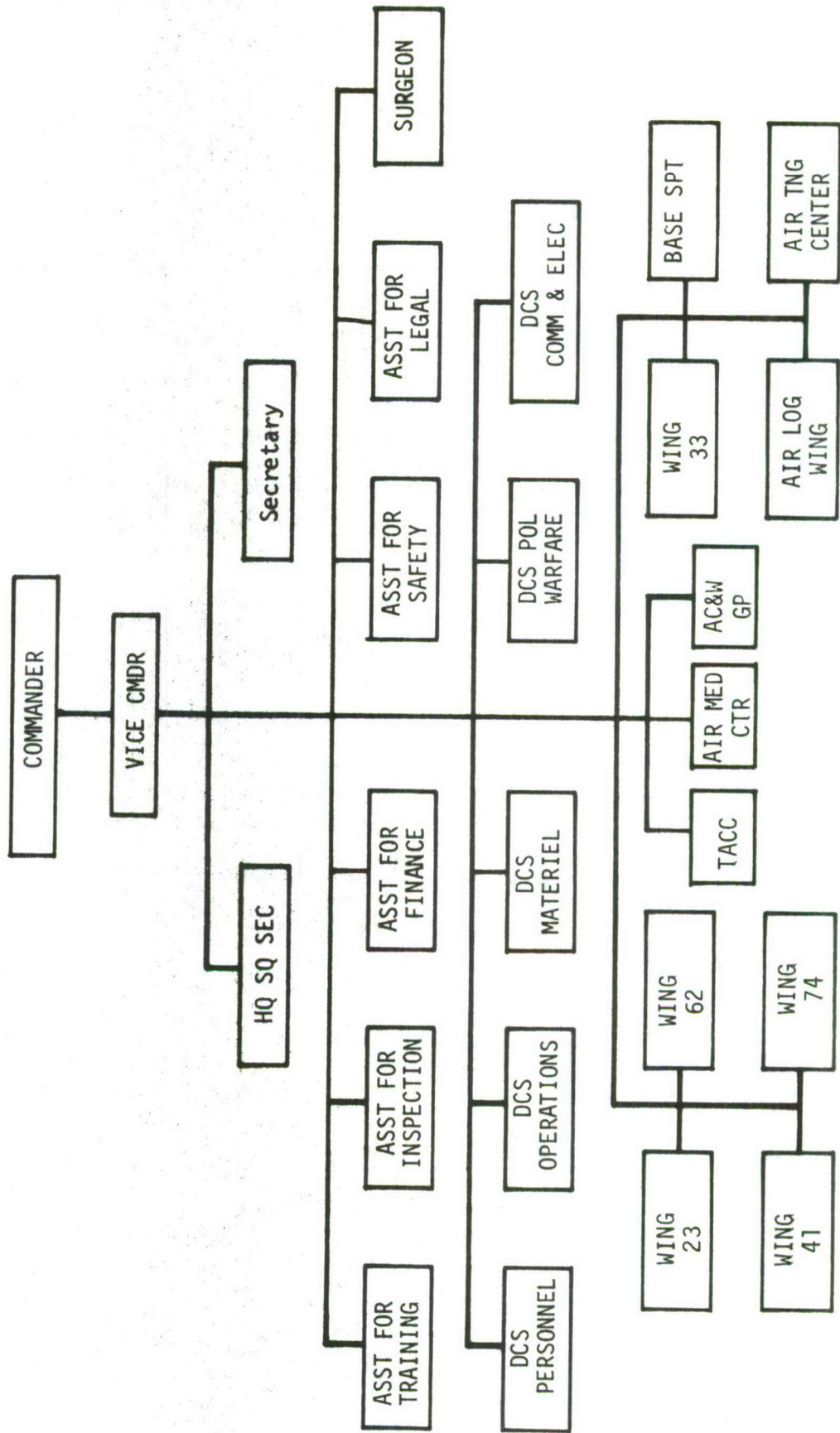



FIGURE 9

[REDACTED]

The resulting better quantity and quality of the training program at ATC merits more detailed analysis of what has actually been done at the center over the past year. Colonel Nguyen Ngoc Oanh, who had a previous tour commanding the ATC in its infancy, when he was a major in the mid-1950's, was appointed Commander, Air Training Center, in June, 1967. His accomplishments over the next twelve months were little short of amazing. Forward-looking, restless, and an intelligent planner, he never slackened his efforts to bring about a true professional attitude within the VNAF through emphasis upon a sound training program. Colonel Oanh's initial actions were directed toward improving the morale and welfare of his people, his students, and the permanent party located at Nha Trang. Emphasis was placed on getting the job done and self-help projects to expedite the overall improvement of the entire facility. These activities ranged from improved family housing to all sorts of student facilities. USAF assistance was provided in an advisory capacity and as an aid in procuring materials and supplies.^{18/} A complete list of these projects (observed everywhere on the ATC site) as of 23 June 1968 includes the following:^{19/}

- Construction of a Buddhist temple.
- Street lights for parking areas.
- Street signs.
- Rehabilitation of old mess hall to establish cadet recreation area.
- Chain link fences around pumps.
- Work shop for the Language School.
- Commissary.
- Lounge for the Flying School.
- New Catholic Chapel.
- Street lights for all roads.
- Furniture for mess hall.
- Classrooms for A-37 MTD program.
- Painting of steel barracks.

- 
- Open mess facility for officers.
 - Water system and digging of three wells.
 - Electric power for dependent quarters.
 - Chain link fence for Flying School.
 - Home for Buddhist chaplain.
 - Repair of sewage system.
 - Repair of steel barracks.
 - Water system for old area.
 - Wash rooms in new mess halls.
 - Small arms range (still to be built).
 - Administrative building.

In addition to the above local improvements, Colonel Oanh accomplished a thorough study defining the center's mission, capabilities, and problem areas, which was then presented to the Acting Commander of the VNAF for his approval and support. ^{20/} The mission of the ATC was clearly depicted as devoted to providing military, technical, and flying in-country training for officers and airmen. ^{21/} Training was to be divided into two basic programs-- the cadet program and subsequent commissioning of officers, and the airmen-recruit program, followed up by formal courses in enlisted specialties. Cadets now receive basic training at the ATC for four months and then have three options over the next nine months: some go into the Flying School at Nha Trang in preparation for becoming observers or liaison pilots; others go to advanced flying training in the United States; and still others continue in some technical training program right at the center. Basic courses for airmen are now conducted at the ATC after recruit training and before being sent directly to the wings. After two years these airmen return to the ATC for more formal training and upgrading in the specialty areas before being returned to the operational wings. ^{22/}

There are now six basic schools at the Air Training Center. The oldest--



USAF A-37
Scheduled for 3 VNAF Squadrons FY 1969
Figure 10

UNCLASSIFIED

the Flying School--uses the twelve assigned U-17 aircraft to train two types of VNAF personnel: a regular (cadet) class of presently thirty-three students receiving 290 hours of ground school and 146 hours of flying over a period of 137 days; and a special class for six observers at present (all have over 2,000 flying hours) who receive 155 hours of ground school and 110 hours of flying before becoming liaison pilots.^{23/} All advanced flying instruction is conducted elsewhere, although a USAF MTT began work in June, 1968, at the ATC itself to train maintenance personnel within the VNAF for work on the A-37 aircraft programmed for three of VNAF's squadrons in FY 1969.

The Military Training School conducts training for as many as 400 students (cadets and recruits) in two classes; one of 16 weeks for cadets and one of eight weeks for recruits. The English Language School can handle as many as 320 students at one time in three separate courses--basic, intermediate, and advanced--of varying lengths to prepare VNAF students for advanced flying or technical training in the United States. It has 124 laboratory positions as of the end of June, 1968, but only 94 are operational because of power difficulties being experienced throughout the ATC. The Technical School trains airmen in the Aircraft, Reciprocating Engine, Hydraulic Instrument, and Helicopter Mechanic fields. The Communications and Electronics School, with three new buildings and adequate laboratory equipment, and the General Services School (Food Service, Administration, Base Defense, Typing, Personnel) are the two newest schools in the ATC complex and they offer diversified courses of varying lengths.^{24/}

UNCLASSIFIED

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Personnel trained at ATC since its inauguration and first graduating class in the Flying School in 1952 amount to: ^{25/}

<u>School</u>	<u>Number</u>
Flying	1,086
Technical	2,015
Communications and Electronics	700
Military	11,216
Language	2,421
General Services	687
TOTAL	<u>18,125</u>

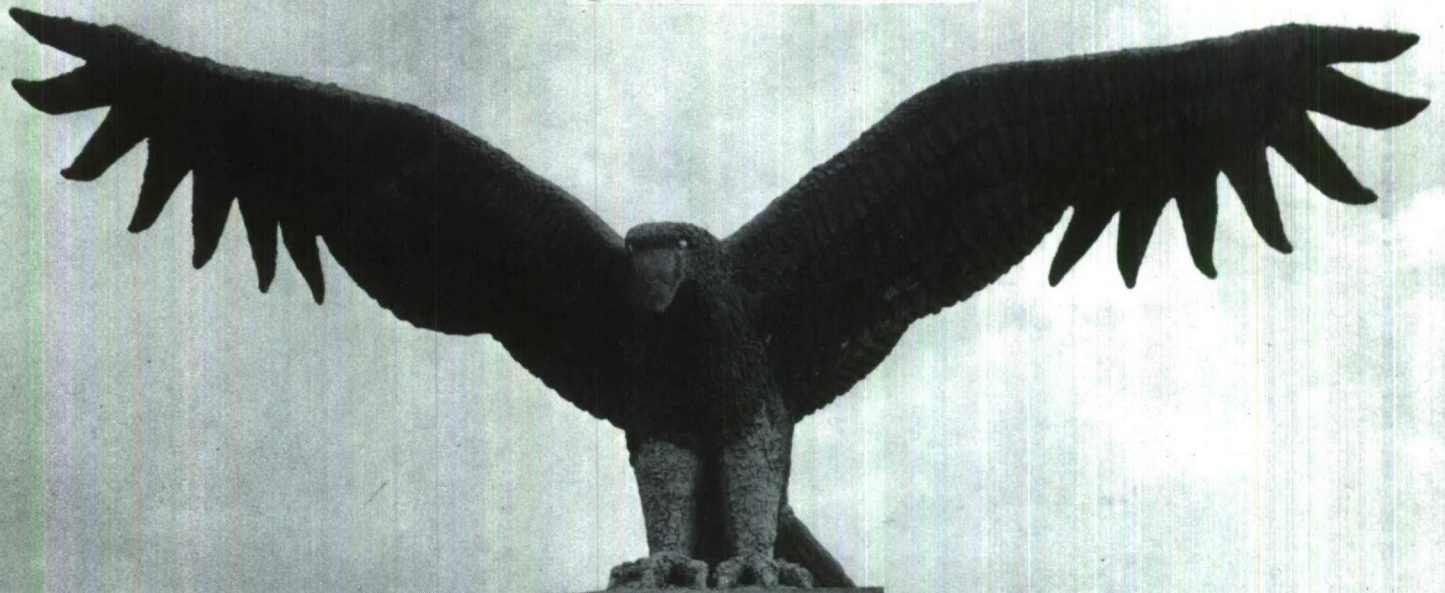
These figures may also be analyzed another way, by looking at the number of students in a chronological sense: ^{26/}

<u>Period</u>	<u>Number</u>
1952-1963	6,333
1964	3,044
1965	3,773
1966	3,480
1967	1,495 to September, 1967*

* Drop is due essentially to the fact that the ARVN conducted all recruit and NCO training this year.

The positive attitude at the ATC and the many improvements there have enabled the VNAF to overcome a major training problem since 1963. This has been accomplished at a base originally built by the French but allowed to go into a state of decline between the mid-1950's and 1967. Problems have been those of a physical variety and those imposed within the VNAF. Unsatisfactory sanitation and power supplies have been major difficulties. Success is evident today in the improved sanitation facilities and the general cleanliness of the base. However, the intermittent power supply is still a problem,

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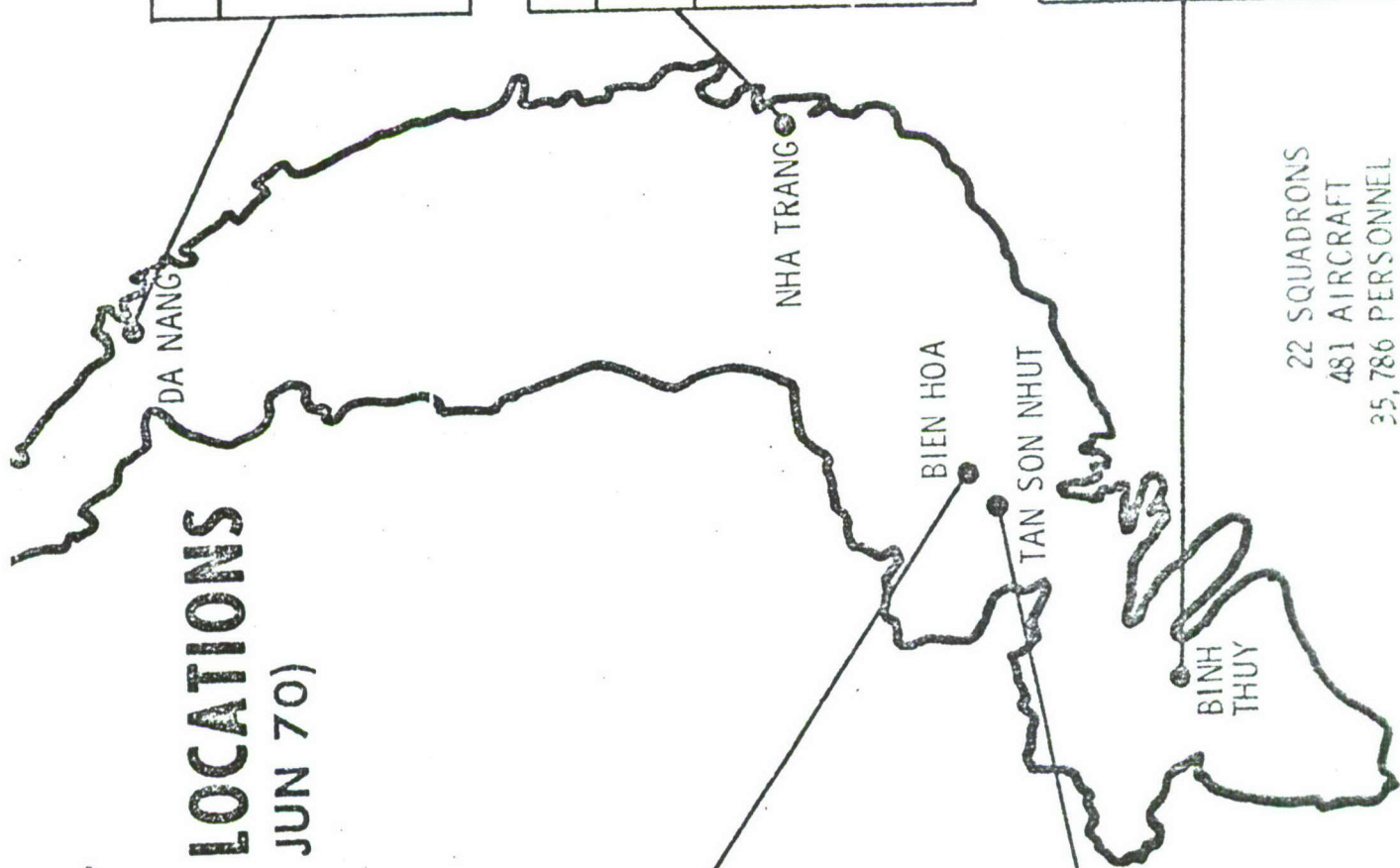


VNAF Cadets
Air Training Center, Nha Trang Air Base
Figure 11

UNCLASSIFIED

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VNAF BEDDOWN LOCATIONS (PRE-CRIMP 5 JUN 70)



41st WING	
516 -	18 A-37
110 -	20 O-1
213 -	5 U-17
219 -	31 UH-1
	25 H-34

AIR TRAINING CENTER	
12 SCH SQ - 18 T-41	
62nd WING	
524 -	18 A-37
114 -	20 O-1
215 -	5 U-17
	31 UH-1

74th WING	
520 -	18 A-37
116 -	20 O-1
122 -	5 U-17
211 -	10 O-1
217 -	31 UH-1
	31 UH-1

23rd WING	
522 -	18 F-5
518 -	18 A-1
514 -	24 A-1
112 -	30 O-1
	8 U-17

33rd WING	
415 -	16 C-47
817 -	16 AC-47
716 -	3 RC-47
	1 EC-47
	8 U-6
314 -	4 VC-47
	4 UH-1
	2 U-17
413 -	16 C-119

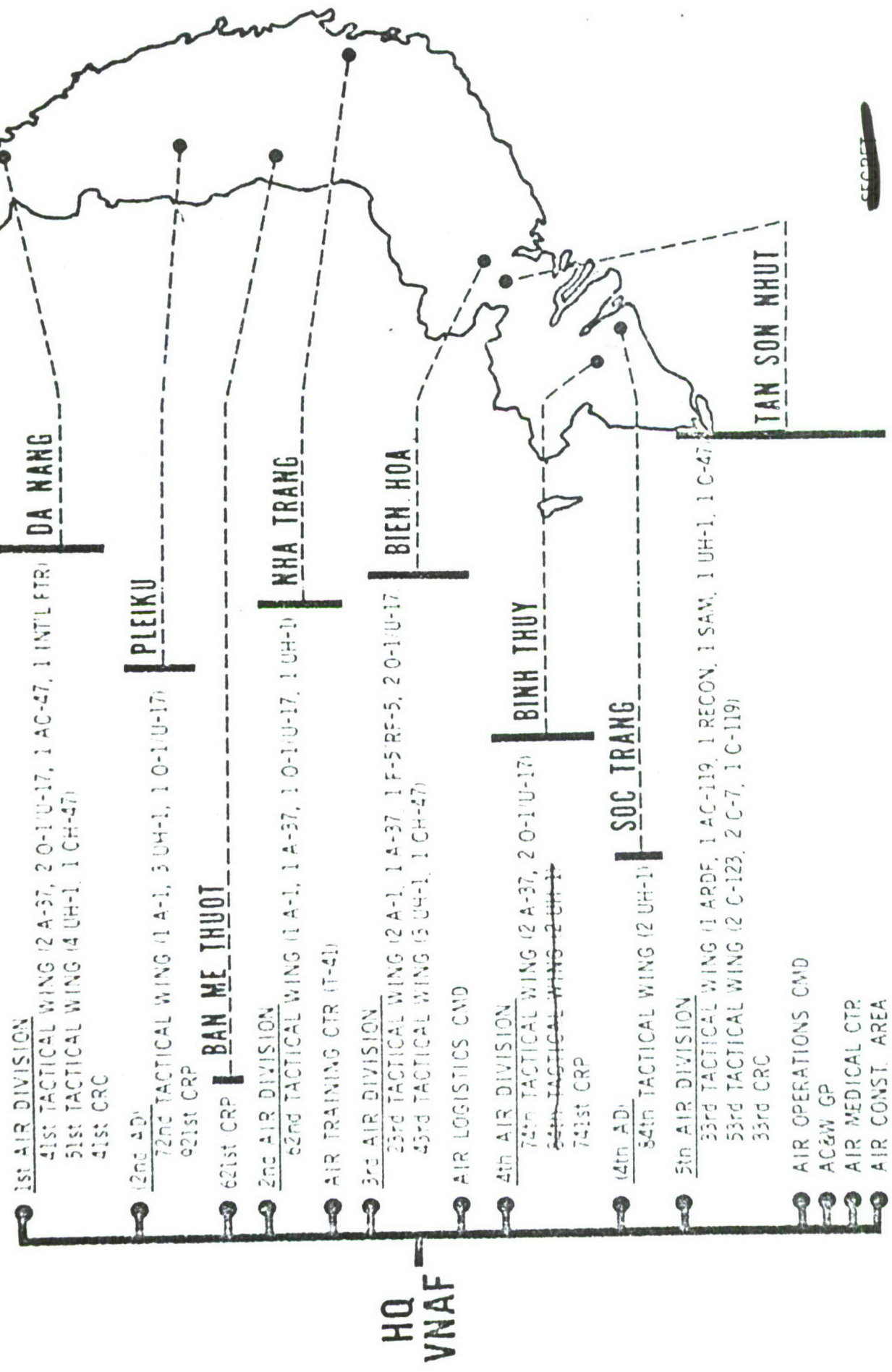
22 SQUADRONS
481 AIRCRAFT
35,786 PERSONNEL

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Feb 71

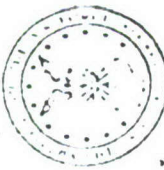
VNAF ORGANIZATION AND FUTURE BEDDOWN

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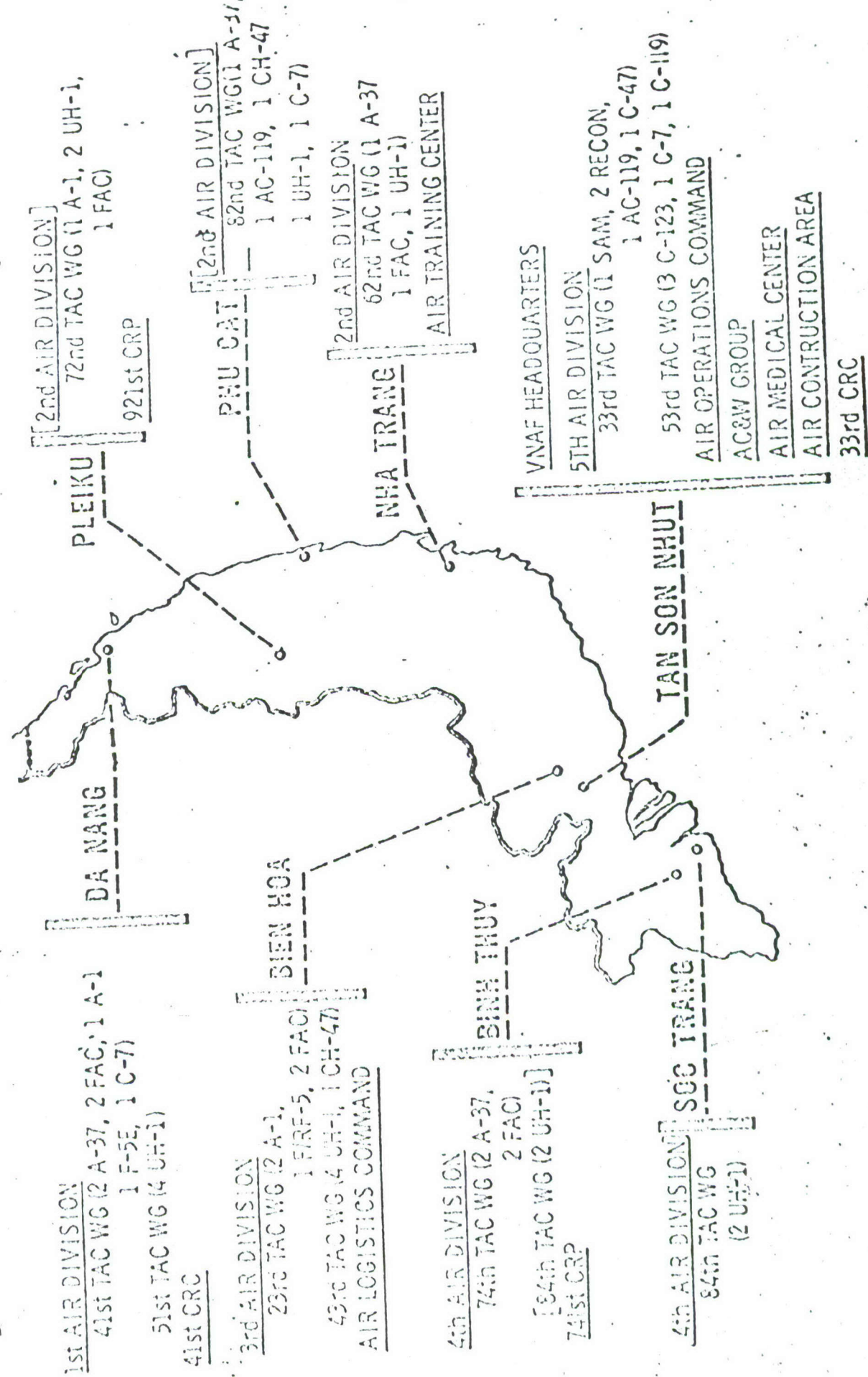


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May 72



VNAF ORGANIZATION AND PROGRAMMED BEDDOWN

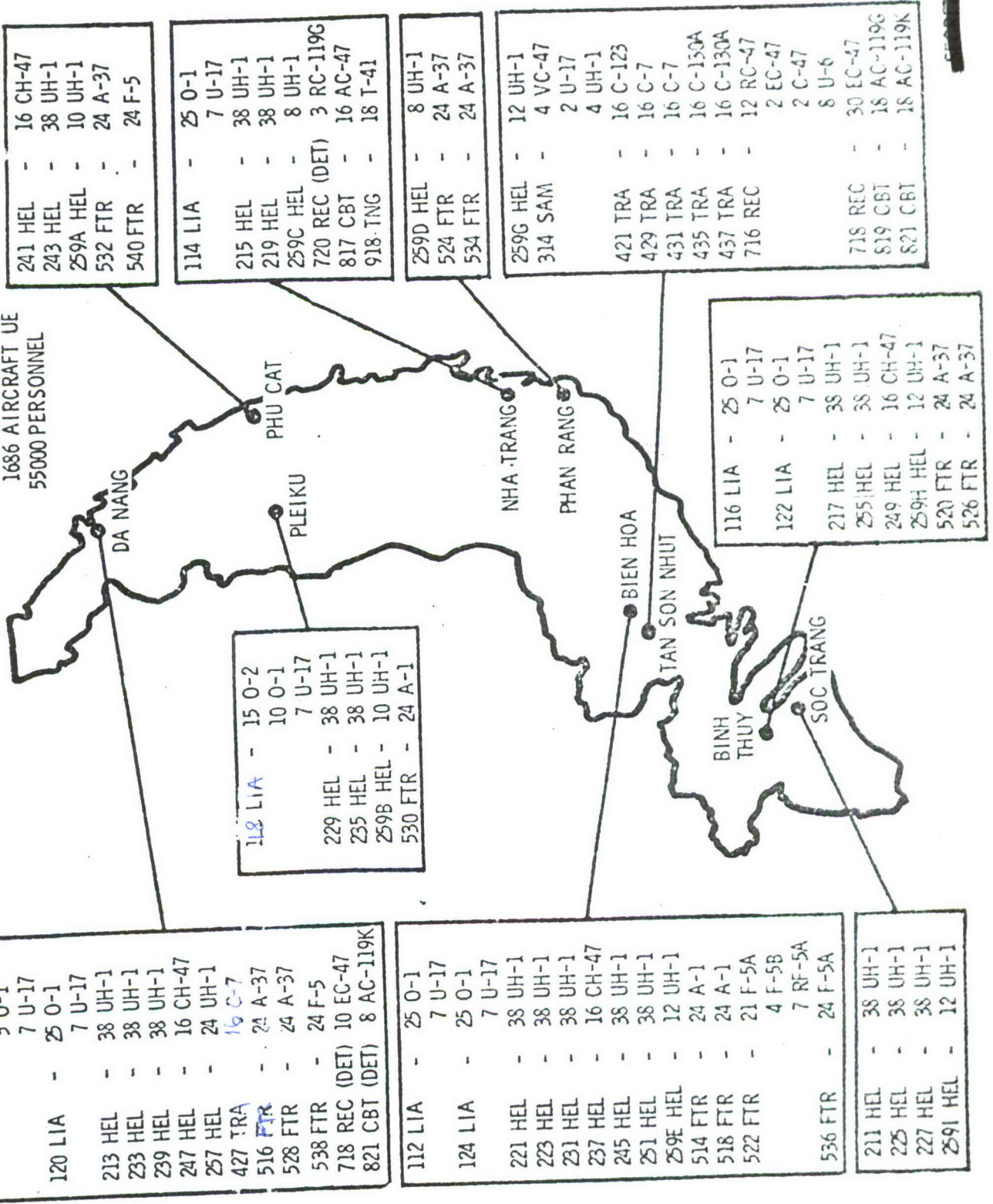


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VNAF BEDDOWN LOCATIONS

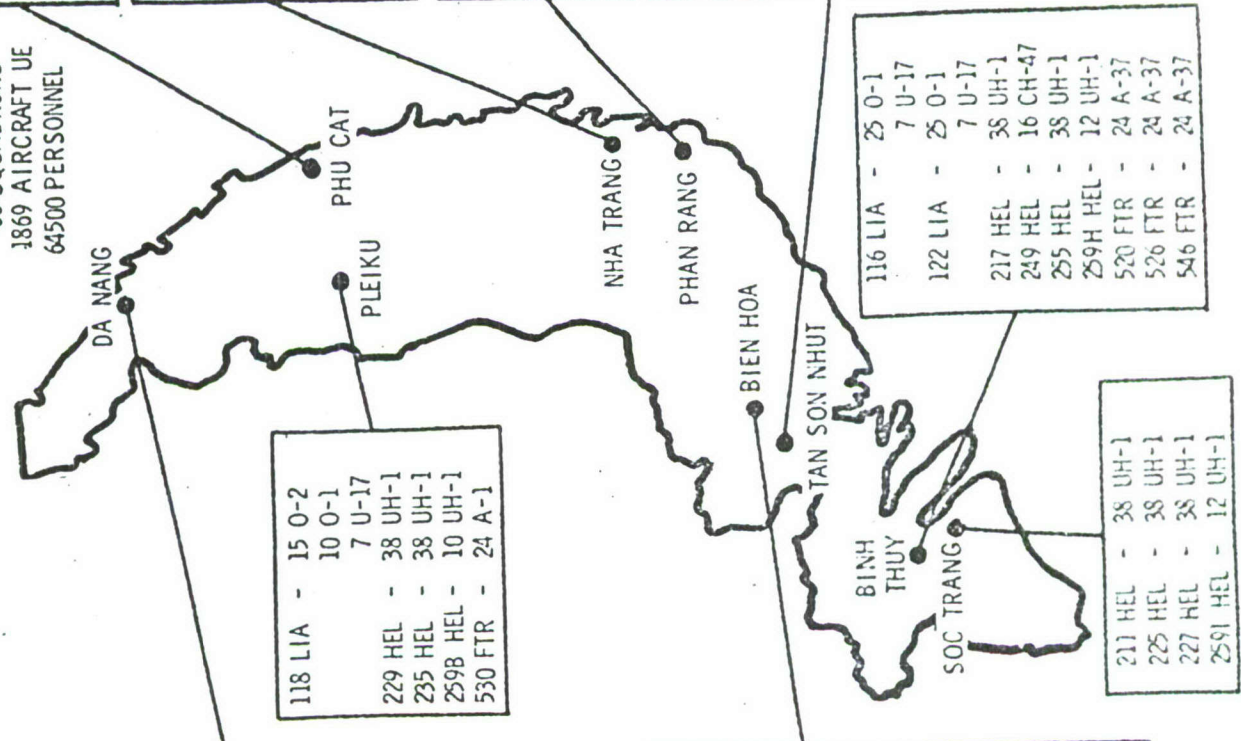
(APR 73)

59 SQUADRONS
1686 AIRCRAFT UE
55000 PERSONNEL



PROGRAMMED VNAF BEDDOWN LOCATIONS (END FY 74 FORCE)

66 SQUADRONS
1869 AIRCRAFT UE
64500 PERSONNEL



110 LIA	-	20 O-2
		5 O-1
		7 U-17
120 LIA	-	25 O-1
		7 U-17
213 HEL	-	38 UH-1
233 HEL	-	38 UH-1
239 HEL	-	38 UH-1
247 HEL	-	16 CH-47
257 HEL	-	24 UH-1
427 TRA	-	16 C-7
516 FTR	-	24 A-37
528 FTR	-	24 A-37
538 FTR	-	24 F-5A
550 FTR	-	24 A-37
718 REC (DET)	-	10 EC-47
821 CBT (DET)	-	8 AC-119K

118 LIA	-	15 O-2
		10 O-1
		7 U-17
229 HEL	-	38 UH-1
235 HEL	-	38 UH-1
2598 HEL	-	10 UH-1
530 FTR	-	24 A-1

112 LIA	-	25 O-1
		7 U-17
124 LIA	-	25 O-1
		7 U-17
221 HEL	-	38 UH-1
223 HEL	-	38 UH-1
231 HEL	-	38 UH-1
237 HEL	-	16 CH-47
245 HEL	-	38 UH-1
251 HEL	-	38 UH-1
259E HEL	-	12 UH-1
514 FTR	-	24 A-1
518 FTR	-	24 A-1
522 FTR	-	21 F-5A
		4 F-5B
		7 RF-5A
536 FTR	-	24 F-5A
542 FTR	-	24 F-5A
544 FTR	-	24 F-5A

241 HEL	-	16 CH-47
243 HEL	-	38 UH-1
259A HEL	-	10 UH-1
532 FTR	-	24 A-37
540 FTR	-	24 F-5A

114 LIA	-	25 O-1
		7 U-17
215 HEL	-	38 UH-1
219 HEL	-	38 UH-1
253 HEL	-	38 UH-1
259C HEL	-	8 UH-1
720 REC (DET)	-	3 RC-119G
817 CBT	-	16 AC-47
918 TNG	-	18 T-41

259D HEL	-	8 UH-1
524 FTR	-	24 A-37
534 FTR	-	24 A-37
548 FTR	-	24 A-37
920 TNG	-	21 T-37
		8 UH-1

259G HEL	-	12 UH-1
314 SAM	-	4 VC-47
		2 U-17
		4 UH-1
429 TRA	-	16 C-7
431 TRA	-	16 C-7
435 TRA	-	16 C-130A
437 TRA	-	16 C-130A
716 REC	-	12 RC-47
		2 EC-47
		2 C-47
		8 U-6
718 REC	-	30 EC-47
720 REC	-	9 RC-119L
819 CBT	-	18 AC-119G
821 CBT	-	10 AC-119K

116 LIA	-	25 O-1
		7 U-17
122 LIA	-	25 O-1
		7 U-17
217 HEL	-	38 UH-1
249 HEL	-	16 CH-47
255 HEL	-	38 UH-1
259H HEL	-	12 UH-1
520 FTR	-	24 A-37
526 FTR	-	24 A-37
546 FTR	-	24 A-37

211 HEL	-	38 UH-1
225 HEL	-	38 UH-1
227 HEL	-	38 UH-1
259I HEL	-	12 UH-1

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VNAF FORCE STRUCTURE

MISSION	TYPE ACFT	1 FEB 73		FY 4/73 (JUN)		FY 3/74 (MAR)	
		SQS (UE)		SQS (UE)		SQS (UE)	
Attack (Fighter)	F-5A/B	2 (45/4)	2 (45/4)	6 (141/4)	6 (141/4)	6 (141/4)	6 (141/4)
	A-37	7 (168)	7 (168)	10 (240)	10 (240)	10 (240)	10 (240)
	A-1	3 (72)	3 (72)	3 (72)	3 (72)	3 (72)	3 (72)
Attack (Gunship)	AC-47	1 (16)	1 (16)	1 (16)	1 (16)	1 (16)	1 (16)
	AC-119G	1 (18)	1 (18)	1 (18)	1 (18)	1 (18)	1 (18)
	AC-119K	1 (18)	1 (18)	1 (18)	1 (18)	1 (18)	1 (18)
Assault/Attack (Helicopter)	UH-1	16 (528)	16 (528)	21 (830)	21 (830)	21 (830)	21 (830)
Forward Air Control (FAC)	O-1/O-2/U-17	8 (200/0/56)	8 (200/0/56)	8 (165/35/56)	8 (165/35/56)	8 (165/35/56)	8 (165/35/56)
Reconnaissance	RF-5/RC-47/EC-47/U-6/C-47	1 (7/12/2/8/2)	1 (7/12/2/8/2)	1 (7/12/2/8/2)	1 (7/12/2/8/2)	1 (7/12/2/8/2)	1 (7/12/2/8/2)
		2 (61)	2 (61)	2 (61)	2 (61)	2 (61)	2 (61)
	EC-47	1 (30)	1 (30)	1 (30)	1 (30)	1 (30)	1 (30)
Maritime Patrol	RC-119L					1 (12)	1 (12)
Airlift (Fixed & Rotary Wing)	C-130A	2 (32)	2 (32)	2 (32)	2 (32)	2 (32)	2 (32)
	C-123	1 (16)	1 (16)	3 (48)	3 (48)	3 (48)	3 (48)
	C-7	3 (48)	3 (48)	4 (64)	4 (64)	4 (64)	4 (64)
	CH-47	3 (48)	3 (48)	3 (48)	3 (48)	3 (48)	3 (48)
Airlift-SAM (Composite)	VC-47/U-17/UH-1	1 (4/2/4)	1 (4/2/4)	1 (4/2/4)	1 (4/2/4)	1 (4/2/4)	1 (4/2/4)
Training	T-41	1 (18)	1 (18)	1 (18)	1 (18)	1 (18)	1 (18)
	T-37/UH-1					1 (21/8)	1 (21/8)
TOTALS		52 (1358)*	52 (1358)*	64 (1828)	64 (1828)	66 (1869)	66 (1869)

*2071 aircraft (incl NOA and attrition) in VNAF inventory as of 27 Jan 73

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DOCUMENT TO ROLL INDEX

Frame Number	Classification Number	Date Period	Vol.	Pt.	Title
6	1019923	1969-1975			Dir of Plans, Pacific-East Asia Div
195	1019924	"			" " "
248	1019925	"			" " "
388	1019926	"			" " "
482	1019927	"			" " "
646	1019928	"			" " "
662	1019929	"			" " "
776	1019930	"			" " "
821	1019931	"			" " "
1045	1019932	"			" " "
1315	1019933	"			" " "
1513	1019934	"			" " "
1683	1019935	"			" " "
1850	1019936	"			" " "
1960	1019937	"			" " "
2059	INDEX				

[REDACTED]

although additional power lines have recently been strung. There are other problems of a man-made variety. Headquarters VNAF still does not pay sufficient attention to the capabilities of the center nor is there enough coordination between the headquarters and the center when yearly programs are planned. There is also a definite lack of instructors in some of the schools and there is a need to have all formal training within the VNAF focused at the ATC.^{27/} This is particularly true of the General Services School where coordination of VNAF Headquarters in scheduling courses is particularly poor, VNAF wings fail to support quotas established for courses, and there is unreasonable manning of the school (three officers and four airmen assigned against an authorization for seven officers and 26 airmen).^{28/}

In spite of these continued difficulties, the positive actions of the ATC Commander and his personnel have resulted in a much more professional attitude toward training. Indeed, the ATC is one of the brightest spots in the whole VNAF modernization program and in the general history of the service. Colonel Oanh has further plans to modernize the Flying School with assignment of more current types of aircraft, a complete flying training program, and in the long run the establishment of a Squadron Officer's School and an Air Command and Staff School at the ATC.^{29/} In recognition of the center's accomplishments, the Acting Commander of the VNAF recently presented to the ATC an award for the most outstanding improvement in the service during 1967.^{30/}

Personnel authorization and manning as a whole within the VNAF continued to increase during the 1965-1968 period. However, there were other areas in which the air arm also progressed, such as in personnel reporting, administrative practices, records keeping, awards and incentives, and incorporation of

[REDACTED]

women into non-combat duty assignments.

Between 31 December 1965 and 31 March 1968, VNAF's authorized personnel strength gradually increased from 12,546 to 15,687. Its assigned numbers of people also swelled from 12,976 on 31 December 1965 to 16,222 by March, 1968. Of this last total, 2,163 were officers (authorized 2,719) and 13,944 were airmen (authorized 12,968).^{31/} Intensive efforts were made in 1966 to have the VNAF adopt the USAF classification system, implement the Unit Manning Document (UMD) concept, and provide better strength accountability by adopting the USAF Morning Report Data Record. The high desertion rate of 40 per month in July, 1965, was cut in half by September of the next year, largely because of the concentrated effort to make punishments more severe. By the latter half of 1966, the VNAF had the "lowest desertion rate of all the armed forces" and that achievement has been maintained to the present.^{32/} Numbers of qualified pilots continued to increase despite combat losses. Between July, 1965 and September, 1966, there was a jump of 144 pilots to a total of 805 assigned in the inventory against an authorization of 943. This increase occurred in spite of the loss of 46 pilots killed or missing in action or killed in accidents during the same period.^{33/}

Two other developments in the personnel area deserve consideration. One concerns the award of U.S. decorations to members of the VNAF for heroism and outstanding performances. Three Distinguished Flying Crosses were awarded to members of the VNAF and five Air Medals were recommended in January, 1968,^{34/} as an example in this area. In March, three more Distinguished Flying Crosses and seven Air Medals were presented to VNAF personnel.^{35/} Not only were the

[REDACTED]

service's personnel decorated, but they were augmented by the assignment of Women's Armed Forces Corps personnel for non-combat duties within the VNAF beginning in December, 1965. Although not technically an official body of the VNAF (WAFC is under the control of the Joint General Staff, or JGS), some one hundred of these women are assigned to the air service and they are presently commanded by one female Second Lieutenant. They are assigned as of June, 1968, to VNAF wings, Headquarters VNAF, the Air Logistical Wing, and to ATC.^{36/}

Furthermore, the VNAF seems to have had no problem in recent years filling vacancies as they occur. The service received some 1,500 applications in November, 1967, to fill a December quota for one hundred non-flying officers, although the high number of applicants was probably affected by the scheduled general draft increase announced for 1 January 1968.^{37/} Through February, 1968, some 222 of the 1,296 men being recalled from reserve status had reported to VNAF wings for processing,^{38/} but the service had authority from the JGS to recruit 1,827 personnel, including 520 officers, to support the conversion/expansion program. In the recruiting period of 22-26 April 1968, VNAF had 1,100 officer and 3,700 enlisted applicants to fill these quotas.^{39/} The proposed expansion of the helicopter squadrons and other functions based on future self-sufficiency for the VNAF called for an increase of 3,243 persons in FY 1969 (1,752 for the helicopter force, 213 in aircraft maintenance, 281 AC&W personnel, 137 ALO's/FAC's, 110 communications specialists, and 750 pipeline), and 1,877 more in FY 1970 (1,752 in helicopter operations and 125 in communications). This would lead to a projected strength of VNAF

[REDACTED]

of 21,568 in FY 1970,^{40/} and ultimately would reach forty-four squadrons and 36,850 personnel by FY 1974; on the basis that this would be after United States forces are withdrawn.^{41/}

Today (30 June 1968), the VNAF is still an all-volunteer service. Recruits report to any of four recruiting centers--Can Tho, Tan Son Nhut, Nha Trang, and Da Nang--and take a screening test which is then scored at Tan Son Nhut. Once this requirement has been met, they take physical examinations.^{42/} Basic requirements for service in the VNAF at present are:^{43/}

- Vietnamese citizenship.
- Minimum age of seventeen for airmen and eighteen for those entering as cadets.
- Maximum age of twenty-five for those going to flying training and thirty for non-flying.
- No criminal record.
- A certificate of completion for "high school" (ninth grade) for airmen; a Baccalaureate I degree (eleventh grade) for those going to pilot training; and a Baccalaureate II (twelfth grade) for non-rated officer training.

If these qualifications are met and he passes the required psychological and physical tests, the recruit is then sent to basic training. This was conducted until recently (December, 1967) at an ARVN training base located at Lam Son, but after that date at the ATC in Nha Trang.^{44/} After two months of basic training (four for cadets) the recruit airman is given an aptitude test and enters technical training. Thereafter he is sent to a VNAF wing and entered into formal OJT for upgrading to the next higher skill level.^{45/}

As previously stated, cadets pursue one of three courses upon completing their four months of basic training. First, they may continue in observer or

[REDACTED]

liaison pilot training at the ATC; second, they may be sent to the United States for advanced pilot training (about 70 percent of the total in recent years); and third, they may pursue technical training in preparation for some non-rated assignment. All programs run about nine months, whereupon the cadet becomes an "aspirant", a sort of probationary status lasting about a year until receipt of the final commission as a Second Lieutenant.^{46/}

Pay is low even by Vietnamese standards. Family allowances vary according to the number of dependents and a cost of living allowance varies by district of assignment. Some representative average pay scales for VNAF personnel, computed in U.S. dollars, follow:^{47/}

<u>Grade</u>	<u>Base Pay</u>	<u>Family All.</u>	<u>Cost of Living</u>	<u>Total Pay</u>	<u>Flight Pay</u>
Lt. Colonel	\$ 77.30	\$ 12.46	\$ 48.87	\$ 134.63	\$ 26.08
Captain	56.44	11.82	46.22	114.48	26.08
1st Lieutenant	48.02	7.27	39.53	92.82	18.46
Tech. Sergeant	24.97	12.76	48.80	86.53	13.53
Airman First Class	18.98	9.02	38.02	66.02	10.89
Airman Basic	12.60	1.29	17.07	30.96	3.58

Finally, it should be noted that the VNAF has established two methods of obtaining Non-Commissioned Officers. One may be considered normal upgrading from A2C and A1C ranks with 5-level specialty qualifications. These men are hand-picked for NCO training at the ARVN NCO Academy at Quang Trung (seven weeks) and two weeks of VNAF orientation at Tan Son Nhut Air Base. The other is somewhat irregular since some NCO's are recruited directly because of their special qualifications. They are awarded by-pass specialties at the 5-level. Forty specialists of this type have been so recruited over the past two years.^{48/}

[REDACTED]

Leadership and Commanders

Since the expansion period (1962-1965) had been marked by such an explosive growth of the VNAF, there was a major leadership problem evident in the service by 1965. This difficulty was accentuated by the siphoning off of top leadership into positions of trust in the RVN government. This was especially true after Air Vice Marshal Ky became Premier of the nation in June, 1965. Management and leadership skills had indeed been "dangerously" diluted by that time.^{49/}

Yet, leadership potential developed among field grade officers in the period prior to 1965. Although only Ky had emerged at the national level, it is apparent that the background, training, and extensive experience of some VNAF officers, then in grade as Lieutenant Colonels or Majors, had prepared them for the demonstration of positive leadership qualities in the first three years of the modernization and professionalization program. Furthermore, the USAF made efforts to improve VNAF management practices and leadership qualities. A USAF Management Training Team gave instruction to key VNAF personnel and a Management and Analysis function was established within the USAF Advisory Group to provide VNAF assistance in this important area.^{50/}

One of the most important developments of the professionalization evident in the VNAF has been the emergence over the past three years of top quality leadership. The Commander of the USAF Advisory Group noted this as early as September, 1966.^{51/} An analysis of VNAF's key personnel and grade structures in the 1965-1968 period shows that there has been a gradual increase in rank from bottom to top. This young air arm did not create immediately a

[REDACTED]

grade structure out of line with its experience level. It was not top-heavy from the beginning but has been gradually promoting officers to senior ranks on an annual basis. A comparison of key personnel rosters over the last three years reflects this situation.^{52/}

	Number of Officers					
	<u>30Jun65</u>	<u>31Dec65</u>	<u>30Jun66</u>	<u>31Dec66</u>	<u>30Apr67</u>	<u>9May68</u>
Air Vice Marshal	1	1	1	1	1	1
Brigadier General	-	-	-	2	2	2
Colonel	3	4	3	2	1	12
Lt. Colonel	14	15	13	12	15	12
Major	37	46	36	38	36	39
Captain	16	25	30	23	22	17
1st Lieutenant	2	0	0	2	2	0
TOTAL	<u>73</u>	<u>91</u>	<u>83</u>	<u>80</u>	<u>79</u>	<u>83</u>

Biographical data has been compiled for many of these senior officers in an effort to determine the overall patterns of emerging leaders' backgrounds. In this analysis, data has been compiled for the Air Vice Marshal, two Major Generals, eleven Colonels, nine Lieutenant Colonels, twenty Majors, and five Captains, all occupying key positions in the service. In general, those officers serving in responsible positions were born during the early 1930's, some of them in what is today North Vietnam. Presently thirty-five to forty years of age, these officers have had extensive training and widely diversified assignments, including command assignments of major units at a very early age. Most are rated pilots or observers and obtained their flying training in France and Morocco. In addition, many have attended either the Squadron Officer's Course or the Air Command and Staff School in the United States. Usually they have had both command and staff experience (mostly in the operations field) before being promoted to the rank of Colonel and above.

[REDACTED]

Two-thirds of the Lieutenant Colonels considered in this study were born in the 1929-1932 era, indicating that they are about the same age as the Colonels above them. Over half of them are rated as pilots or observers, but liaison pilots predominate. Two-thirds of these officers also attended French pilot training and nearly half went to the Air Command and Staff School in the United States. Sixty percent of the Majors examined are rated pilots with fighter, liaison, transport, and helicopter pilots included in that quantitative order. Eighty percent of these officers were born in the period 1931-1934. Only about 45 percent of them received their flying training in France while 41 percent had pilot training in the United States. These officers also have had more opportunity to attend technical courses, many in non-rated specialties, in the Philippine Islands, at Okinawa, or in the Continental United States. Of the five Captains reviewed, three were pilots, primarily in liaison and fighter aircraft. Eighty percent of them were born in the 1932-1934 period. Only forty percent had flying training in France and an equal number did so in the United States. ^{53/}

From the above data, some general conclusions may be tentatively established. Age is not a factor in determining ultimate grade of the individual officer in the VNAF. An overwhelming majority of officers was born in the 1929-1934 time period and this is true for all grades. A pilot rating is a definite factor in the emergence of today's top leaders. Major Generals, Colonels, and Lieutenant Colonels have progressed largely because of French pilot training early in their careers, attendance at U.S. professional schools, and service in a wide variety of responsible, and principally operational,

[REDACTED]

positions. Majors are the transitional officers in the overall structure at present. They have mixed backgrounds--some with French pilot training, some with U.S. experience in this regard. Obviously, as younger officers progress upward in the overall rank structure of the VNAF, the officer corps will be more dependent on those trained in the United States or in the Air Training Center at Nha Trang than upon French experience as the senior officers now reflect.

It is worthwhile to take a fleeting glance at the careers of some of the VNAF leaders today. This is particularly true of Air Vice Marshal Ky, the Commander, Major General Tran Van Minh, some of the wing commanders, and a few Colonels in key positions. Therefore, a short summary of highlights for each of these selected individuals follows:^{54/}

Air Vice Marshal Nguyen Cao Ky

Born 8 September 1930 in a town about 15 miles from Hanoi. Married. Rated pilot. Qualified as C-47 transport pilot and A-1H fighter pilot. Came in military service in 1951 and commissioned in infantry in 1952. Fought with French and sent to pilot training at Marrakech, Morocco, and Avord and Blida in Algeria during 1954. Graduate of Thu Duc Reserve Officers' School, Air Command and Staff School (U.S.). Wide variety of assignments before becoming VNAF Commander in 1963. Although he has the reputation of a daring "fly boy", he has matured greatly in recent years and has come to realize his responsibilities. Despite his political concentration since 1965, Ky still undoubtedly has the loyalty of the air service behind him.

Major General Tran Van Minh

Commander, VNAF. Born 21 July 1932 in South Vietnam. Single. Rated pilot. Graduate of Thu Duc Reserve Officers' School in 1952, Observer Training at Nha Trang ATC in 1953, Jet Pilot Training in the United States (1958), Air Command and Staff School (1962), Advanced Management Seminar in VNAF Headquarters. Commanded 74th Fighter Wing, 62d Fighter Wing; Assistant Chief

[REDACTED]

of Operations Division; Chief of Air Battle Staff; Vice Commander of VNAF, 1965-1967. He is a professional officer, sincere and dedicated, but does not express any interest in politics.

Major General Nguyen Ngoc Loan

Former Director General of the National Police (Detached from the VNAF itself). Born 11 December 1930. Married. Pilot, qualified in fighters. Attended Thu Duc Reserve Officers' School, French pilot training, and United States Squadron Officer's Course. Has been Commander of TACC, Deputy Commander of VNAF, and Chief of Staff. Shot and wounded in Cholon during May, 1968 offensive with long recuperation period expected.

Colonel Nguyen Huy Anh

Commander, 74th Wing. Born 12 July 1934. Married. Rated pilot, qualified as both fighter and helicopter pilot. Attended French pilot training and Squadron Officer's Course in United States. Has commanded 1st Helicopter Squadron, 211th Wing, 24th Wing, and 62d Wing before present assignment.

Colonel Vo Xuan Lanh

Chief of Staff. Born 15 March 1931. Single. Pilot with qualification in fighter aircraft. Attended Thu Duc Reserve Officers' School, Nha Trang pilot training, United States pilot training, and Squadron Officer's Course. Deputy Commander of TACC, Commander of 514th Squadron, and Commander of 23d Wing before present assignment.

Colonel Duong Thieu Hung

Commander, 33d Wing. Born 15 September 1930 at Hanoi. Married. Pilot with qualification in fighter aircraft. Attended Nha Trang pilot training (first class there in 1952), and French advanced pilot training. Has been Commander of 1st Fighter and Observation Squadron, Deputy Commander and Commander of 41st Wing before present assignment.

[REDACTED]

Colonel Nguyen Ngoc Oanh

Commander, Air Training Center. Born 10 June 1925. Married. Pilot with qualifications in liaison and transport aircraft. Also has observer rating. Graduate of Dalat Military Academy, Nha Trang pilot training (first class there in 1952), advanced pilot training in France, Air Command and Staff School in the United States. Commander of 1st Observation Squadron, Chief of Inspection Section, DCS/Personnel, and twice Commander of ATC.

Colonel Vu Van Uoc

Commander, 62d Wing. Born 18 February 1930. Married. Pilot, qualified as liaison pilot and observer. Graduate of Nha Trang pilot training school (first class there in 1952) and Squadron Officer's School in the United States. Deputy Commander of the ATC, Deputy Commander of 41st Wing, and DCS/Operations before present assignment.

The above senior officers are only a few selected cases to illustrate the backgrounds of some of the emerging leaders of the VNAF. Four other rated pilots are detached from the VNAF at present--Colonels Ha Xuan Vinh, Tran Van Ho, Pham Ngoc Sang, and Le Trung Truc--to serve in a detached status for political positions in the RVN government or with the Joint General Staff. Others are occupying key staff positions at Headquarters, VNAF, Tan Son Nhut Air Base. ^{55/}

Aircraft and Facilities

Perhaps one of the most notable illustrations of the modernization program beginning in 1965 is the conversion of aircraft, especially in fighter, helicopter, and transport types. The rapid expansion of the aircraft inventory in the preceding era did not continue after 1965. In fact, the total inventory dropped from 393 on 31 December 1965 to 375 (against 397 authorized) on 31 March 1968. ^{56/} However, these figures by themselves would be misleading for

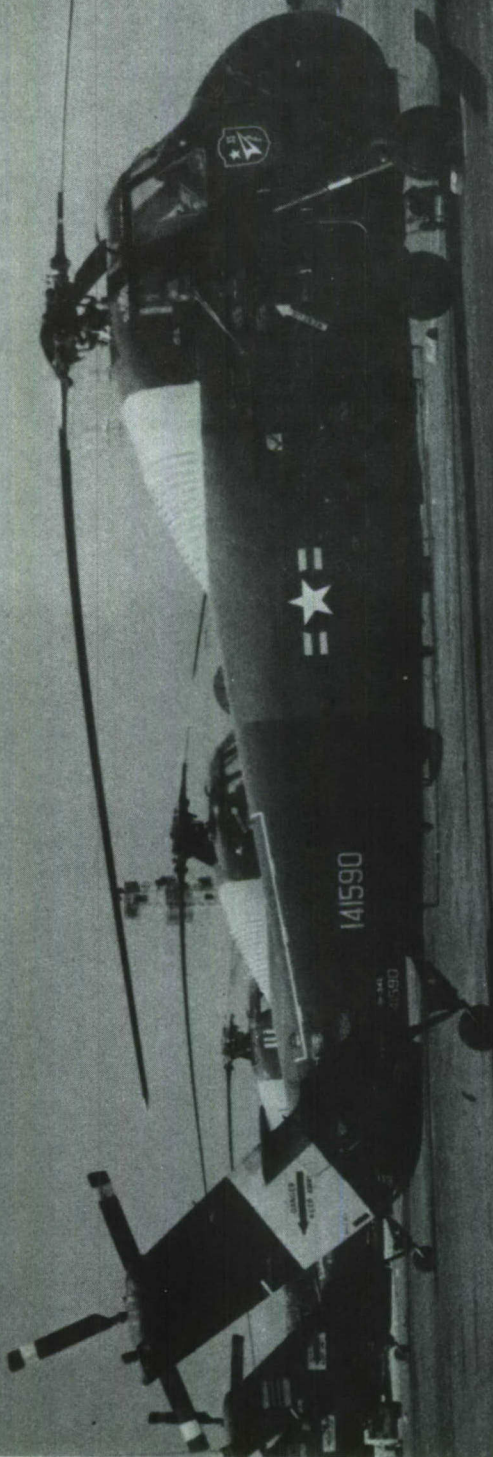
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the inventory actually fluctuated during these 27 months. On 31 January 1966, for example, it reached an all-time high of 409,^{57/} but then dropped almost continuously to a low of 358 by 31 March 1967.^{58/} Thereafter it climbed back again to 400 on 23 June 1967,^{59/} before settling downward again to the final figure of 375 in March, 1968. Serious shortages were noted at the beginning of 1966 with the A-1H aircraft^{60/} and later with the H-34 helicopter because of combat, accident, and enemy-inflicted losses. The projected conversion of the A-1 squadrons to F-5 and A-37 aircraft helped alleviate the former problem but the latter persisted. By May, 1966, VNAF's helicopter combat capability was classed as C-3, "marginal", with only 66 assigned against an authorization for ninety-eight.^{61/} This shortage of H-34's continued into the following year, but it began to be resolved then for two reasons. First, replacement aircraft began to arrive (six in March, 12 in April, eight in May, and 13 more in June and July) from U.S. resources,^{62/} and second, the plans to convert H-34 squadrons to the UH-1 after FY 1969 also reduced the future requirements for the older model.

Conversion, in fact, reflected the basic concepts behind the modernization program. At the end of 1965, the VNAF inventory consisted essentially of A-1G and A-1H aircraft, H-34 helicopters, C-47 transports, and miscellaneous reconnaissance and liaison aircraft (RC-47's, O-1A's, U-6A's, and U-17A's). By 30 November 1966, there were 131 A-1 type fighters, 36 C/RC 47's, 65 H-34's, 79 O-1A's, seven U-6A's, and 45 U-17's still in the VNAF,^{63/} but changes had already been planned and approved as part of the modernization program. The first of these major conversions occurred in the following year.

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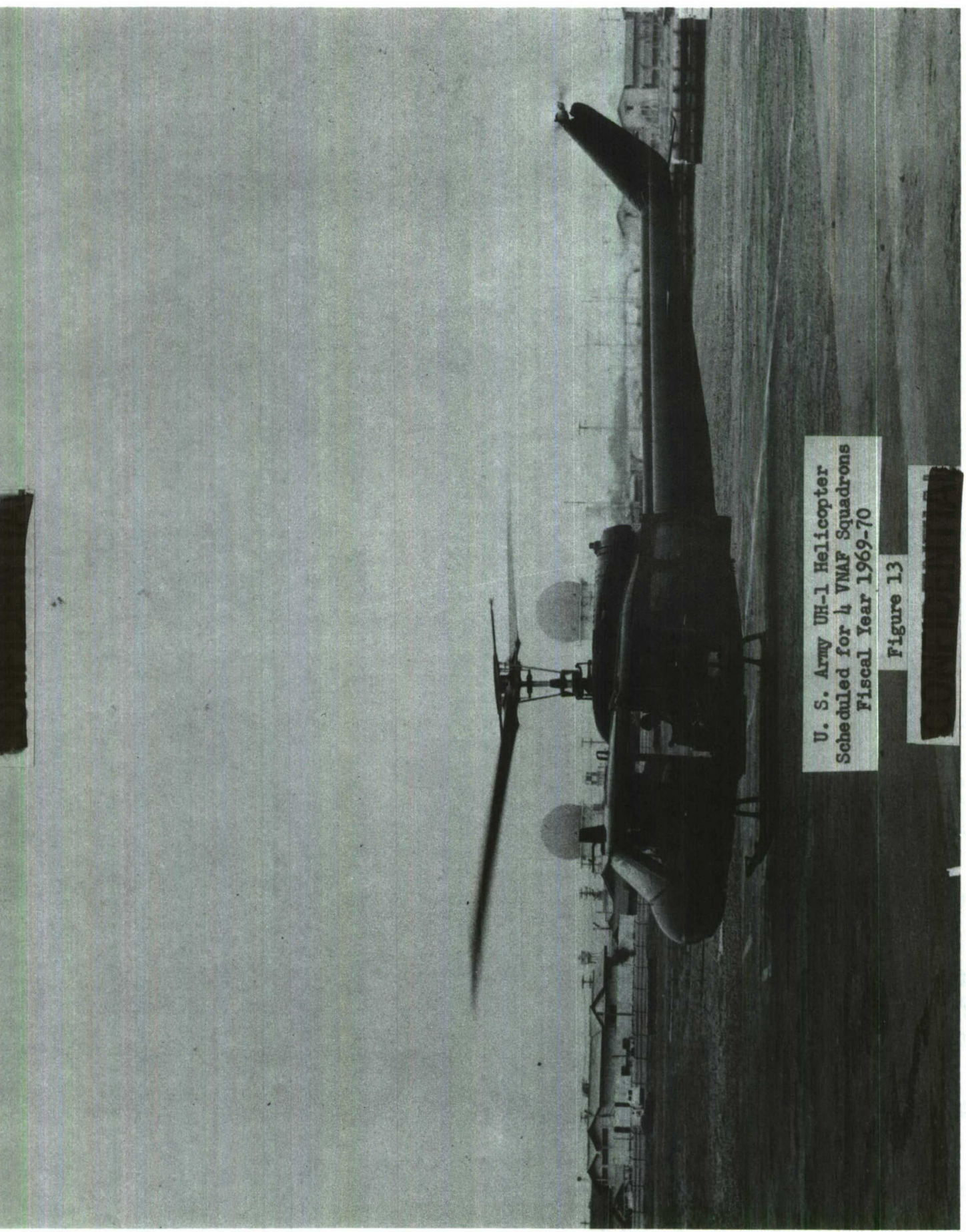


VNAF H-34 Helicopter
Figure 12

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U. S. Army UH-1 Helicopter
Scheduled for 4 VNAF Squadrons
Fiscal Year 1969-70

Figure 13



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Since Premier Ky, the VNAF Commander, had always desired a jet capability for the VNAF,^{64/} and the modernization plan approved by the Secretary of Defense called for the conversion of one A-1 squadron to the F-5 jet fighter, VNAF's 522d Squadron at Bien Hoa became the first operational unit to develop that jet capability. The squadron stood down the first week in September, 1966, and began training pilots at Clark Air Force Base in the Philippine Islands and in the CONUS to serve as a cadre for this initial F-5 squadron.^{65/} Thirty-three pilots took advanced F-5 training at Williams Air Force Base, Arizona, and began returning to the squadron in the spring of 1967.^{66/} The combat crew training program was completed by 29 May 1967, by which time there were 27 operationally-ready crews.^{67/} Although some sorties were flown in that month, the official acceptance occurred at a formal ceremony held at Bien Hoa on Armed Forces Day, 1 June 1967.^{68/} The 20 F-5 "Freedom Fighters" immediately began flying operational sorties, accomplishing 388 with 443 flying hours in June, and 436 sorties with 477 flying hours the following month.^{69/} By December, they flew 527 sorties and 556 flying hours for their highest utilization of the year.^{70/}

With this successful conversion behind them, VNAF prepared for further conversions in other functional areas during the next year. In the fighter area the 524th Fighter Squadron at Nha Trang Air Base stood down on 1 January 1968 for its conversion from the A-1 to the new jet A-37. Pilots began check-out training on the aircraft in the United States while maintenance personnel are currently in the process of being trained by a USAF Mobile Training Team; the first phase of this wisely-planned training was conducted at

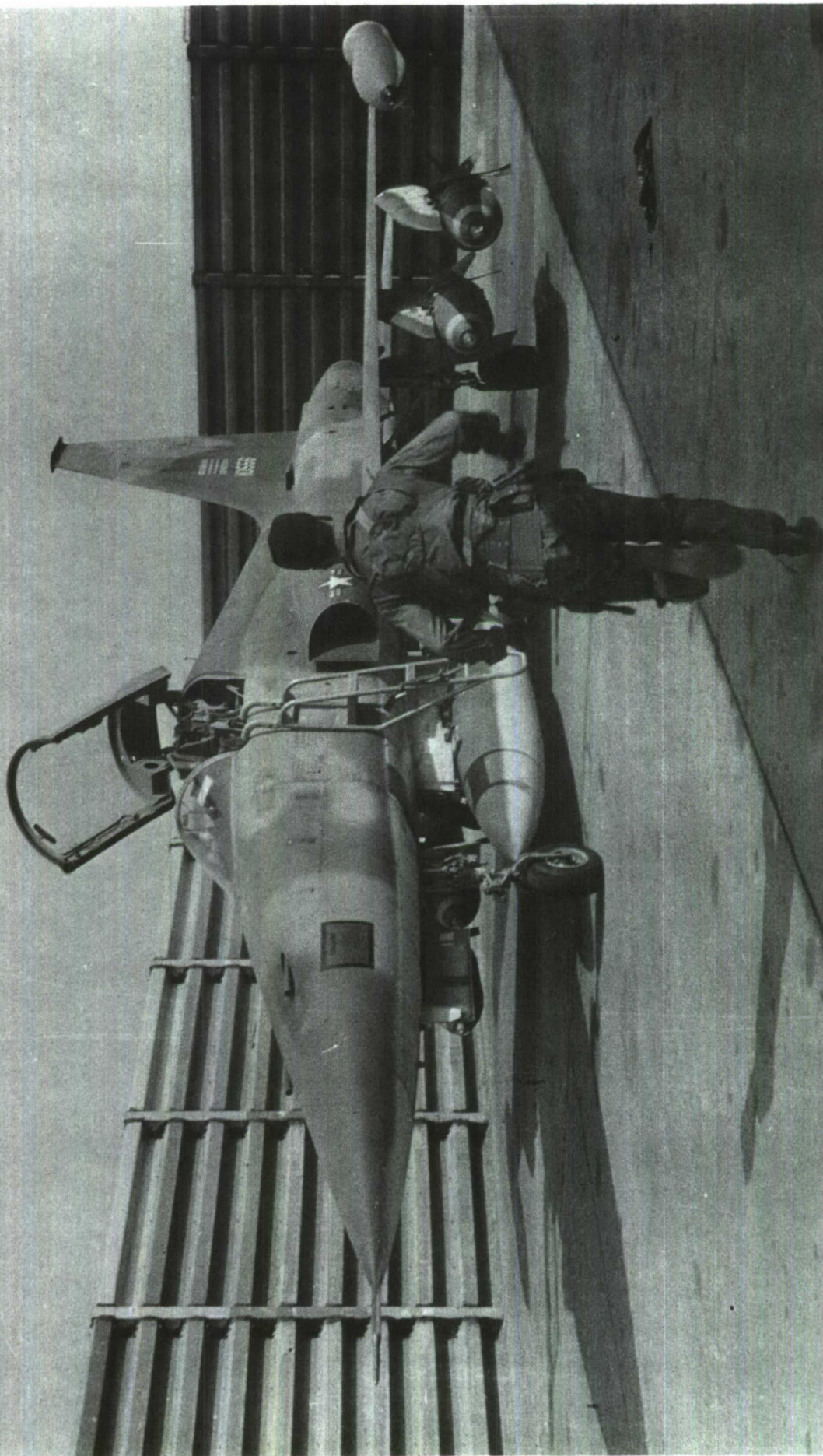
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England Air Force Base, Louisiana, and the second began in facilities prepared by a self-help project carried out at the ATC in Nha Trang. This final preparation began in June, 1968.^{71/}

Under the conversion plan, surplus A-1H aircraft were to be distributed to units still operating with that fighter model; the 14 A-1H's in the squadron at Nha Trang were therefore transferred as directed--three to Da Nang, 10 to Bien Hoa, and one to Binh Thuy.^{72/} Once the conversion of the 524th Squadron has been completed in FY 2/69, a second squadron will follow in the next quarter of that fiscal year, and a third one in the final quarter of FY 1969, leaving only one squadron with the A-1H when this portion of the modernization program has been completed.^{73/}

Other changes inaugurated include the establishment of new units and the conversion of transport and helicopter squadrons in accordance with the modernization program. On 1 January 1966, the 83d Tactical Group (Special Missions) was activated at Tan Son Nhut Air Base to fly special missions in support of the Joint General Staff (JGS). With 370 persons and 34 aircraft--six A-1G's, 10 H-34's, and eight specially-equipped U-6A's--it had considerable difficulties carrying out its assigned tasks by the fall of that year.^{74/} On 1 July 1966, the 716th Reconnaissance Squadron was activated also at Tan Son Nhut to increase the efficiency of VNAF's reconnaissance capability with RC-47 aircraft.^{75/} A third transport squadron--the 417th Transport Squadron--was activated 1 January 1967 also at Tan Son Nhut and equipped with C-47 models,^{76/} while in the following year one of the C-47 transport squadrons there was successfully converted to C-119G aircraft after its crews had

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VNAF F-5
Bien Hoa Air Base
Figure 14

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undergone training at Ellington Air Force Base, Texas, and its maintenance personnel had been trained both in the United States and at Tan Son Nhut Air Base by a USAF MTT. ^{77/} By March, 1968, there were 16 C-119's assigned to the 33d Wing after one had been damaged beyond repair in the Viet Cong mortar attack on the base 18 February 1968. ^{78/} Finally, in the helicopter area, the last 16 of 32 additional H-34 helicopters arrived in March, 1968, bringing the VNAF up to its authorized inventory of 105 helicopters for the first time. ^{79/} Future plans called for the conversion of this model to the UH-1, two squadrons accomplishing this change in FY 1969 and two more in FY 1970, leaving one squadron equipped with the H-34. ^{80/}

A comparison of the aircraft inventory at two important points in the modernization period provides a summary of VNAF aircraft. This comparison may be accomplished in summary by consulting the following table: ^{81/}

	<u>Model</u>	<u>October 1966</u>		<u>March 1968</u>	
		<u>Auth</u>	<u>Asgd</u>	<u>Auth</u>	<u>Asgd</u>
Fighter	A-1	150	128	78	82
	F-5	0	0	18	21
Transport	C-47	32	32	32	32
	C-119	0	0	16	16
Helicopter	H-34	98	65	105	101
Liaison	O-1A	80	77	80	66
	U-17	40	46	56	45
Recon.	RC-47	3	3	3	3
	EC-47	1	1	1	1
	U-17	8	7	8	8
TOTALS		<u>412</u>	<u>359</u>	<u>397</u>	<u>375</u>

[REDACTED]

Major reconstruction and rehabilitation of the VNAF bases was completed by late 1966. The outstanding accomplishment in the area of facilities was the completion of the base at Binh Thuy in the strategically located Mekong Delta. This base, near Can Tho, included airfield pavement, maintenance and cantonment facilities, and base support construction, all on a rice-growing land which had to be drained and filled before construction could begin.^{82/} Operational by 1966, this base provided the VNAF with a full base facility in the IV Corps area with fighter, helicopter, and liaison squadrons assigned. A second helicopter squadron, the 211th, also moved to Binh Thuy in the period 15-20 April 1968, to begin operations with the already-present 217th Squadron in cooperation with the 164th Combat Aviation Group of the U.S. Army in that key sector.^{83/}

Other improvements in facilities included the construction of two maintenance hangars and new POL facilities at Bien Hoa, rehabilitation of the social center (commissary and barber shop) and ten VNAF dependent homes at the same base, the extensive work with self-help projects at the ATC in Nha Trang as noted earlier, and the planning and programming of a new maintenance depot for the Air Logistics Wing at Bien Hoa.^{84/} Thus, by the end of the period, base facilities were consolidated around five major sites--Headquarters, VNAF, and the 33d Wing at Tan Son Nhut Air Base; ATC and the 62d Wing at Nha Trang Air Base; the 23d Wing at Bien Hoa Air Base; the 74th Wing at Binh Thuy Air Base; the 41st Wing at Da Nang Air Base--and one Air Base unit at Pleiku. (Fig. 15.)

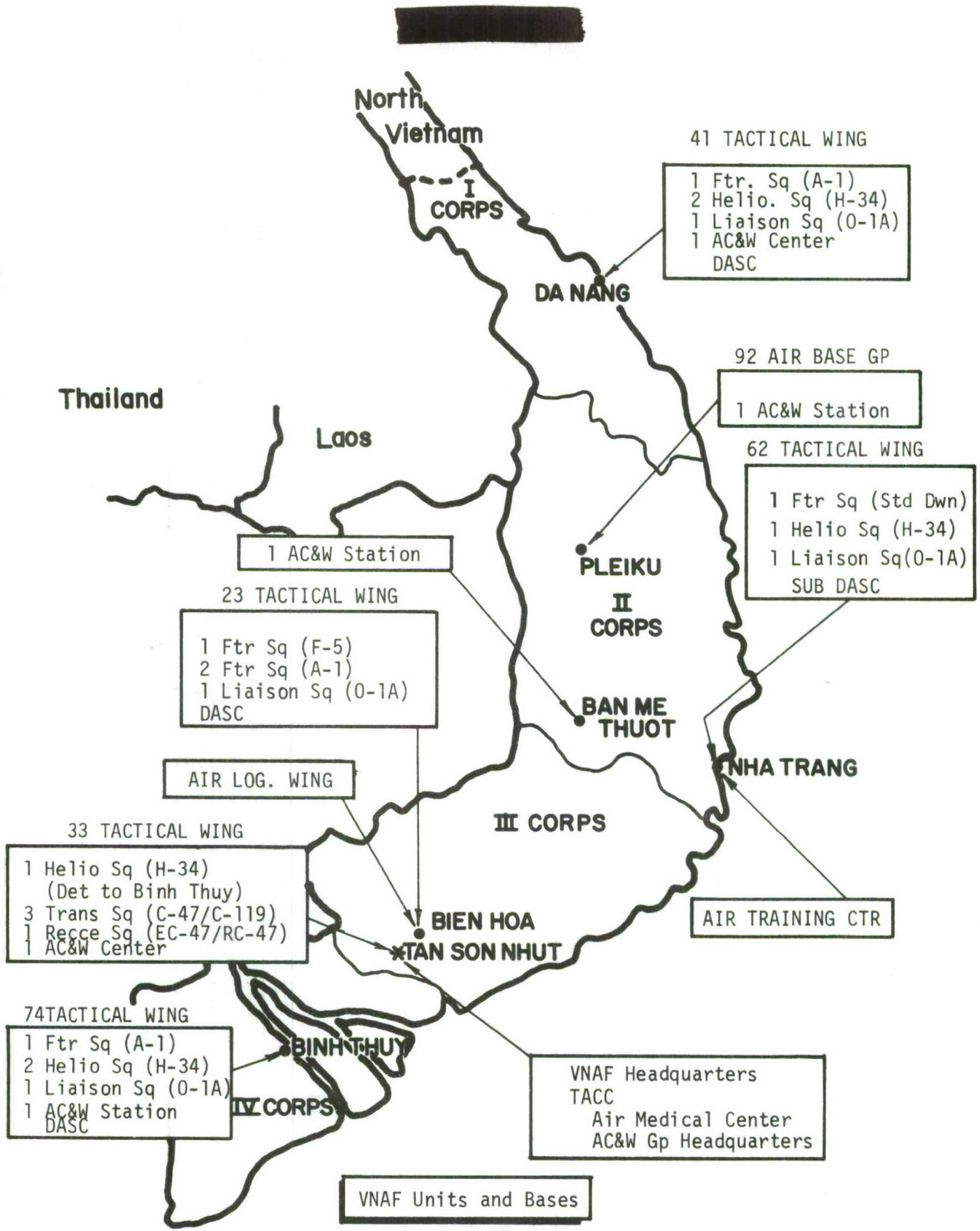



Figure 15



Operations

Although there were occasional operational problems in the 1965-1968 period caused by shortages of aircraft, squadrons standing down for conversion and re-training, political disturbances, and maintenance difficulties, in general VNAF experienced an upward trend in flying hours, sorties, and overall effectiveness. The service showed an ability to be extremely flexible and to respond well to unusual requirements imposed, for example, by the turmoil in Da Nang during May, 1966 and especially during the Tet Offensive of January-February, 1968.

By September, 1966, it was evident that there was a definite increasing trend in the VNAF's flying hours and sorties, having flown 94.9 percent of all its programmed sorties between April and September of 1966. It had met the stated objectives of 60 hours monthly and one combat sortie daily per possessed fighter aircraft. A marked improvement was also noted in the fighter force's ability to perform its primary strike role after July, 1965. Using the A-1 aircraft entirely at that point, the 524th Fighter Squadron had particularly distinguished itself. However, the continued reluctance of VNAF fighter pilots to fly in bad weather or develop instrument flying capabilities were both detrimental aspects of this operation. In fact, several accidents were attributed to the lack of ability of young pilots to fly in poor weather conditions.^{85/}

Considerable improvement in the period July, 1965-September, 1966, was also evident in the field of helicopter operations. In that era, the proportion of programmed hours actually flown increased from 80 percent to 116.8

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percent and the number of aircraft lost dropped from 21 in 1965 to only three in the first nine months of 1966.^{86/} Transport operations were characterized by an "outstanding" performance in the C-47 fleet. It exceeded the flying hour program by a wide margin (average for 15 month period was 115 percent of program), increased its cargo-carrying capacity from 100 (July, 1965) to 300 (September, 1966) tons per month, and transported 15,000 passengers per month by the latter date.^{87/} Liaison pilots generally continued to graduate from the ATC at Nha Trang and flew the O-1A aircraft for visual reconnaissance and forward air control missions. However, after one year of flying and a total of 600-1,000 hours in this capacity, many of them were sent to the United States for aircrew training in the A-1, C-47, and H-34 aircraft, thus creating a constant training problem in replacing personnel lost from the liaison squadrons.^{88/}

Combat capability and effectiveness on operational missions continued to improve in the following year as the number of flying hours flown increased by 23 percent and the total sorties went up by 34 percent even though one of the six fighter squadrons stood down for conversion from the A-1 to the F-5, effective 1 January 1967. VNAF flew about 24 percent of the total sorties flown by USAF and VNAF aircraft in South Vietnam during 1966 and there was a general improvement in aircraft utilization rates.^{89/} By March, 1968, the new F-5 squadron at Bien Hoa flew 683 sorties for a total of 757:10 hours-- a record high since its conversion in June of the preceding year.^{90/}

Although officially classified in operational readiness as marginal by the end of December, 1967, the VNAF flew 99.3 percent of programmed

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flying hours in the three-month period ending then, a period in which 15 aircraft were lost. Operational sorties destroyed bridges, buildings, sampans, and averaged 74 enemy dead per month. VNAF flew 2,515 tactical sorties (21.1 percent) of the combined strike effort during the October-December, 1967 period.^{91/}

Having flown a total of 241,546 hours in 1967, the VNAF continued to show its ability to perform its various roles in early 1968. Although its average flying hours dropped about six percent (60,572 hours to 56,600 hours) in the period January-March, 1968, over the preceding three-month period, aircraft utilization rates remained at an average of approximately two hours per day and the total number of strike sorties swelled from 7,383 to 7,553 per month.^{92/} The transport airlift declined in number of passengers and tons of cargo flown after 1 January 1968 while the number of flare drops increased four times. The following figures depict the conclusion that as flare missions increased, the airlift in other areas declined:^{93/}

	<u>Oct-Dec 1967</u>	<u>Jan-Mar 1968</u>
Passengers	39,111	32,245
Cargo (in tons)	773.4	658.4
Flares	13,739	53,741

It should be remembered here that VNAF had begun its conversion program from the A-1H to the A-37 in the January-March, 1968 period and that flare drops necessarily increased because of the Tet Offensive.

Of particular importance in understanding the air operations of the VNAF in this era was the service's response to Operation BLACK EYE in 1966 and

[REDACTED]

to the Tet Offensive of January-February, 1968. Classified visual/armed reconnaissance operations (BLACKEYE) by VNAF aircraft using the A-1G aircraft, fitted with a glass bottom so that the observer could lie on the floor, actually began in March, 1966. Continuous reconnaissance of this nature was provided until a temporary cessation was necessary in May because of political turmoil in Da Nang.^{94/} The VNAF's 522d Fighter Squadron at Tan Son Nhut Air Base was deployed to Da Nang to assist the 516th Fighter Squadron there, which was flying airborne alert missions instead of BLACKEYE operations.^{95/} After four hundred dissident ARVN troops finally surrendered at Da Nang, the 516th Squadron resumed its BLACKEYE operations on 1 June, flying 237 of these classified reconnaissance missions before the operation was suspended on 22 June. In the last ten days a FAC accompanied each mission, thus increasing the effectiveness of strikes and reporting procedures.^{96/}

The Tet Offensive provides an excellent recent historical opportunity to examine the response and performance of the VNAF. When the enemy attack began on 30 January 1968, 57 percent of the total VNAF force was on authorized off-base absence to be with their families over the Lunar New Year.^{97/} Immediate recall processes were generally unsatisfactory, because it was difficult for VNAF personnel to get to their bases because of enemy activity. This necessitated a great deal of the load being carried by those present for duty.^{98/} Within 72 hours after the opening clashes, however, 90 percent of VNAF's personnel had returned to duty.^{99/}

VNAF's strike capability by the end of January was essentially concentrated in its 69 operationally ready A-1G and A-1H aircraft at four bases--Da Nang,

[REDACTED]

Nha Trang, Bien Hoa, and Binh Thuy--and its 17 F-5's at Bien Hoa.^{100/}

Responding to ARVN requests for air support, VNAF fighter pilots flew 211 missions on 29 January and increased this pace to 258 the first day of the assault. On the last day of January, they flew 368 missions, or an increase of approximately 50 percent over the previous day. In that three-day period at the end of January, A-1's and F-5's flew a total of 268 sorties, H-34's flew 215 missions, reconnaissance aircraft compiled 196 sorties, and cargo planes accomplished 158 sorties overall.^{101/} This increased number of sorties continued into February as the enemy effort intensified and the average number of daily strike sorties reached 78 in contrast to a normal figure of 65.5 daily before the Tet Offensive. The average goal of one combat sortie per strike aircraft per day was maintained throughout the period 30 January-15 February, 1968, despite the fact that there was little increase in maintenance capability. In all, VNAF flew over 1,300 strike sorties during this 17-day period, 30 percent of which were for close air support, 57 percent for interdiction, and 13 percent escort of helicopters and truck convoys.^{102/}

Nor was this all. Although VNAF aircraft bombed and strafed Viet Cong positions throughout the RVN, killing nearly 600 of the enemy and destroying or damaging approximately 1,000 structures, other elements of the force also contributed to the overall effort. Transports from Tan Son Nhut's 33d Wing dropped 14,400 flares in 12 days as compared to the monthly average of only 10,000. On the night of 2 February alone, VNAF planes dropped 1,447 flares on Saigon, the highest total in the entire war to that point. The helicopter fleet hauled ARVN troops, supplied them, and conducted medical air evacuation

[REDACTED]

missions, flying more than 50 percent of their average sorties per month with 16 fewer aircraft as a result of combat losses and enemy-inflicted damage. In the liaison area, there were 656 reconnaissance sorties flown by VNAF pilots in the O-1 and U-17 aircraft.^{103/} During this period, the VNAF lost 17 planes (10 on the ground and seven in the air) in the following categories:^{104/}

5 A-1's (air)	4 O-1A's (ground)
5 H-34's (ground)	2 U-17's (1 ground, 1 air)
1 C-47 (air)	

There was little doubt that the VNAF effectively contributed to the defense of the RVN during the Tet Offensive. It took the offense to the enemy, supported ARVN units capably, and maintained higher levels of strike performance in terms of sorties flown and ordnance expended than in earlier periods.^{105/} Despite problems with recall of personnel and maintenance capability, the VNAF's modernizing service responded well in performing its assigned role during the emergency.

Two areas of VNAF operations began to receive considerable attention in 1966 as part of the modernization and professionalization program. One of these, flying safety, had been, continued to be, and still is a major problem area within the VNAF. Nevertheless, safety programs were established and began to function in 1966, revising regulations, adopting a uniform accident code and reporting procedure, and making safety a command responsibility. Weekly flying safety meetings were instituted, manuals concerning accident prevention were written, a "Well Done" Award Program was begun to publicize achievement in flying safety, and officers were selected and sent to the

[REDACTED]

United States for flying safety training.^{106/} However, despite these many efforts to improve, the VNAF continued to have an inconsistent safety record. With 18 to 25 accidents per month, safety continued to be a problem area throughout 1966.^{107/} After an extremely high accident rate in August of the next year, there were only five accidents in September,^{108/} thus illustrating the "peaks" and "valleys" experienced with this program. Thirteen aircraft mishaps (including three combat losses, three major accidents, and one minor incident) occurred as late as March, 1968,^{109/} and the following month saw 24 of them (five combat losses, eight major accidents, two minor accidents, and nine flight incidents).^{110/}

A second new area of emphasis after 1966 concerned the general subject of Political Warfare. With the establishment of a new staff agency in the Headquarters and emphasis upon this hitherto largely neglected area at wing level, some limited progress was noted. The VNAF flew 20 percent of the total psychological warfare operations in the RVN during December, 1966,^{111/} but the program declined until August, 1967, when a notable surge occurred, dropping 47 million leaflets in that month; however, the VNAF had at that time only two aircraft equipped with loudspeakers^{112/} so that portion of the entire program was not very effective. By December of that year, the VNAF flew 264 such sorties, or about 10 percent of the combined in-country total.^{113/} In January, 1968, the number of sorties increased to 326 with leaflet drops reaching 47.5 million;^{114/} by March, there were 354 sorties but the total dropped the following month to 292.^{115/} In general, by the end of the first quarter of 1968, the VNAF was averaging about 284 psychological warfare missions

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per month, amounting to roughly 10 percent of all the in-country flights performing this role.^{116/} The VNAF concentrated primarily upon leaflet drops and aerial broadcasting to accomplish this function. In addition, VNAF wings were now assisting 37 hamlets in their immediate areas, concentrating upon political warfare in those areas by providing residents with leaflets, posters, newspapers, films, cultural events, and speeches.^{117/}

Command and Control

Considerable improvement in the general area of command and control was evident within the VNAF during the modernization period following 1965. This was apparent in both the installation of better facilities and the development of more effective operations in the combined VNAF/USAF Tactical Air Control System (TACS). Although changes were made gradually, by 1968 an effective joint air response system had been developed at all levels.

Begun in 1966, the entire program for improved command and control procedures is supposed to be completed in FY 1969. Communications centers were constructed at Binh Thuy, Tan Son Nhut, Bien Hoa, Nha Trang, and Pleiku as early as 1966 and a complete AC&W network was begun with facilities configured basically on U.S. standards but operated on a joint basis.^{118/} With the advice of the USAF's 1964th Communications Group, the VNAF had established communications centers at all six of its major locations by 1968, thereby serving wing and headquarters command posts. These, in turn, were linked by a voice telephone system, air-to-ground, point-to-point, and a non-tactical radio capability. Control tower, terminal navigational aids, and telephone service are provided by jointly-manned VNAF/USAF facilities. In addition,

[REDACTED]

four AC&W stations were in operation by March, 1968, manned also by crews from both air forces, and equipment was being installed at a fifth location. Plans for the future called for a VNAF radio-telephone interface system whereby commanders and key staff personnel could contact and control aircraft anywhere in RVN, and a joint agreement for weather service, an area in which the VNAF had only a limited capability. With modern FAA consoles at all its major bases, the VNAF by March, 1968, owned 11 flight facilities outright with 16 more scheduled for transfer from the USAF in FY 1969-1971. These included control towers, TACAN direction finders, low frequency beacons, and GCA facilities.^{119/} Perhaps the one greatest deficiency in the communications system lay in the air-to-ground capability of the VNAF FAC's, who sometimes had problems with old, outdated equipment.^{120/}

The VNAF air request net had been expanded considerably in recent years to meet ARVN requirements. This expansion included the training and deployment of FAC's and ALO's to brigade, regiment, and sub-sector levels. From 1 October 1966 until March, 1968, the VNAF had trained a total of 133 ALO's and located them as well as 177 radio operators in Corps areas at all levels of command.^{121/}

The TACS, first established in January, 1962, but not fully effective until the modernization period, was designed basically to achieve comprehensive and responsive control for all tactical air forces in the RVN. Developed from lessons learned in World War II and the Korean War, the system evolved gradually in South Vietnam to accommodate increases in units and operational requirements. It is a closely-knit composite of VNAF/USAF/USMC radars,

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communications systems, ALO's, FAC's, and operational centers, which can be tailored to fit almost any tactical situation. It provides centralized direction while permitting decentralized execution of specific tasks and operations in the fighter strike area only.^{122/}

A combined operations center is located at Tan Son Nhut Air Base to coordinate and control the tactical efforts of all VNAF and U.S. forces. This TACC is organized into a Current Operations Division and a Current Plans Division, both of which are jointly manned by VNAF and USAF personnel. Six Direct Air Support Centers (DASC's), including four jointly manned USAF/VNAF ones for the four Corps areas, are operationally subordinate to the TACC. Functioning under each DASC are FAC's and ALO's located with the field forces, divisions, brigades, and battalions of the ARVN. The entire system, VNAF included, are depicted schematically as shown in Fig. 16.^{123/}

In effect, the TACC directs, monitors, and diverts offensive and defensive aircraft as necessary. Requests for air support proceed from the ground commanders and FAC's and ALO's to the DASC's, who then request TACC to scramble aircraft for specific sorties. Only I DASC at Da Nang has authority of its own to scramble aircraft, but it seldom uses this prerogative and it must inform TACC of the launch whenever it does so. Within 15 minutes after receiving a request for assistance, the TACC can have an aircraft on its way and the total response usually covers only 40 to 45 minutes from receipt of the request to the appearance of the fighter over the target area, where the FAC then takes control of the strike.^{124/}

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TACTICAL AIR CONTROL SYSTEM

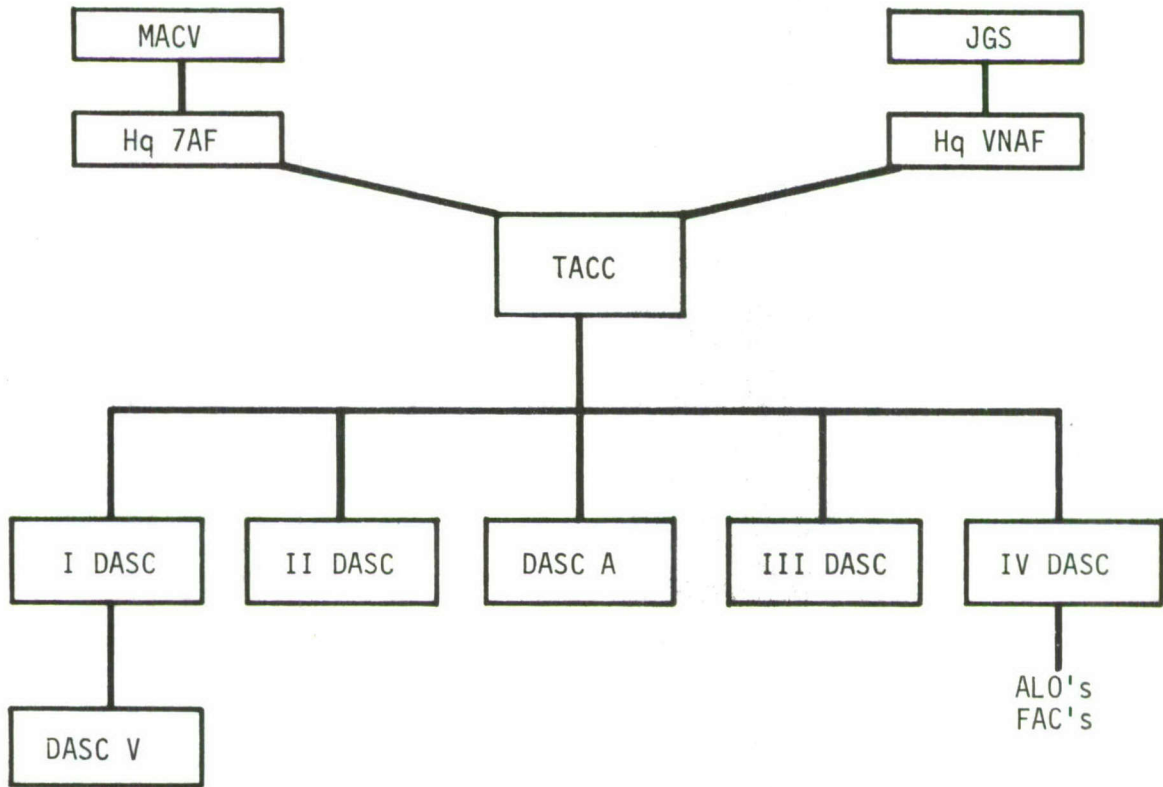


FIGURE 16

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VNAF participation in this system, and especially at the TACC, has improved greatly over the past two years. The entire organization of the VNAF tactical air control system parallels that discussed above. VNAF ALO's and FAC's transmit requests for air support to VNAF personnel at DASC level, where they are in turn transmitted to VNAF personnel within the TACC at Tan Son Nhut. They scramble their own A-1 and F-5 fighters, usually two on each sortie (sometimes three or four). As a whole, the VNAF flies about 70 to 80 sorties total per day.^{125/} This compares to the seven or eight hundred flown by all Free World Forces per day in recent months.^{126/} In general, it can be concluded that VNAF controllers take care of their own airstrikes, but they can at any time, especially on combined USAF/VNAF sorties, request USAF assistance.^{127/}

Response time from receipt of requests by VNAF personnel at the TACC to arrival of aircraft on target is estimated at approximately 30 minutes, varying of course with distance as a factor. When the aircraft reach the strike area they pass to the control of the FAC or ALO originating the requests. Aside from the fact that the VNAF does not have enough aircraft to meet the many strikes called for every day and its need for more trained personnel before it could operate the TACS alone,^{128/} VNAF's participation in the system is characterized by professionalism and understanding of the operation. In fact, it is the opinion of one USAF authority that VNAF A-1 strikes are very effective and that their operations in the TACC were "damn good."^{129/}

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Problems

As expected, VNAF modernization and the growth of professionalism was not an overnight process. Nor could it be accomplished without confronting many problems. Some of these difficulties were carried over from the earlier expansion phase, but others were created by the modernization program itself. Resolution of some problems was accomplished during the 1965-1968 period, but others continued and new ones were added for future solutions.

It was evident that the VNAF was still being run at squadron level by 1965. There were no command posts at wing and headquarters levels, no maintenance control centers existed, communications facilities were inadequate, safety programs were not effective, and training programs were obstructed by emphasis upon combat operations.^{130/} Furthermore, ARVN's marginal support of VNAF's heavy demands for materials and skilled labor had limited the latter's ability to maintain fully its air bases, thus necessitating a reliance upon USAF assistance.^{131/}

Command posts and maintenance control centers were built and put into use thereafter, thus resolving two earlier problems. Communications centers were also constructed^{132/} and improvements in this area were discussed previously under the heading "Command and Control." Certain problems continued to plague the VNAF's effective operation, however, despite the many improvements that were made to overcome previously-cited deficiencies.

Major problem areas, still not entirely solved, throughout the period included VNAF's high accident rate, its maintenance problems, a lack of long-range planning by the service itself, continued coordination problems with

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23d WING (VNAF)

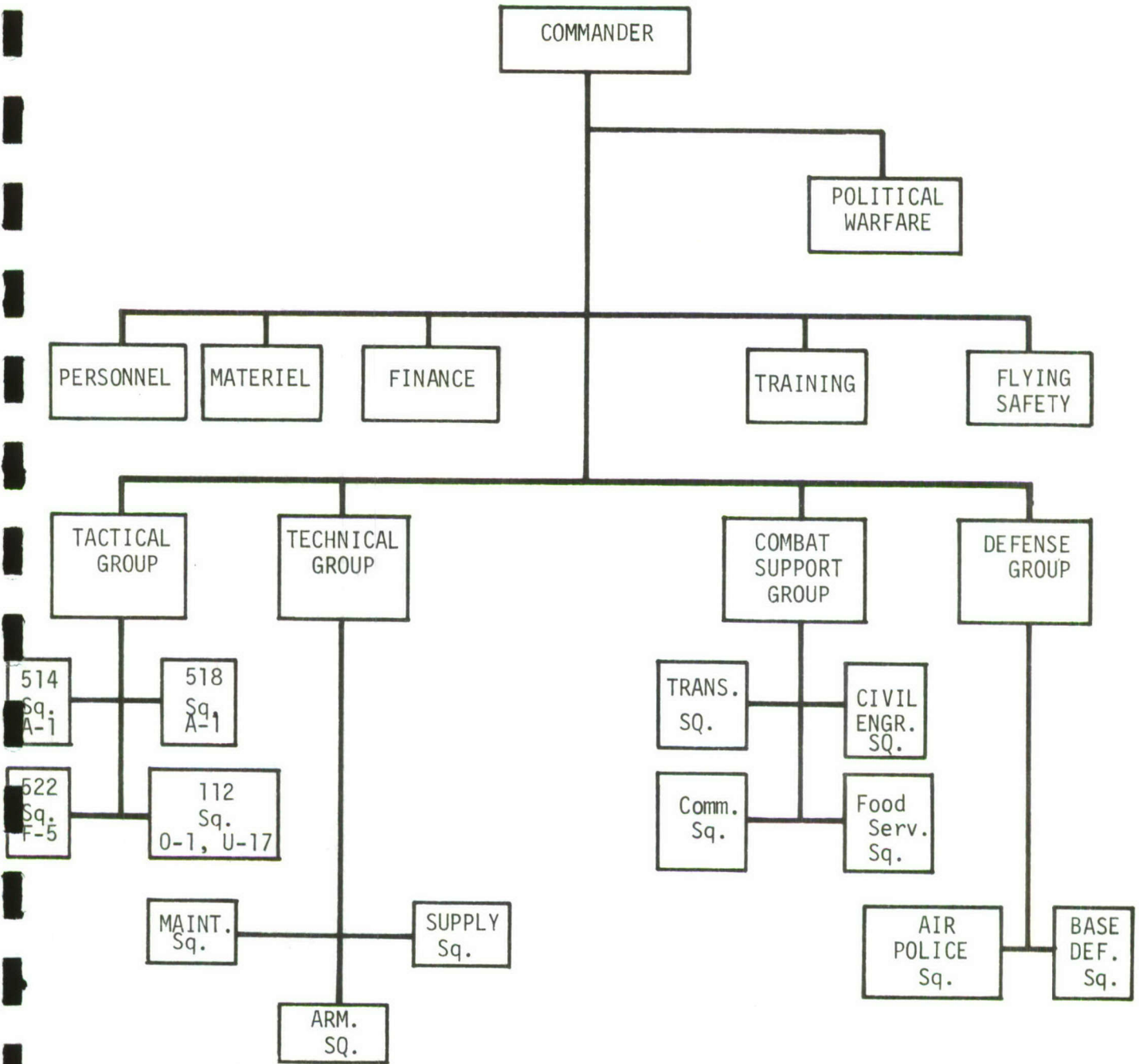


FIGURE 17

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the ARVN, the need for increased instrument flying capability, improved base maintenance facilities, and more emphasis upon its training functions.¹³³

The high accident rate of the final 18 months considered by this study was a serious problem. After an encouraging drop in early 1967, major accidents rose to an all-time high in July and August of that year. Pilot errors, generally on take-off and landing, accounted for 61.2 percent of these accidents and this was understandable since 23 percent of VNAF's pilots by March, 1968, had under one year of flying experience and 44 percent had less than two years.^{134/}


Although the VNAF showed the ability to convert to the F-5 and maintain it during the modernization period, it still could not handle its own maintenance load in critical periods and therefore sought U.S. assistance. The depot at Bien Hoa could not handle crash and battle damage on occasion and it experienced many logistical problems. Since the United States Military Assistance Program for the VNAF had increased from \$15.3 million in 1965 to 98.4 million in 1966 and to 264.0 million by 1967, the VNAF supply depot had trouble coping with this huge growth. Its continued lack of personnel (shortages of laborers to work in the bomb dump, low wage scales, and lack of funds to pay employees) blocked entering items at the depot level. Furthermore, maintenance capabilities were taxed to the utmost during the recent Tet Offensive.^{135/} Although some improvements were made in 1967, such as receiving maintenance hangars from the USAF and building others, there was still a definite need to improve VNAF's aircraft maintenance self-sufficiency at both the depot and base levels.^{136/}

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Instrument flying capability was and continues to be a problem of considerable magnitude for the VNAF. However, in 1967 positive steps were taken to improve this deficiency. Closely associated with the modernization program, this problem received attention in four ways. First, instrument repair technicians were trained at formal schools in the United States. Second, an F-5 MTT from Clark Air Force Base conducted further training in-country for those specialists. Third, five Model 60 Link Trainers were secured to replace the obsolete ones then possessed by the VNAF. Finally, one F-5 and one C-119 pilot were sent to the United States for 23 hours of instrument pilot training. Upon their return to the RVN, these individuals became instrument check pilots, particularly in the combat crew training program for the F-5 pilots. Each of the pilots assigned to the F-5 squadron at Bien Hoa was required thereafter to fly seven instrument sorties, the last of which was a check-out with the trained instrument check pilot.^{137/}

A final problem area of the period was the neglect of the training function until the summer of 1967 when definite improvements began. Better training facilities at the ATC in Nha Trang included four new barracks buildings, two new mess halls, three buildings for the Communications and Electronics School, a training aids building, and the many self-help projects initiated there. However, the need to train personnel for the receipt of four new aircraft (F-5, A-37, UH-1, and C-119) necessitated a major emphasis on training, part of which had been accomplished during 1967-1968.^{138/}

These problems should not obscure the fact that VNAF's achievements were many during this first stage of its modernization program. Stressing



professionalization at all levels and having developed a high esprit de corps, the VNAF became a well-organized, well-led air arm with considerable combat experience in addition to other aerial roles. It aided greatly in the defense of the RVN. Its major bright spots included the development of a splendid Air Training Center at Nha Trang, implementation of new functions and roles such as political warfare, controlled yet growing leadership, conversion to its first jet aircraft, and a fine operational record in fighter, helicopter, liaison, and transport sectors. It particularly distinguished itself recently during the Tet Offensive and in the continued operation of the Tactical Air Control System in coordination with the USAF. Although not yet self-sufficient, the VNAF made great strides toward the achievement of that goal.



CHAPTER IV

CONCLUSIONS

Thirteen years ago the Vietnamese Air Force came into existence as an independent military service. Since that time, it has developed into a modern, efficient, experienced, and professional element in the defense of the Republic of Vietnam. It has become by mid-1968 one of the best air forces in Southeast Asia.

VNAF personnel are well aware that their service has not reached the pinnacle of success at present. Nor has the road to their current position been an easy one without problems arising along the way. Although it has been possible to resolve some of these difficulties, others continue today and they are not likely to be overcome in the immediate future. Flying safety, accurate records keeping and reporting, emphasis upon training its future technicians and leaders, improvement of medical and sanitation facilities, concentration on developing its instrument flying capability; all are continuing problems today that the VNAF must face in the future. Recently the outgoing Commander of the USAF Advisory Group added that the VNAF must:^{1/}

- Improve its capability to handle its own affairs.
- Devote more emphasis to long-range planning.
- Improve its contacts and coordination with ARVN so that each service may support the other better.
- Reduce its high accident rate.
- Develop an air logistical system to provide effective supply and maintenance services.
- Stress improved personnel benefits such as better pay, allowances, and personal security measures.

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Yet, as mentioned in the Introduction to this study, one cannot evaluate the VNAF solely upon criteria developed for analyzing the U.S. Air Force. Looking at the VNAF itself, without comparison to any other air force, enables one to reach a better understanding of this relatively young military service.

VNAF has experienced a remarkable growth in its short history. This is true whether personnel, aircraft, facilities, leadership, or operations are considered. In 1955, when it became an autonomous air force, VNAF possessed a few hundred men and less than 100 pilots. Seven years later it had only 4,000 people in all, but today it has over 16,000 men, including approximately 1,000 pilots. In fact, there are many more pilots today than there were total personnel in the service when it was established after the French departed. Aircraft also have undergone great changes. At its birth, the VNAF possessed only a few old French observation planes and some C-47 transports; in the first seven years of its existence, the service adopted F-8F and T-28 fighters in addition to H-13 helicopters and the continuation of the C-47's; by 1962 VNAF had begun using the A-1 as a very effective tactical strike weapon; today it has developed a jet capability to supplement its reciprocating engine aircraft. With the F-5 squadron at Bien Hoa already in operation and three squadrons scheduled to receive the A-37 in the next fiscal year, VNAF has again illustrated its flexibility and its willingness to convert to newer models. This is true also in other types of aircraft where the UH-1 is being adopted for helicopter operations and the C-119 has already been assimilated into the force.

Originally, the VNAF possessed only a very few small bases, principally

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centered at Nha Trang and Tan Son Nhut, near Saigon. Gradual changes occurred in the next decade after the founding of the air service, culminating in the construction and occupation of Binh Thuy which became operational in 1966. Thus the service took on its present appearance and a modern organizational pattern developed. Leaders emerged with experience and training, not overnight. Some of national stature appeared in the period following 1962 for it must always be remembered that the VNAF is a very youthful service with hardly any of its key personnel over forty years of age today. In the general field of operations, the VNAF has also demonstrated an explosive growth rate. Its original aerial operations were confined to observation and liaison functions but its assignments and roles have since been greatly diversified. A proliferation of duties has occurred, although its four principal functions today have become tactical support and fighter strike, helicopter, transport, and observation-liaison operations.

Specific accomplishments during the most recent period, the eighteen months preceding March, 1968, highlight the fact that the VNAF had matured considerably. It had constantly reflected above standard flying capability, particularly during the Tet Offensive, and it had demonstrated its ability to acquire new aircraft systems without causing a deterioration in its overall performance. VNAF made "substantial" progress in its modernization program, improved its maintenance capability (although by no means had it overcome the problems in this sector), and had made increasingly successful efforts to match its overall capability to the needs of ARVN forces for air support. The continued improvement of VNAF's AC&W net and performance in the TACS also

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confirmed the conclusion that definite progress had been made. Finally, the marked improvement in VNAF training facilities, programs, and actual training accomplished was a notable feature of the period.^{2/}

What can the U.S. Air Force learn from a study of the historical experience of the VNAF? Probably the most important contribution is the perspective provided, enabling USAF personnel to understand the leaders, problems, and growth potential of a small air arm in the tumultuous environment of Southeast Asia. A study of historical nature provides continuity where much is lacking because of the short one-year tours of USAF personnel in Vietnam. It acquaints the individual with past policies and problems, what was done to implement or overcome them, what worked and didn't work, and what errors can be avoided in the future. Finally, it enables USAF personnel to evaluate and work with the VNAF while fully knowledgeable as to what the service once was and how it has come to be what it is.

However, there are many specific lessons to be derived from a close analysis of VNAF's history. First, it has never been a self-sufficient service and therefore, one should evaluate it with caution. It has been continuously dependent upon either France or the United States throughout its experience. This has been extremely fortunate for the USAF since it has gained as a by-product of this relationship considerable experience in working with a developing air service. This experience could be invaluable in the future. Second, the VNAF has shown an innate ability to convert its aircraft, logistical and personnel systems, training programs, and reporting procedures basically to United States models. Third, the concept of assistance rendered by the USAF

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Advisory Group and its Air Force Advisory Teams (AFAT's) has been an excellent one in establishing rapport between the USAF and the VNAF. This close coordination at all times has been promoted by advisory group commanders--Brigadier Generals Robert R. Rowland, Albert W. Schinz, Donavan F. Smith and the present commander, Brigadier General Charles W. Carson, Jr. and officers as well as airmen assigned to the group headquarters and the seven advisory teams. Joint operation of the TACS should also be noted as an example of developing cooperation, thus preparing the way for the VNAF to become an effective, self-sufficient force in the future. Finally, the concept of in-country training, largely developed since 1962, is an excellent way to save both time and money for the USAF as well as the VNAF. Centralization and improvement of training facilities at the Air Training Center, coupled with MTT programs such as the one on A-37 maintenance now located there, are beneficial to all concerned.^{3/}

There are, nevertheless, two areas of particular concern where present problems exist and are likely to intensify in the future. One of these concerns the inadequate language preparation and experience of USAF personnel working with the VNAF. Very few, if any, understand the Vietnamese language or the culture of the country.^{4/} Only a handful of officers receive prior language training and some, to their credit, do make efforts to learn and speak the language and something about the Vietnamese way of life after assignment. A much closer relationship can be established with the VNAF if concentrated efforts are made to learn the language and study the cultural characteristics of the Vietnamese before coming to the country.

[REDACTED]

Today, the VNAF is a dynamic, ever-changing, modern air force. It has come a long way since its foundation in the mid-1950's. It has adjusted well to changing roles, systems, and aircraft. It has shown an ability to perform effectively in both reciprocating and jet-engine aircraft. Progressive, forward-looking attitudes among its leaders have resulted in flexibility and continued diversification. Since 1962, the VNAF has never been stable. It has developed into a small but effective air service, but its role in Vietnam is badly underplayed and underrecognized by the United States. Although it may have lacked maturity in 1966, the VNAF was already an effective military element in the war effort in Southeast Asia. Two years later the departing USAF Commander of the Advisory Group noted that:^{5/}

"The VNAF Commanders have matured considerably; most commanders and key staff officers have integrity and are acting in a responsible manner; they are well motivated and are carrying a proportionate share of the warload; and they are well on their way to becoming a modern, effective jet age fighting force."

[REDACTED]

FOOTNOTES

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2. (U) "A Brief Study of the Vietnamese Air Force, Its History, Composition, Recruiting Policies, and Training Practices," 1 Nov. 1963, USAF Advisory Group, Office of Information.
3. (S) History of Second Advanced Echelon, Section I, Tab 2, 1 Jul.-31 Dec 1961, Hq 7AF, DOAC.
4. (S) Debriefing Report, Brig. Gen. Albert W. Schinz, USAF, Chief, USAF Advisory Group (MACV), 22 Oct. 1966.
5. (C) "History of the USAF Advisory Group," 1965, USAF Advisory Group, Hq 7AF, p. 1.
6. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 1966.
7. (TS) U.S., MACV, Command History, 1966, p. 474. (Secret Extract from TS Document.)
8. (U) "South Vietnam's Robust Teenage Air Force," May 1966, Hq 7AF, USAF advisory Group, Office of Information.

CHAPTER I

1. (U) "Welcome to the Air Training Center," VNAF Air Training Center pamphlet.
2. (U) "Vietnamese Air Force," Unit Histories, Hq 7AF, USAF Advisory Group, Office of Information.
3. (U) "Brief History of VNAF Units," AFAT-4, Air Training Center. (Article, "Vietnamese Air Force," Hq 7AF, USAF Advisory Group, Office of Information, states that this office was on Tran Hung Dao Street.)
4. (U) "Welcome to the Air Training Center," VNAF Air Training Center pamphlet.
5. (U) "Report on the VNAF Air Training Center," AFAT-4, Air Training Center, 20 Oct 67.

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6. (U) "Welcome to the Air Training Center," VNAF Air Training Center pamphlet.
7. (U) "Vietnamese Air Force," Hq 7AF, USAF Advisory Group, Office of Information.
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9. (U) "VNAF History Highlights," Hq 7AF, USAF Advisory Group, Office of Information.
10. (S) "Nguyen Cao Ky," Hq 7AF, DOAC, CHECO Study.
11. (U) "Biographical Data of Air Vice Marshal Nguyen Cao Ky," Hq 7AF, USAF Advisory Group, Office of Information.
12. (U) Various "Biographical Data" sheets at Hq 7AF, USAF Advisory Group, Office of Information.
13. (U) "Report on the VNAF Air Training Center," AFAT-4, Air Training Center, 20 Oct 67.
14. (U) Interview with Col. Nguyen Ngoc Oanh, Commander, VNAF Air Training Center, 14 Jun 68.
15. (U) "Report on the VNAF Air Training Center," AFAT-4, Air Training Center, 20 Oct 67.
16. (U) "Brief History of VNAF Units," AFAT-4, Air Training Center.
17. (U) "A Brief Study of the Vietnamese Air Force, Its History, Composition, Recruiting Policies, and Training Practices," 1 Nov 63, Hq 7AF, USAF Advisory Group, Office of Information.
18. (U) "Vietnamese Air Force," Unit Histories, Hq 7AF, USAF Advisory Group, Office of Information.
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27. (U) "Report on VNAF Air Training Center," AFAT-4, Air Training Center, 20 Oct 67; "Welcome to the Air Training Center," Air Training Center pamphlet.
28. (S) History of Second Advanced Echelon, Section I, Tab 2, 1 Jul-31 Dec 61, pp. 2-3.

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1. (SNF) "Military Assistance to the Republic of Vietnam, 1960-1963," Hq 7AF, DOAC, CHECO Report.
2. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
3. (S) "History of the USAF Advisory Group," 1 Jan-31 Dec 65. (Although figures on numbers of aircraft are somewhat exaggerated, this quotation does indicate the magnitude of the expansion during the period.)
4. (SNF) "Military Assistance to the Republic of Vietnam, 1960-1963," Hq 7AF, DOAC, p. 21.
5. Ibid.
6. (U) "VNAF History Highlights," Hq 7AF, USAF Advisory Group, Office of Information; "Vietnamese Air Force," Unit Histories, Hq 7AF, USAF Advisory Group, Office of Information.
7. (C) "History of the USAF Advisory Group," 1 Jan-31 Dec 65.
8. (U) "South Vietnam's Robust Teenage Air Force," May, 1966, USAF Advisory Group, Office of Information, p. 2.
9. (TS) "Southeast Asia Report, Part V: Air Operations," Hq PACAF, Project CHECO Report. (Secret Extract from TS document.)
10. (S) "History of the USAF Advisory Group," 1 Jan-31 Dec 65, p. 27.
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18. Ibid.
19. Ibid., pp. 6-7.
20. Ibid., p. 16.
21. Ibid., pp. 18-19.
22. (TS) "Southeast Asia Report, Part V: Air Operations," Hq PACAF, CHECO Report, (Secret Extract from TS Document.)
23. (S) "History of the USAF Advisory Group," 1 Jan-31 Dec 65.
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27. (S) History of the Second Air Division, Jan-Jun 64, Hq 7AF, DOAC, p. 10.
28. (TS) U.S., MACV, Command History, 1965, p. 64 (Secret extract from TS document.)
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33. (S) History of the Second Air Division, Jan-Jun 64, Hq 7AF, DOAC, p. 38.
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35. (S) "History of the USAF Advisory Group," 1 Jan-31 Dec 65, p. 3.
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55. (TS) "The War in Vietnam, 1965," 25 Jan 67, Hq 7AF, DOAC, CHECO Report, p. 249. (Secret extract from TS document.)
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60. (S) "History of the USAF Advisory Group," 1 Jan-31 Dec 65, p. 13.
61. (C) Ibid., pp. 16-17.
62. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
63. (S) "History of the USAF Advisory Group," 1 Jan-31 Dec 65, p. 19.
64. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66, pp. 4b.
65. (TS) "The War in Vietnam, 1965," 25 Jan 67, Hq 7AF, DOAC, CHECO Report, p. 250. (Secret extract from TS document.)
66. (S) "History of the USAF Advisory Group," 1 Jan-31 Dec 65, p. iii.

CHAPTER III

1. (TS) "The War in Vietnam, 1965", 25 Jan 67, Hq 7AF, DOAC, CHECO Report, p. 256. (Secret extract from TS document.)
2. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
3. (S) End of Tour Report by Brig. Gen. Donavon F. Smith, Oct 66-Mar 68.
4. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
5. (S) Ibid., Annex L, pp. II.
6. (TS) U.S., MACV, Command History, 1966, p. 479. (Secret extract from TS document.)

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7. (S) End of Tour Report of Brig. Gen. Smith.
8. (TS) "The War in Vietnam, 1965," Hq 7AF, DOAC, CHECO Report, p. 260. (Secret extract from TS document.)
9. (S) End of Tour Report of Brig. Gen. Smith.
10. (S) MACV Joint Message, COMUSMACV to CINCPAC, 0130Z, 11 Apr 67.
11. (TS) "The War in Vietnam, 1965", Hq 7AF, DOAC, CHECO Report, pp. 263-264. (Secret extract from TS document.)
12. Ibid.
13. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
14. (S) Ibid., pp. 4g and Annex B.
15. (S) Ibid., Annex D.
16. (S) Ibid., Annex I.
17. (S) End of Tour Report of Brig. Gen. Smith, p. 3-18.
18. (SNF) "Tour Progress Report," AFAT-4, 14 Feb 68, p. 1.
19. (U) Chart, AFAT-4, Air Training Center.
20. (SNF) "Tour Progress Report," AFAT-4, 14 Feb 68, p. 1.
21. (U) Briefing, AFAT-4, Air Training Center.
22. (U) Interview with Col. Nguyen Ngoc Oanh, Commander, Air Training Center, 14 Jun 68.
23. (U) Interview with Maj. Tran Van Cu, VNAF Plans Officer, Air Training Center, 17 Jun 68, and Subsequent Tour of Facilities, 17-18 Jun 68.
24. (U) Ibid.; "Training Capabilities," Air Training Center, Feb 68.
25. (U) "Report on VNAF Air Training Center," AFAT-4, Air Training Center, 20 Oct 67, p. 3.
26. (U) Briefing, AFAT-4, Air Training Center.
27. (U) "Tour Wrap-up Report of Col Lawrence M. Stickney," Chief, AFAT-4, Air Training Center, 16 May 68, pp. 1-3.

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28. (U) Interview with Major Tran Van Cu...and Subsequent Tour of ATC Facilities, 17-18 Jun 68. (These problems are also discussed in "ATC Study," n. d., AFAT-4, Air Training Center, under the headings of "Course Scheduling" and "Student Scheduling." Courses have been scheduled by Headquarters VNAF for which facilities and instructors do not exist at the ATC. In other cases neither Headquarters VNAF nor the operational wings supports the quotas established for courses that do exist. In one particular example, ATC Course No. 43130, scheduled by the ATC to begin 1 April 1968, the course had to be cancelled because units failed to support their quotas and no students reported for class on that day.)
 29. (U) Interview with Col. Oanh, Commander, ATC, 14 Jun 68.
 30. (U) "Tour Progress Report of Col Lawrence M. Stickney," Chief, AFAT-4, 14 Feb 68.
 31. (S) End of Tour Report of Brig. Gen. Smith, p. 3-8 and Fig. 3-4, p. 3-11. (The statement that the VNAF strength had been "continuously" above authorization was in error. This was true only for the period Apr 67 through Mar 68.)
 32. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
 33. (S) Ibid.
 34. (S) "Historical Summary for January, 1968," Hq 7AF, USAF Advisory Group, p. 1.
 35. (S) "History of the Air Force Advisory Group," 1-31 Mar 68, USAF Advisory Group, p. 2.
 36. (U) Memorandum, AFGP-PPA, Subject: WAFC Report, no date, USAF Advisory Group, Hq 7AF.
 37. (S) "Historical Summary for December 1967," Hq 7AF, USAF Advisory Group, p. 3.
 38. (S) "History of the Air Force Advisory Group," 1-29 Feb 68, Hq 7AF, USAF Advisory Group, p. 1.
 39. (S) "History of the Air Force Advisory Group," 1-30 Apr 68, Hq 7AF, USAF Advisory Group, p. 1.
 40. (S) "Historical Summary for January 1968," Hq 7AF, USAF Advisory Group, p. 5.
 41. (S) "History of the Air Force Advisory Group," 1-30 Apr 68, Hq 7AF, USAF Advisory Group, p. 13.


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42. (U) "Advisor's Guide," Hq 7AF, USAF Advisory Group, Office of Information, pp. 14-15.
 43. (S) End of Tour Report of Brig. Gen. Smith, p. 3-8 and Fig. 3-3, p. 3-10. (The "Advisor's Guide," pp. 14-15, agrees essentially but establishes a maximum age of thirty-three.)
 44. (U) "Advisor's Guide," Hq 7AF, USAF Advisory Group, Office of Information, pp. 14-15.
 45. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
 46. (U) "Advisor's Guide," Hq 7AF, USAF Advisory Group, Office of Information, pp. 14-15.
 47. (S) End of Tour Report of Brig. Gen. Smith, p. 3-8 and Fig. 3-7, pp. 3-15.
 48. (U) "Advisor's Guide," Hq 7AF, USAF Advisory Group, Office of Information, p. 16.
 49. (TS) U.S., MACV, Command History, 1966, p. 477. (Secret extract from TS document.)
 50. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
 51. Ibid.
 52. (U) VNAF Key Personnel Rosters, Hq 7AF, USAF Advisory Group, Office of Information.
 53. (SNF) Biographical Data Sheets, Hq 7AF, USAF Advisory Group, Office of Information.
 54. (SNF) Biographical Data Sheets, Hq 7AF, USAF Advisory Group, Office of Information; (SNF) "Nguyen Cao Ky," Hq 7AF, DOAC, CHECO Project No. 2-S-2, p. 2; (SNF) End of Tour Report, Brig. Gen. Smith.
 55. (SNF) Biographical Data Sheets, Hq 7AF, USAF Advisory Group, Office of Information.
 56. (S) End of Tour Report, Brig. Gen. Smith.
 57. (S) "History of the Air Force Advisory Group," Jan 66, Hq 7AF, USAF Advisory Group, p. 5.
 58. (S) "Historical Summary for March, 1967," Hq 7AF, USAF Advisory Group, p. 8.

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59. (S) "Historical Summary for June 1967," Hq 7AF, USAF Advisory Group, p. 7. (However, this was not the "first time" in its history that the VNAF had reached a total of 400 aircraft as stated in this source.)
 60. (TS) U.S. MACV, Command History, 1966, p. 112. (Secret extract from TS document.)
 61. (S) "History of the Air Force Advisory Group," May 1966, Hq 7AF, USAF Advisory Group, p. 2.
 62. (S) "Historical Summaries" for Jan, Mar, Apr, May, and Jul 67, Hq 7AF, USAF Advisory Group.
 63. (SNF) "Military Assistance to the Republic of South Vietnam, 1960-1963," Hq 7AF, DOAC, p. 21.
 64. (S) Debriefing Report, Brig. Gen. Schinz, 22 Oct 66.
 65. Ibid.
 66. (U) Bob Considine, "Viet Air Force Comes of Age," Pacific Stars and Stripes, Jul 10, 1967.
 67. (S) "Historical Summary for May," 1967, Hq 7AF, USAF Advisory Group.
 68. (S) "Historical Summary for June," 1967, Hq 7AF, USAF Advisory Group.
 69. (S) "Historical Summary for July 1967," Hq 7AF, USAF Advisory Group, p. 1.
 70. (S) "Historical Summary for December, 1967," Hq 7AF, USAF Advisory Group, p. 10.
 71. (S) "Historical Summary for January, 1968," Hq 7AF, USAF Advisory Group, pp. 4-5.
 72. Ibid., p. 8.
 73. (S) End of Tour Report of Brig. Gen. Smith.
 74. (S) "History of the Air Force Advisory Group, 1966," Hq 7AF, USAF Advisory Group, p. 1; (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66. (Note that the latter reference states that eighteen H-34's were authorized for this unit.)
 75. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
 76. Ibid.

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77. Ibid.
 78. (S) "History of the Air Force Advisory Group," 1-31 Mar 68, Hq 7AF, USAF Advisory Group, p. 6.
 79. Ibid.
 80. (S) End of Tour Report of Brig. Gen. Smith.
 81. Ibid.
 82. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
 83. (S) "History of the Air Force Advisory Group," 1-30 Apr 68, Hq 7AF, USAF Advisory Group, p. 11.
 84. (S) Ibid.; (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
 85. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
 86. Ibid.
 87. Ibid.
 88. Ibid.
 89. (S) MACV Joint Message, COMUSMACV to CINCPAC, 0130Z, 11 Apr 67.
 90. (S) "History of the Air Force Advisory Group," 1-31 Mar 68, Hq 7AF, USAF Advisory Group, p. 5.
 91. (S) USMACV Advisory Report: Evaluation of RVNAF Combat Effectiveness, Oct-Dec 67, pp. 3-4 and 16-17.
 92. (S) End of Tour Report of Brig. Gen. Smith.
 93. Ibid.
 94. (S) "History of the Air Force Advisory Group," Mar, Apr, and May 1966, Hq 7AF, USAF Advisory Group.
 95. (TS) U.S. MACV, Command History, 1966, p. 477. (Secret extract of TS document.)
 96. (S) "History of the Air Force Advisory Group," Jun and Jul 66, Hq 7AF, USAF Advisory Group.
 97. (S) End of Tour Report, Brig. Gen. Smith.

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98. (S) "VNAF Strike Capability in the Tet Offensive," CHECO Digest, Feb 68, pp. 24-25.
 99. (C) End of Tour Report of Brig. Gen. Smith.
 100. (S) "VNAF Strike Capability in the Tet Offensive," CHECO Digest, Feb 68, p. 21.
 101. (S) "Historical Summary for January, 1968," Hq 7AF, USAF Advisory Group, p. 4.
 102. (S) "VNAF Strike Capability in the Tet Offensive," CHECO Digest, Feb 68, pp. 22-23.
 103. (C) End of Tour Report, Brig. Gen. Smith; (U) News Release, Office of Information, USAF Advisory Group, Hq 7AF.
 104. (C) End of Tour Report, Brig. Gen. Smith.
 105. (S) "VNAF Strike Capability in the Tet Offensive," CHECO Digest, Feb 68, p. 21.
 106. (S) Debriefing Report of Brig. Gen. Schinz, 22 Oct 66.
 107. (TS) U.S. MACV, Command History, 1966, pp.477 and 482. (Secret extract from TS document.)
 108. (S) "Historical Summary for September, 1967," Hq 7AF, USAF Advisory Group, p. 6.
 109. (S) "History of the Air Force Advisory Group," 1-31 Mar 68, Hq 7AF, USAF Advisory Group, p. 4.
 110. (S) "History of the Air Force Advisory Group," 1-30 Apr 68, Hq 7AF, USAF Advisory Group, p. 3.
 111. (S) "History of the Air Force Advisory Group," Dec 66, Hq 7AF, USAF Advisory Group, p. 17.
 112. (S) "Historical Summary for August 1967," Hq 7AF, USAF Advisory Group, p. 15.
 113. (S) "Historical Summary for Dec, 1967," Hq 7AF; USAF Advisory Group, p. 9.
 114. (S) "Historical Summary for January, 1968," Hq 7AF, USAF Advisory Group, p. 11.
 115. (S) "History of the Air Force Advisory Group," 1-30 Apr 68, Hq 7AF, USAF Advisory Group, p. 7.

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116. (S) End of Tour Report, Brig. Gen. Smith.
 117. Ibid.
 118. (S) Debriefing Report, Brig. Gen. Schinz, 22 Oct 66.
 119. (S) End of Tour Report, Brig. Gen. Smith.
 120. (U) Interview with Lt Col Nguyen Van Luong, VNAF, Tactical Air Control Center, Hq 7AF, Tan Son Nhut Air Base, 26 Jun 68.
 121. (S) End of Tour Report, Brig. Gen. Smith.
 122. (U) Seventh Air Force In-Country Tactical Air Operations, Hq 7AF Pamphlet No. 55-1, 20 Mar 68, p. 27.
 123. Ibid., pp. 29-30.
 124. (U) Ibid., pp. 128 and 132; Interview with Lt. Col. James Keir, USAF, Assistant Chief, Current Operations Division, Tactical Air Control Center, Hq 7AF, Tan Son Nhut Air Base, 26 Jun 68.
 125. (C) Daily Combat Activities Reports, Hq 7AF, Jan-Jun 68; Interview with Lt Col Luong, TACC, 26 Jun 68, revealed number of sorties was about one hundred.
 126. (U) Interview with Lt Col Keir, TACC, 26 Jun 68.
 127. (U) Interview with Lt Col Luong, TACC, 26 Jun 68.
 128. Ibid.
 129. (U) Interview with Lt Col Keir, TACC, 26 Jun 68.
 130. (TS) U.S. MACV, Command History, 1966, p. 482. (Secret extract from TS document.)
 131. (S) Debriefing Report, Brig. Gen. Schinz, 22 Oct 66.
 132. (S) Ibid.
 133. (S) End of Tour Report, Brig. Gen. Smith; (S) "Review and Analysis System for RVNAF Progress," Hq MACV, 18 Sep 67, pp. 138-139 and 146-147.
 134. (S) End of Tour Report, Brig. Gen. Smith.
 135. (S) Ibid. (S) "History of the Air Force Advisory Group," Jan 66, Hq 7AF, USAF Advisory Group, pp. 4-5; (S) "VNAF Strike Capability in the Tet Offensive," CHECO Digest, Feb 1968, p. 22.

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136. (S) "Review and Analysis System for RVNAF Progress," Hq MACV, 18 Sep 67, pp. 139-140.
 137. Ibid., p. 138.
 138. Ibid., pp. 146-147.

CHAPTER IV

1. (S) End of Tour Report, Brig. Gen. Smith.
2. Ibid.
3. Ibid.
4. Ibid.
5. (CNF) End of Tour Report, Brig. Gen. Smith.

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APPENDIX I

VIETNAMESE AIR FORCE
PERSONNEL STRENGTH

<u>Date</u>	<u>Authorized</u>	<u>Assigned</u>	<u>Comments</u>
ca. 1954-56	?	"Few hundred"	
ca. 1 Jan 62	?	ca. 4,000	
July 1962	?	ca. 6,000	
July 1963	?	7,711	
31 Dec 64	?	10,521	
1 Jan 65	?	10,592	
July 1965	12,546	12,160	
31 Dec 65	14,760	12,976	MACV History varies slightly
January 1966	15,563	13,685	Asgd-1485 off.; 11,679 amn.; 521 civ.
September 1966	15,915	14,548	Auth-2708 off.; 12,052 amn., 803 civ.
30 Nov 66	15,915	15,006	Asgd-1722 off.; 12,826 amn.; 458 civ.
31 Dec 66	ca. 16,000	14,465	
30 Apr 67	15,687	17,769	Asgd-1964 off.; 13,805 amn.
Oct-Dec 67	15,687	16,107	Auth-2711 off.; 12,976 amn.
Jan-Mar 68	15,687	16,222	Asgd-2163 off.; 13,944 amn.
FY 1969	19,691	?	Auth-2719 off.; 12,968 amn.
FY 1970	21,568	?	
FY 1974	36,850	?	

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APPENDIX II

AIRCRAFT INVENTORY (VNAF)

<u>Date</u>	<u>Number Aircraft</u>	<u>Comments</u>
Jul 51	?	One liaison flight and one base
1953	?	Two observation squadrons added
1 Jul 55	32 C-47's and "a number" of Morane Saulnier 500's	Another source says 18 C-47's
Dec 61	70	
ca. Jan 62	96	
Dec 62	154	
Dec 63	219	
Jan 65	285	MACV History says 282
Dec 65	393	MACV History says 398
1 Jan 66	396	
31 Jan 66	409	
28 Feb 66	400	
31 Mar 66	395	
30 Apr 66	394	
31 May 66	388	
30 Sep 66	363	Authorized 403 airplanes
31 Oct 66	359	Authorized 412 airplanes
31 Dec 66	357	
31 Jan 67	355	
28 Feb 67	360	
31 Mar 67	358	
30 Apr 67	384	
31 May 67	387	
23 Jun 67	400	
30 Jun 67	399	
31 Jul 67	388	
31 Aug 67	389	
30 Sep 67	385	
31 Oct 67	383	
31 Mar 68	375	Authorized 397 airplanes

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GLOSSARY

AC&W	Aircraft Control and Warning
AFAT	Air Force Advisory Team
ARVN	Army of the Republic of Vietnam
ATC	Air Training Center
CONUS	Continental United States
DASC	Direct Air Support Center
DCS	Deputy Chief of Staff
FAA	Federal Aviation Agency
FAC	Forward Air Controller
FWF	Free World Forces
FY	Fiscal Year
GCA	Ground Controlled Approach
JGS	Joint General Staff
MACV	Military Assistance Command, Vietnam
MAP	Military Assistance Program
MTT	Mobile Training Team
NCO	Noncommissioned Officer
NVN	North Vietnam
OJT	On the Job Training
POL	Petroleum, Oil, Lubricants
RVN	Republic of Vietnam
RVNAF	Republic of Vietnam Armed Forces
SEA	Southeast Asia
SVN	South Vietnam
TACAN	Tactical Air Control and Navigation
TACC	Tactical Air Control Center
TACS	Tactical Air Control System
UMD	Unit Manning Document
USAF	United States Air Force
USMC	United States Marine Corps
VC	Viet Cong
VNAF	Vietnamese Air Force
WAFC	Women's Armed Forces Corps