MEMORANDUM

11287
10976

THE WHITE HOUSE

WASHINGTON

~~SECRET/SENSITIVE~~

ACTION
June 30, 1970

OSD, DIA, USAF, JCS, NSS, reviews completed.

MEMORANDUM FOR DR. KISSINGER

FROM: Laurence E. Lynn, Jr.

SUBJECT: Air Activity in Southeast Asia

Dave Packard has written the President (Tab B) arguing that the effectiveness of air operations in Southeast Asia is limited and substantial reductions should be carried out during FY 71 as now planned. Similar views were sent to you recently by Secretary Laird (Tab C).

Enclosed at Tab A is a summary of Packard's views on air activity for the President.

Air Activity in Southeast Asia

The principal OSD contention is that air activity is quite ineffective in many roles and can be reduced in scope without significant effect. In particular, Laird distinguished between "high priority" and "low priority" air missions in the following manner:

-- In Northern Laos: 25% of U.S. air strikes are against enemy troops and fortifications; 75% are strikes against enemy LOCs and supply systems supporting those troops.

-- In Southern Laos: 25% of our sorties attack trucks and infiltrators; the rest are used against enemy LOCs and storage areas.

-- In South Vietnam: 35% of the Allied air effort supports ground forces in contact with the enemy or hits targets on which we have fresh intelligence; the remainder are largely-preplanned strikes against suspected enemy locations or LOCs.

~~SECRET/SENSITIVE~~

Defining close support of Allied forces and attacks against enemy trucks as "high priority," Laird (and presumably Packard) concludes that over 60% of our total air effort is devoted to "low priority" missions. In assessing the effect of reductions in these "low priority" missions, Laird points to the following considerations:

-- We have never been able to reduce logistics flows to the point that enemy activity levels in South Vietnam were curtailed to any significant extent.

-- We are able to provide adequate support for Allied forces in combat using only a portion of the tactical air sorties we are now flying in South Vietnam.

Therefore, the Laird/Packard view is that reductions in our air activity related to interdiction in South Laos or non-support missions in South Vietnam and North Laos will "not seriously affect our combat operations or increase the risks to our troops or those of our allies."

I definitely agree with the general view that air activity rates can be reduced without risk to our objectives in Indochina. We engage in a large amount of ineffective and highly inefficient air activities in Southeast Asia. (See my earlier memo to you at Tab D.) However, I find many problems in accepting the logic that leads Laird and Packard to their conclusions. My principal problems are:

-- We do not have a conceptual basis for assigning priorities to various tactical air missions. Laird/Packard do not offer evidence as to why interdiction bombing has a low priority. Are they arguing that such missions should be reduced to zero? If we accept their general arguments, what sortie levels are we "approving?"

-- We do not really have an analytical handle on the importance of air support for ground force activity and how many sorties of what kinds are needed for this mission in the future.

-- We are not given a clear account of the opposing viewpoints in U.S. government on air operations. While noting that the JCS actually want a sortie level higher than at present, Packard makes no attempt to present and explain their views and indicate why he disagrees. The President is entitled to such an explanation.

For these reasons, I believe we should caution the President that we do not yet have all the answers on air operations effectiveness and, until we do, we should avoid acting precipitously as a result of budgetary pressures. I have prepared a summary of Packard's views for the President along these lines.

RECOMMENDATION

That you forward to the President Dave Packard's views (Tab A) on air activity levels in Southeast Asia.

Enclosures

 10976

SECRET

THE SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

5 JUN 1970

MEMORANDUM FOR: The Assistant to the President for National Security Affairs

SUBJECT: Tactical Air Operations in Southeast Asia

As we discussed at breakfast Thursday morning, we need to evaluate carefully our tactical air operations in Southeast Asia.

The highest priority for these operations is close air support for allied troops in South Vietnam. As you know, we have much more air capability in South Vietnam than is required for this mission. Most of the tactical air forces based in Thailand and on Navy carriers are involved in the interdiction of enemy supply movements from North Vietnam into Laos, Cambodia, and South Vietnam. Despite the intensity of this interdiction bombing, we have apparently not been able to reduce logistics flows to the point that enemy activity levels in South Vietnam are significantly curtailed. It may be presumed we have increased the costs involved to the North Vietnamese. The extent to which the incidence of this burden has been transferred to the North Vietnamese suppliers is unknown. Again, a logical assumption is that the burden has been mainly transferred to those suppliers. For these reasons, I believe the reductions in tactical air operations in Southeast Asia approved by the President will not seriously affect our combat operations or increase the risks to our troops or those of our allies.

These beliefs are supported by the enclosed study of tactical aircraft operations in Southeast Asia developed by the Office of the Assistant Secretary of Defense (Systems Analysis). The study examines deployments, missions, levels of operations, and relative costs and assesses the effect of planned sortie reductions on essential missions. As you would suppose, it is virtually impossible to derive a consensus on the impact of tactical air operations. I am providing this study, not because it represents the last word, but because it provides a viewpoint not commonly provided.

The most significant finding of the study is that, of the total sorties now being flown, a relatively small percentage perform operations considered to be of a priority nature. The analysis assumes that the key missions executed by tactical aircraft are close air support in South Vietnam and Northern Laos and attacks on moving vehicles in the Laotian Panhandle. About 60% of the total effort is devoted to lower priority missions. Other relevant findings are:

SECRET 3153

-- Only 4% of the total air effort in Southeast Asia is directed to the support of allied troops in contact with the enemy in South Vietnam.

-- The Vietnamese Air Force (VNAF) now delivers over 50% of air support for South Vietnamese troops, compared to less than 25% in early 1969.

-- By the end of FY 72, the planned expansion of the VNAF will increase its total capability about 70% over the present level. Therefore, the assumption of greater responsibility by the South Vietnamese for tactical air operations should continue, contributing significantly to the Vietnamization of the war.

-- Only 25% of U.S. air strikes in Northern Laos are against enemy troops and fortifications; 75% are strikes against roads and supply targets, and the results are limited.

-- Of the total supplies necessary to meet the enemy's requirements in the South, about 70% come from within South Vietnam itself. Of the other 30%, only about half are moved from North Vietnam through Laos. Despite intensive interdiction bombing, the enemy still has enough supplies to meet current or even increased needs.

-- In Southern Laos, by devoting greater emphasis to truck strikes and cutting back on low pay-off sorties, approximately the same destruction rate in Laos could be continued with fewer total sorties.

-- The steady depletion of North Vietnam's manpower reserves in battle appears to be the primary constraint on enemy activity levels in South Vietnam, rather than air attacks along the Ho Chi Minh Trail in Laos.

-- During the last twelve months, allied tactical aircraft operations in Southeast Asia cost $3.5 billion, which represents 20-25% of the estimated FY 70 incremental cost of the war. The reductions in air operations for FY 71, approved by the President last December, would reduce the cost by about $0.9 billion.

While it is clear that tactical air operations must continue at a level which would assure the continuance of essential missions, the 25% reduction in sortie rates, approved by the President for FY 71, will still leave forces fully adequate to meet priority air support needs. This planned decrease would eliminate or substantially reduce sorties of lower priority which do not contribute significantly to the basic objectives of our air operations.

I believe that the study gives a realistic perspective on what we can and cannot accomplish with tactical air operations in Southeast Asia. I would appreciate any comments you might have on this subject.

Melvin R. Laird

Enclosure

SECRET

OASD/SA
June 4, 1970

SOUTHEAST ASIA TACTICAL AIRCRAFT OPERATIONS

I. Introduction

A. Purpose

1. To show total allied tactical aircraft deployments, levels of operation, and their annual costs in Southeast Asia (SEA).

2. To show the employment of allied tactical aircraft in different theaters and for different missions -- particularly support of allied troops in South Vietnam -- and to examine the effects of air interdiction on the enemy supply system in Southeast Asia.

3. To identify planned FY 71 reductions in the level of U.S. tactical air operations and their effect on essential missions.

B. Summary Findings:

1. Close Support in South Vietnam (SVN) - Only a very small percentage (about 4%) of the total air effort in Southeast Asia is in support of allied troops in contact with enemy units in South Vietnam. Most of the remaining sorties attack known or suspected enemy locations, roads, and supply storage areas.

2. South Vietnamese Air Support - Of the total allied air effort in South Vietnam, about one-fourth of the attack sorties are reported as being flown for the Republic of Vietnam Armed Forces (RVNAF) units. In line with our Vietnamization objectives, the Vietnamese Air Force (VNAF) has increased the percentage of these missions it flies from 25% of total in early 1969 to over 50% currently. A planned 70% increase in VNAF sortie capability in FY 72 will continue RVNAF's trend toward complete independence from US air support.

3. Interdiction in Southern Laos - Air operations over the Laotian Panhandle strike at a flow of enemy supplies from North Vietnam equal to only about 15% of the total enemy supply requirements in South Vietnam. Even with the intensive bombing, the enemy still moves supplies adequate to continue, or substantially increase, his current operational levels.

4. Northern Laos - About 75% of U.S. air support for the Royal Lao forces in Northern Laos strikes logistic targets, yet the flow of supplies into Northern Laos has consistently exceeded by a significant margin the requirements of Communist forces there. North Vietnamese manpower requirements and casualties in this area are not a significant drain on the total manpower pool.

5. Communist Bloc Support to North Vietnam (NVN) - Air operations impose no meaningful materiel costs on North Vietnam since its allies pay for most of the resources. North Vietnam's foreign aid during the past three years has been two to three times as large as the costs of keeping her forces in South Vietnam, Cambodia, and Laos supplied and replacing the damage caused by the bombing of North Vietnam.

6. Reductions in Sorties - Current FY 71 plans provide enough tactical aircraft sorties (US, VNAF, and RLAF) to carry out those missions we consider to be most essential -- direct support of ground operations in South Vietnam and Northern Laos and attacks on moving trucks through the Laotian Panhandle. Substantial additional sorties (70% excess) will be available to meet identified lesser priority requirements.

II. Allied Air Resources

A. Deployed Tactical Air Forces: See Table 1 for US, Vietnamese Air Force (VNAF) and Royal Laotian Air Force (RLAF) tactical aircraft by base locations.

- Force drawdowns already executed, or now planned through June 1970, will reduce US forces based in SVN and naval carriers offshore by one-third from peak 1968-1969 levels.

- VNAF and RLAF capability has increased about one third since 1967.

- Overall the number of allied tactical aircraft deployed in SEA has declined about 13% from 1968-1969 peak levels.

- Offsetting these reduced force levels, allied tactical air forces in Southeast Asia have been steadily improved by the addition of slow-moving fighter/attack aircraft (A-1s, A-37s, B-57s) and aircraft gunships, both of which are much more effective providing close ground support and attacking moving vehicles than high-performance jets. 1/ Improved ordnance, delivery techniques, and intelligence collection and targeting have further improved air capability.

B. Tactical Air Sortie Levels: See Table 2 for US, VNAF, RLAF attack sorties by theater.

- SEA tactical air attack sortie levels are currently about 20% below peak FY 68-69 levels. Planned FY 71 reduced levels will be 25% below current ones.

- Many of the past sortie reductions have been in South Vietnam sortie levels; this has largely been due to reduced levels of combat in SVN.

- Following the November 1968 bombing halt over NVN, the US air effort shifted first to Southern Laos and then in mid-1969 to Northern Laos.

C. B-52 Sorties: See Table 3 for B-52 sorties flown in Southeast Asia since FY 67.

- Overall B-52 sortie levels tripled from FY 67 to FY 69 (from 600 sorties monthly to 1200 to 1800) in response first to the seige of Khe Sanh and then the February 1968 Tet offensive.

1/ See Table 14, which shows the relative effectiveness of gunships and other aircraft against moving trucks and Table 22, which shows the change in the mix of allied aircraft.

- Commensurate with overall reductions in combat activity in South Vietnam, FY 70 sortie levels are about 1,400 sorties monthly, 20% lower than in FY 69. FY 71 planning calls for an additional 30% decrease to 1,000 sorties per month.

- In FY 71 deployed B-52 aircraft will retain the capability to surge for 30 days to at least 1,400 sorties per month.

- The B-52 strike emphasis shifted to Southern Laos from South Vietnam in FY 69 and FY 70 to support interdiction efforts against the Ho Chi Minh Trail.

D. Air Support in Cambodia: See Table 4 showing recent US and VNAF air strikes in Cambodia and the required diversions of sorties from SVN and Laos.

- Allied air operations in Cambodia now constitute about one-fourth of total SEA tactical air and B-52 sorties. This has necessitated substantial reallocations of air effort from SVN and Laos.

- The tactical air sorties (6,600 per month) were reallocated almost equally from SVN and Laos, thereby lowering both the SVN and Laos sortie levels by 20-25%.

- B-52 sorties were reallocated in large part from Laos.

- It is doubtful that the diversions from Laos have had much impact since the monsoon rains have begun which hamper air operations.

E. Cost Impact: See Table 5 which shows FY 70 estimated costs of allied air operations in SEA, broken down by theater.

- The estimated incremental costs of allied air operations in Southeast Asia currently are about $3.5 billion per year.

- The costs of air operations in South Vietnam represent $1.9 billion (55%) of the total.

- U.S. air operations account for $3.2 billion (91%) of the total.

- B-52 operations account for $700 million (20%) of the total.

III. Primary Uses of Allied Air Resources:

A. Introduction: This section discusses relevant objectives for air operations, identifies sorties devoted to different targets and missions, and finally, where data permits, assesses the effectiveness of the fulfillment of the mission objectives.

B. Close Air Support in SVN:

1. Objective: To supplement the fire support requirements of the ground commander with adequate capability made available to the ground commander on a timely basis.

SECRET

2. Analysis:

a. Uses of Sorties in SVN: See Table 6 for a breakout of SVN air strikes showing support for troops in contact, immediate sorties delivered, and preplanned strikes.

- Less than 10% of all air strikes in SVN (4% of total in SEA) are flown to support allied forces in contact with enemy forces.

- Another 25% of SVN sorties fulfill a request from a ground commander or forward air controller for an "immediate" strike on a target that is time sensitive (e.g., enemy troops, an occupied base camp, an anti-aircraft site, etc.)

- Most of the remaining sorties are preplanned 24 hours or more in advance to strike known or suspected enemy locations.

b. RVNAF Air Support: See Table 7 which identifies air strikes for RVNAF, showing magnitude of sorties flown, number of sorties supporting RVNAF troops in contact with enemy forces, and the percent of support flown by VNAF.

- RVNAF receives about 4-5,000 tac air sorties per month, about 20% of total allied SEA capability.

- Consistent with our Vietnamization efforts, an increasing percentage of RVNAF air support -- now 52%, as compared to 24% in early 1969 -- is flown by the VNAF. As VNAF attack sortie capability increases in FY72 by almost 70% above current levels, VNAF should continue to provide an increasing proportion of total RVNAF support. (See Table 8 which details both the approved expansion in VNAF tactical capability through FY72 and an illustrative plan for further expansion in FY73.)

- Overall RVNAF air support levels have declined since early 1969, consistent with the reduced total SVN sortie effort; however, the essential air support sorties for RVNAF troops in contact have increased.

c. Comparison of RVNAF and US Air Support: See Table 9, which relates SVN air strikes for RVNAF and US forces to numbers of battalions and numbers of friendly casualties.

- RVNAF units in South Vietnam apparently receive less air support than U.S. units -- only about 60% as many sorties per battalion and 25% as many per man killed in action.

- For both RVNAF and US units, support for troops in contact requires only about 10% of total sorties received.

- RVNAF's share of SVN air support (US and RVNAF) has risen from 33% in early 1969 to 43% in early 1970.

SECRET

C. Interdicting Supply Movements: Results of these missions, which occur in all theaters, are illustrated by US operations in Southern Laos.

1. Objectives:

- To impose a ceiling on enemy combat activity in South Vietnam by reducing the flow of supplies below amounts required to support high activity levels, the primary concern being the enemy's ability to launch an offensive of sufficient intensity to upset Vietnamization.

- To impose a meaningful cost on the North Vietnamese in terms of their materiel and human resources (to be meaningful, the costs must be at or near maximum levels which the North Vietnamese are willing to sustain).

2. Analysis:

a. North Vietnamese Logistics: See Table 10 for a flow diagram of supply movements showing all supply flows into SVN and consumption by VC/NVA forces there, consumption and destruction in transit through Laos, etc.

- The enemy receives about 70% of his supplies for SVN operations from sources inside SVN, 10% from Cambodia, and about 3% from across the DMZ. He receives about 15% from NVN over his supply routes through Laos, the supply route against which our primary air interdiction effort is directed.

- About one-third of all supplies shipped into Southern Laos transit the system into SVN. The rest are destroyed by air strikes, consumed in-transit, or stockpiled in Laos.

- Seaborne imports into NVN are over 20 times greater than estimated supply shipments from NVN into Northern and Southern Laos.

- All variables on supply flows are uncertain, and of these the most uncertain are probably amounts destroyed by air strikes.

b. Laotian Supply Movements: See Table 11 for a comparison of supplies moved from NVN via Laos into SVN during last dry season to estimated VC/NVA supply requirements in SVN.

- Even in face of the intensive air interdiction effort, the Communists successfully move large amounts of supplies through Laos into SVN.

- During the last dry season,

February 1970 supply flows, for instance, we[illegible] 25X1

- Assuming the Communists suffer permanent loss of seaborne shipments of arms and ammunition (up to 15 tons per day) into and through the Port of Sihanoukville (Cambodia), and assuming they can continue last season's dry season shipment rate through Laos next dry season, they will meet their average daily supply requirements in SVN if they can ship 25 tons of supplies through Southern Laos during the wet season. All intelligence indicates the enemy intends to do this. They will, however, remain dependent on Cambodian rice sources.

c. Enemy Materiel Costs: See Table 12 for a comparison of the costs of replacing trucks, supplies shipped into Laos, and selected other war costs to NVN foreign aid.

- Foreign aid to North Vietnam has substantially exceeded the costs of supplying Communist forces in Laos, South Vietnam, and Cambodia in the years 1967-1969.

- The costs of supplying Communist forces in Southeast Asia declined by about one-half between 1967 and 1969 primarily because of the bombing halt over North Vietnam.

- Military aid to North Vietnam declined even more sharply than costs between 1967 and 1969.

- A 25% increase in economic aid partially offset the sharp decrease in military aid between 1967 and 1969, but total aid was lower by nearly one-third.

- The estimated incremental cost to the U.S. of interdicting Communist supplies in Northern and Southern Laos of about $1.5 billion in 1969 was nearly ten times greater than the cost of all enemy supplies shipped into Laos and the replacement value of trucks destroyed by air strikes.

d. Targeting and Aircraft Effectiveness: See Table 13 which shows the relative emphasis of Southern Laos strikes against trucks, roads and supply storage areas and the resulting effectiveness in destroying supplies.

- During 1969-1970 dry season interdiction program, 7th Air Force significantly shifted the target emphasis to moving vehicles, increasing these strikes from 15% of total in the 1968-1969 dry season to 27% of total this dry season, while at the same time reducing strikes against roads and supply storage areas.

- This shift increased estimated total destruction of enemy supplies by about 20% over dry season 1968-1969; the shift increased destruction per sortie about 60% since 1969-1970 sortie levels were reduced about 25%.

- The increased supply destruction resulted largely from greater reported truck destruction, which in turn resulted from the large increase in truck-kill sorties and the addition of highly effective gunship aircraft (AC-119s and AC-130s) to our interdiction force. (See Table 14 which shows relative aircraft effectiveness against trucks and supply targets.)

- By continuing to emphasize truck targets with the most suitable truck-killing aircraft and reducing the numbers of sorties flown during the wet season (Jan-Sep) when visibility degrades effectiveness (and enemy truck traffic normally is substantially reduced, we can achieve about the current levels of destruction with substantially fewer sorties. (Table 19 illustrates an example of such a program. This one requires only about 40% as many sorties as currently being used.)

d. Enemy Casualty Considerations: See Table 15 which shows the relationship between combat levels in SVN, resultant enemy casualties, and North Vietnamese manpower reserves.

- Continuance of the high first half 1968 combat levels would result in about 360,000 losses per year (300,000 of which would come from NVN). These replacement rates in three years would reduce available NVN manpower reserves by almost one-half.

- Manpower and casualty considerations rather than supply availabilities appear to impose the effective ceiling on North Vietnamese activity levels in SVN.

D. Air Support for Royal Lao Operations:

1. Objectives:

- To help limit the capability of the enemy to advance during the dry season.

- To impose meaningful costs on enemy efforts.

2. Analysis:

a. Close Support Versus Interdiction: See Table 16 for a breakout of US and RLAF sorties in Northern Laos showing strikes in providing close support versus interdiction missions.

- During the last year US aircraft flew an average of about two-thirds of the total 5,700 monthly attack sorties over Northern Laos; RLAF T-28s flew the remainder.

- About 70% of the US and 10% of the RLAF sorties performed interdiction missions along the enemy supply routes from North Vietnam; the others were directed mainly at enemy troops, fortifications, and weapons positions.

b. Measures of Effectiveness: See Table 17 which shows a comparison of North Vietnamese supply losses and KIA in Northern Laos, comparative losses in other theaters, and available NVN resources.

- Allied operations in Northern Laos have little impact on available North Vietnamese manpower or supply flows. Losses are small relative to other theaters and to available replacement manpower and supplies.

IV. Reduced Sortie Levels

A. Essential Strikes: In each theater only a small percentage of the tactical air strikes hit targets considered essential or of proven value.

-South Vietnam: less than 10% of all strikes support troops in contact with the enemy (over 60% of all strikes are pre-planned 24 hours in advance or longer to hit suspected or known enemy locations).

-Southern Laos: a small percentage of total strikes (15-25% depending on season) hit moving vehicles which are the most lucrative targets (See Table 13). Of these strikes, a small number of gunships accomplish most of the reported destruction (See Table 14).

-Northern Laos: nearly 75% of all US strikes hit supply-related interdiction targets, with limited effectiveness in denying the enemy his supply requirements.

B. Conclusions Pertinent to Sortie Reductions: Substantial reductions in tactical aircraft sorties can be achieved with little adverse impact on essential missions.

- Preplanned strikes in SVN can be reduced with little degradation in quality of close air support.

- In Southern Laos, by shifting more sorties to trucks, and relying on aircraft that are effective in truck-killing, current rates of destruction can be continued with fewer total sorties. Most of the reduction would be in high-speed jet aircraft sorties that are relatively ineffective for this particular mission in Southern Laos.

- Even with the intensive air interdiction effort in Southern Laos, traffic flow estimates show the enemy infiltrates supplies adequate for his current levels of operations in South Vietnam or substantially higher ones.1/

1/ This raises the question of what additional actions, if any, the enemy might initiate in South Vietnam were the US to cease bombing in Laos. This question is more fully addressed in an interagency study currently being prepared by OSD.

- In Northern Laos, by reducing interdiction strikes but continuing direct support missions, it would be possible to continue to maintain significant pressure on the PL/NVA with 50% fewer sorties.

C. Priority Sorties: The following sorties are considered high priority: (See Tables 18, 19, and 20 for detailed sortie levels.)

1. South Vietnam: Air strikes for allied troops in contact with enemy forces and other strikes called for by the ground commander or forward air controller on an immediate basis (i.e., time-sensitive targets).

2. Southern Laos: Attacks against moving trucks emphasizing slow-moving, truck-killing aircraft and strikes against enemy air defenses to protect the slow-moving aircraft (could also include limited numbers of strikes against identified lucrative supply storage targets).

3. Northern Laos: Close air support for Royal Lao forces, probably emphasizing strikes against enemy troops, but not excluding other close support battlefield targets.

4. FY 71 Sortie Plans: Comparison of planned sortie levels for FY 71 with priority sorties needs above shows that reduced FY 71 levels, although lower than current levels, are substantially in excess of "high priority" requirements (See Table 21).

TABLE 1

TACTICAL AIRCRAFT IN SOUTHEAST ASIA
(Possessed Aircraft)

	Dec 67	Dec 68	Dec 69	Jun 70 (Projected)
USAF				
SVN	363	414	369	332
Thailand	255	291	297	306
Total	618	705	666	638
USMC(SVN)	139	192	148	101
USN(Offshore)	167	202	119	122
U.S. Total	924	1099	933	861
VNAF(SVN)	90	44 a/	120	114
RLAF (Laos)	53	61	70	70
Total Tactical Aircraft	1067	1204	1123	1045

a/ Reduced VNAF force caused by A-1 aircraft attrition which depleted aircraft inventories.

OASD/SA
June 4, 1970

TABLE 2

US/VNAF/RLAF ATTACK SORTIES BY TARGET AREA
(Monthly Average Rates)

	FY 67	FY 68	FY 69	FY 70 (Jul-Mar)	FY 71 a/ (Projected)
South Vietnam	14,648	17,877	17,385	12,464	9,788
North Vietnam	9,065	7,955	4,196	10	-
Laos: South	2,981	3,698	8,489	7,890	5,087
North	1,099	1,372	2,475	5,732	4,305
Total	27,793	30,902	32,545	26,096	19,180

a/ Projected using FY 71 budget plans; allocated to target areas based on FY 70 experience.

OASD/SA
June 4, 1970

SECRET

TABLE 3

B-52 OPERATIONS IN SOUTHEAST ASIA
(Average Sorties Per Month)

	FY 67	FY 68	FY 69	FY 70 (Jul 69-Mar 70)	FY 71 (Projected)
South Vietnam	483	864	1,328	981	678
South Laos	103	187	424	465	322
North Vietnam (and DMZ)	50	163	47	-	-
Total	636	1,214	1,799	1,446	1,000

OASD/SA
June 4, 1970

SECRET

TABLE 4

IMPACT OF CAMBODIAN OPERATIONS

(US, VNAF)

	Monthly Average			
	SVN	Cambodia	Laos	Total
May 1970 [a/]				
Tactical Aircraft Sorties	9,733	6,655	8,974	25,372
Percent	38%	26%	36%	100%
B-52 Sorties	847	325	219	1,335
Percentage of Total	63%	24%	16%	100%
Air Ordnance (000 Tons)	47.5	25.2	27.8	100.5
Percent	47%	25%	28%	100%
Jul 69 - Mar 70				
Tactical Aircraft Sorties	12,464	-	11,792	24,256
Percent	51%	-	49%	100%
B-52 Sorties	981	-	465	1,446
Percentage of Total	68%	-	32%	100%
Air Ordnance (000 tons)	57.9	-	41.6	99.5
Percent	58%	-	42%	100%

a/ Based on 19 days data.

OASD/SA
June 4, 1970

SECRET

TABLE 5

FY 70 INCREMENTAL COSTS OF ALLIED AIR OPERATIONS IN SOUTHEAST ASIA a/

	($ Millions)	% Total
South Vietnam:		
U.S.	1,640	47
VNAF b/	260	8
Total	1,900	55
Northern Laos:		
U.S.	390	11
RLAF b/	40	1
Total	430	12
Southern Laos	1,150	33
Total Costs	3,480	100

a/ Projected from sortie rates during July 1969-March 1970. Includes tactical fighter sorties (attack and non-attack), sorties flown by supporting aircraft, and B-52 sorties. Excludes peacetime operating costs of aircraft in the post-Vietnam force structure.

b/ Air Force estimate of amounts included in the FY 70 military functions appropriations for support of the RLAF and VNAF.

OASD/SA
June 4, 1970

SECRET

SECRET

Table 6

SOUTH VIETNAM - TYPES OF AIR STRIKE MISSIONS

	Attack Monthly Sorties (Jul 69 - Mar 70)	Percentage of Total a/
Support of Allied Troops in Contact (TIC)		
From Strip Alert Aircraft	722	6
From Preplanned Strikes	329	3
From Armed Reconnaissance Missions	21	-
Total	1,072	9
Immediate Strikes (Other than TIC)		
Known Enemy Locations	1,851	15
Suspected Enemy Locations	778	6
Preparation of Allied Positions	203	2
Anti-Aircraft Sites	222	2
Total	3,054	25
Preplanned Strikes (Not-Diverted)		
Known Enemy Locations	3,470	28
Suspected Enemy Locations	3,996	32
Preparation of Allied Positions	708	5
Anti-Aircraft Sites	164	1
Total	8,338	66
Total Sorties	12,464	100

a/ Calculated from an analysis of U.S. tactical aircraft sorties flown in August 1969 SOURCE: USAF DASCLOG Computer File.

OASD/SA
June 4, 1970

SECRET

SECRET

TABLE 7

TACTICAL AIR SUPPORT FOR RVNAF
(Attack Sorties Per Month)

	1969		1970
	Jan-Jun	Jul-Dec	Jan-Apr
Air Strikes for RVNAF Troops in Contact	645	1456	690
Total RVNAF Strikes	5173	4585	3638
% of Total Strikes Flown by VNAF	24%	44%	52%

OASD/SA
June 4, 1970

SECRET

TABLE 8

PLANS FOR INCREASES IN VNAF TACTICAL
(Aircraft)

	Dec 66	Dec 67	1
A-1	108	70	
A-37	-	-	
F-5	-	20	
Total	108	90	
Attack Sortie Capability (per month)	2,657	2,059	1,

a/ Phase II, VNAF I&M Plans; U.S. aircraft will beginning July 1971.
b/ JCS Proposal included as a recommendation fo
c/ Sortie rates: A-1 30/month, A-37 36/month,

SECRET

TABLE 9

COMPARISON OF RVNAF AND US AIR SUPPORT LEVELS
(Jan 69 - Feb 70)

	Support For Troops in Contact with Enemy	Total Air Support Received
Total Attack Sorties Received Per Month		
RVNAF	514	4,639
US	939	8,130
RVNAF as % of US	55%	57%
Total Attack Sorties Per Person Killed in Action		
RVNAF	0.3	3.0
US	1.3	11.3
RVNAF as % of US	24%	25%
Total Attack Sorties Per Battalion a/		
RVNAF	5	46
US	9	81
RVNAF as % of US	56%	57%

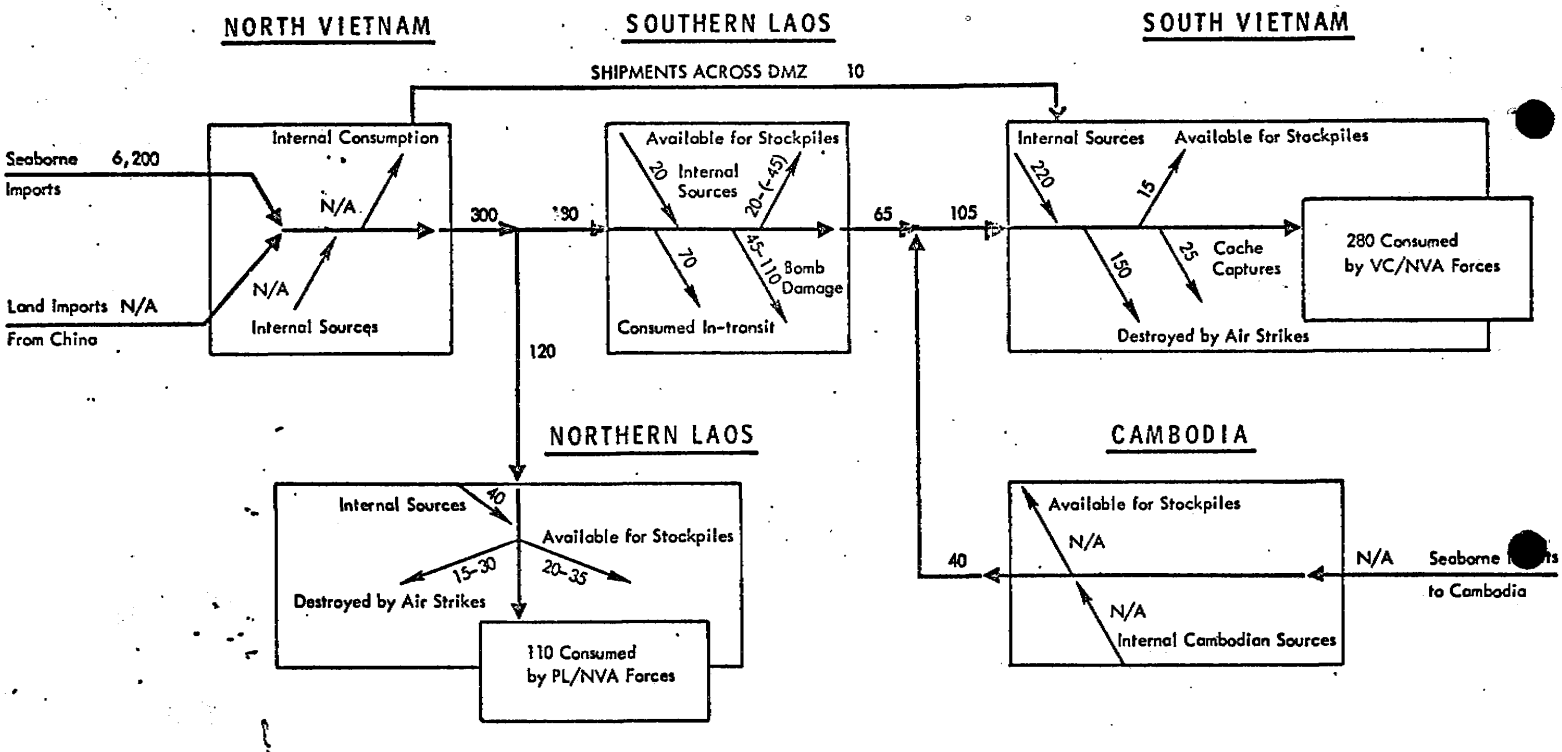
a/ For calculations assume one ARVN battalion equates to 0.6 US battalions.

OASD/SA
June 4, 1970

TABLE 10

THE NORTH VIETNAMESE LOGISTICS SYSTEM

(Estimates of Supply Movements in Short Tons Per Day - Average Over a 12 Month Cycle)



N/A = Not Available

OASD/SA
June 4, 1970

SECRET

Table 11

INTERDICTION - LAOTIAN SUPPLY FLOWS COMPARED TO SVN SUPPLY REQUIREMENTS

	Short Tons Per Day
VC/NVA Supply Requirements in SVN	
Total Supply Requirements	320
External Supply Requirements	
Total From Laos and Cambodia b/	90
Total from Laos Assuming Cambodian Rice, but not Cambodian Arms and Ammunition, Available c/	65
Total from Laos Assuming Cambodian Rice, Arms, and Ammunition Available d/	50
Supply Flows From Southern Laos into South Vietnam	
Dry Season a/	
November 1969	12
December 1969	52
January 1970	130
February 1970	215
March 1970	149
April 1970	79
May 1970 (est.)	49
Wet Season Projection (Jun-Oct)	25-50
Full-Year Average	68-78

a/ 7th Air Force estimates based on sensors placed along roads leading into SVN from Southern Laos.
b/ Excludes 10 tons of rice per day which NVN ships across the DMZ.
c/ Cambodian sources supply about 25 tons of rice per day to II and III Corps.
d/ In the past up to 15 tons per day of arms, ammunition, and other equipment were moved to III and IV Corps. The closure of Sihanoukville will most likely curtail these shipments.

OASD/SA
June 4, 1970

SECRET

SECRET

Table 12

INTERDICTION - SELECTED ENEMY COSTS
($ Millions)

	Calendar Year 1967	1968	1969
Costs of Supplies Shipped To: [a]			
Northern Laos	53	61	58
Southern Laos	45	63	60
Total	98	124	118
Costs of Trucks Destroyed: [b]			
Northern Laos	1	1	3
Southern Laos	6	44	38
Total	7	45	41
Costs of Supplies, Equipment, and Industry Destroyed in North Vietnam [c]	139	85	-
Costs of Air Defense in North Vietnam [d]	235	122	83
Total Costs	479	376	242
Total Foreign Aid To North Vietnam: [d]			
Economic	380	480	470
Military	650	395	220
Total	1,030	875	690
Total Costs as % of Foreign Aid	46%	43%	35%
Total Costs as % of Military Aid	74%	95%	110%

a/ Computed from CIA estimates of supply shipments and estimated costs per ton of supplies of $1,300 for Northern Laos and $1,100 for Southern Laos.
b/ Computed from DIA estimates of truck attrition and estimated cost of $6,000 per vehicle.
c/ OASD/SA estimates, based on several earlier studies.
d/ CIA/DIA estimates.

SECRET

OASD/SA
June 4, 1970

TABLE 13

U.S. INTERDICTION EFFORTS IN SOUTHERN LAOS

	Dry Season Nov 68-April 69	Wet Season May 69-Oct 69	Dry Season Nov 69-Apr 70
Targets Struck (average monthly sorties)			
Moving Vehicles	1,826	751	2,471
Storage Areas and Truck Parks	4,261	3,377	2,562
Roads a/	4,747	2,101	2,105
Anti-Aircraft	730	300	1,006
Other	609	976	1,009
Total Sorties	12,173	7,505	9,153
Estimated Supply Destruction b/			
Tons Destroyed (000's)	26.8	8.4	31.9
Tons per Sortie	0.37	0.19	0.58

a/ LOC's, Traffic Control Points.
b/ USAF estimate

OASD/SA
June 4, 1970

SECRET

TABLE 14

INTERDICTION - RELATIVE AIRCRAFT EFFECTIVENESS

	Reported Bomb Damage Per Sortie	Estimated Supplies Destroyed Per Sortie
Results From Truck Attacks	Trucks Destroyed/ Damaged	Tons
High-Performance Jets a/ b/	0.27	0.67
Slow-Moving Attack Aircraft a/ c/	0.37	0.92
Aircraft Gunships a/ d/	2.40	5.99
Total From Truck Attacks g/	0.35	0.86
Results From Storage Area/ Truck Park Attacks	Secondary Fires/ Explosions	Tons
All Aircraft f/	1.64	0.61

a/ Results during randomly selected time periods of 1969-70 dry season.
b/ F-4, F-100, F-105, A-4, A-6, A-7.
c/ A-1.
d/ AC-119, AC-123, AC-130.
e/ Calculated first by assuming 55% of trucks are loaded and carry 3.8 tons of supplies and second by adding 0.187 tons per truck-related secondary fire or explosion (under the assumption that 50% of truck-related secondaries result from roadside caches not cargo in trucks).
f/ Results achieved by all tactical aircraft from November 1969 to April 1970. Calculated by assuming each secondary fire or explosion associated with an air strike against a storage area target means 0.375 tons of supply destruction.
g/ November 1969-April 1970.

OASD/SA
June 4, 1970

SECRET

SECRET

TABLE 15

INTERDICTION - NVN MANPOWER RESERVES VERSUS SVN COMBAT LEVELS

SVN Combat Rate a/	NVN Manpower Reserves (Dec 69) b/	Annual Replacement Required for SVN Losses c/ e/	Annual Additions to NVN Manpower Pool d/	Projected NVN Manpower Reserves Dec 1970	Dec 1971	Dec 1972
Peak Rate						
(Jan-May 68)	1,500,000	300,000	74,000	1,274,000	1,048,000	822,000
Average Rate						
(Jul 68-Jun 69)	1,500,000	172,000	74,000	1,402,000	1,304,000	1,206,000
Lull Rate						
(Jul-Oct 69)	1,500,000	140,000	74,000	1,434,000	1,368,000	1,302,000

a/ Activity indicators for these periods are not perfectly symmetric. The average rate is closer to the lull rate than the peak rate.

b/ U.S. Census Bureau Study. Includes 560,000 in the Armed Forces.

c/ Assumes first, that VC continue present recruiting rates in SVN and that all VC/NVA losses above 5,000 per month are replaced by NVN and second, that losses from all causes (KIA, died of wounds, captured, deserted, etc.) continue constant through the forecast period at rates actually experienced during each given sample time period.

d/ 137,000 physically fit males will reach the age of 15 years; but 63,000 males, not in the North Vietnam military, leave the manpower pool by reaching the age of 35 years or through natural death as civilians. Males in the military of all ages are assumed to remain in the manpower pool indefinitely.

e/ An additional 10,000-15,000 North Vietnamese casualties per year occur in Laos.

OASD/SA
June 4, 1970

SECRET

SECRET

Table 16

AIR SUPPORT FOR ROYAL LAO FORCES a/

	Monthly Average Attack Sorties	Percent
US Tactical Aircraft		
Strikes Against Enemy Troops, Fortifications, and Weapons Positions	976	17
Interdiction	2,770	48
Anti-Aircraft Suppression	156	3
Total	3,902	68
RLAF		
Strikes Against Enemy Troops, Fortifications, and Weapons Positions	1,647	29
Interdiction	183	3
Total	1,830	32
Total	5,732	100

a/ Average for the July 1969-March 1970 period. Breakdown by mission estimated from data in the USAF L&N card file for May-December 1969.

OASD/SA
June 4, 1970

SECRET

SECRET

TABLE 17

IMPACT OF ALLIED OPERATIONS IN NORTHERN LAOS

	Monthly Average Rates a/
Enemy Personnel Losses	
Total NVA casualties in North Laos	10-12,000
As percentage of NVA casualties in SVN	8-10%
Number Years of Available Manpower Reserves in NVN at Above Loss Rate	14 years
Enemy Supply Losses	
Total supply losses in North Laos (tons)	450-900
As percentage of supply losses in South Laos	20-40%
As percentage of supply inputs to North Laos	12-25%

a/ Time period - an average of recent supply and loss experience during last 12 months.

OASD/SA
June 4, 1970

SECRET

TABLE 18

HIGH PRIORITY AIR STRIKES IN SOUTH VIETNAM a/

	Monthly Attack Sorties	% Total
High Priority Strikes		
Troops in Contact	1,072	9
Other Immediate Strikes	3,054	25
Total	4,126	34
Lower-Priority Strikes		
Pre-planned Strikes	8,338	66
Total	12,464	100

a/ See Table 6 for further detail.

OASD/SA
June 4, 1970

TABLE 19

HIGH PRIORITY AIR STRIKES IN SOUTHERN LAOS

	Past Experience		
	Dry Season (Nov 68-Apr 69)	Wet Season (May 69-Oct 69)	Dry Sea (Nov 69-A
High Priority Strikes			
Attacking Trucks			
Gunships	63	60 d/	35(
Other Truck Strikes	1,763	691 d/	2,12
Total	1,826	751	2,47
Protecting U.S. Aircraft			
AAA Strikes	667 d/	240 d/	65(
Gunship Escort (Striking AAA)	63 d/	60 d/	35(
Total AAA Strikes	730	300	1,00(
Total High-Priority	2,556	1,051	3,47
Lower-Priority Strikes			
Striking Road System	4,747	2,101	2,10
Striking Storage Areas and Truck Parks	4,261	3,377	2,562
Other	609	976	1,00
Total Lower-Priority	9,617	6,454	5,67
Total Sorties	12,173	7,505	9,153

a/ Present AC-130, AC-119K, and AC-123 gunship capability.
b/ December 1969 experience, which can reasonably be considered about a peak requirement; only about 1,800 truck sorties monthly were flown during 1968-1969 dry season.
c/ Calculated by using two tactical air sorties per gunship, but with only one of the two sorties actually striking an AAA site. The other 520 monthly sorties, being non-attack, are excluded from this table.
d/ Estimated.

on r 70)	Proposed Program: Dry Season (Nov-Apr)	Wet Season (May-Oct)	Total Year
d/	520 a/	180 a/	350 a/
d/	2,480	180	1,330
	3,000 b/	360	1,680
d/	900	60	480
d/	1,560 c/	540 c/	1,050 c/
	2,460	600	1,530
	5,460	960	3,210

TABLE 20

HIGH PRIORITY U.S. STRIKES IN NORTHERN LAOS [a]
(Jul 69-Nov 70)

	Monthly Attack Sorties	% Total
High Priority Strikes		
U.S.		
Enemy Troops	631	11
Anti-Aircraft Sites	156	3
Total	787	14
RLAF	1,830	32
Total High Priority	2,617	46
Lower Priority Strikes		
U.S.		
Trucks	208	4
Logistic Storage Areas/ Truck Parks/LOCS	2,456	43
Enemy Fortifications/ Weapons Positions	345	6
Other [b]	106	2
Total Lower Priority Strikes	3,115	54
Total	5,732 [c]	100

a/ SOURCE: L&N Card File.
b/ Airfields, dams, free strike zones, heavy construction equipment, construction areas, tactical vehicles, watercraft, other (unspecified).
c/ Sortie rate May 69-Dec).

OASD/SA
June 4, 1970

SECRET

TABLE 21

ALTERNATIVE TACTICAL AIRCRAFT SORTIE LEVELS

	Attack Sorties Per Month
Current Operations (July 1969-March 1970)	
USAF	14,285
USN	3,350
USMC	3,636
VNAF	2,995
RLAF a/	1,830
Total	26,096
JCS Plan/Current Budgets (End FY 71) b/	
USAF	10,000
USN	2,700
VNAF	3,600
RLAF c/	2,220
Total	18,520
An Illustrative Priority Sortie Plan (US, VNAF, RLAF)	
South Vietnam - Support of Troops in Contact and Other Immediate Strikes	4,100
Southern Laos - Truck Attacks and AAA Suppression	3,200
Northern Laos - RLAF Sorties and Arbitrary U.S. Sortie Rate	2,600
Total	9,900

a/ January 1969-October 1969.
b/ JCS Plans submitted to the Secretary of Defense on April 30, 1970.
c/ Planned increases which include gunship aircraft.

OASD/SA
June 4, 1970

SECRET

SECRET

TABLE 22

AIR RESOURCES - THE MIX OF DEPLOYED AIRCRAFT
(US, VNAF, RLAF)

	Dec 67	Dec 68	Dec 69	Projected June 30
Tactical Aircraft				
High Performance Jets	868	1006	877	731
Slow-moving Attack Aircraft[a/]	146	137	176	244
T-28s (RLAF)	53	61	70	70
Total	1067	1204	1123	1045
Aircraft Gunships				
With sensor equipment[b/]	-	4	11	23
Without sensor equipment[c/]	40	46	45	40
Total	1107	1254	1179	1108

a/ A-1, A-27, A-37, B-57.
b/ AC-119K, AC-123, AC-130.
c/ AC-47, AC-119G.

OASD/SA
June 4, 1970

SECRET

MEMORANDUM

10923
Lot

THE WHITE HOUSE

WASHINGTON

TOP SECRET

ACTION
June 6, 1970

MEMORANDUM FOR DR. KISSINGER

FROM: Laurence E. Lynn, Jr.

SUBJECT: Air Activity in Southeast Asia

Several months ago, the President asked for an evaluation of the effectiveness of our interdiction campaign in Laos. More recently, you approved seeking permission for a VSSG review of our air activity throughout Southeast Asia.

This memo discusses the issues involved in our Laos campaign, also summarized in a memo for the President, and presents a study plan for the President's approval (Tab A).

Air Activity in Southeast Asia

With the cessation of the bombing of North Vietnam, U.S. air activity has been focused on three principal areas:

25X1

-- In South Laos, continued interdiction of the enemy's infiltration involved about 7,500 sorties per month.

-- In South Vietnam, attacks on enemy base areas and support of Allied ground forces require about 13,500 sorties per month.

Each of these operational areas has its own distinct operational character. While I will discuss below the character of our interdiction campaign in Southern Laos, a similar, if not more expert, evaluation of our efforts in South Vietnam and North Laos is also needed. With the granting of authority for a small interdiction program in Northeast Cambodia, we also need to look

TOP SECRET

into the problems there, particularly those associated with the starting of a new enemy logistical system along the Se Kong and Mekong rivers.

Our Bombing Campaign in South Laos

Since its inception in 1964, the principal focus of our bombing campaign in South Laos has been on destroying supplies available for shipment to South Vietnam. To do this we attack moving trucks, truck parks, and storage sites with half or more of our average of 7,500 sorties monthly. The remainder of our effort is aimed at reducing the capacity of the Laotian road-net by attacking the roads themselves and the crews that attempt to repair them.

The air resources that we use to carry on this campaign include:

-- Gunships. These converted cargo planes (C-130 and C-123s) are equipped with side-firing guns guided by night observation devices and covert illuminators. They are used to attack moving trucks in largely undefended areas.

-- Slow-Moving Aircraft. These tactical aircraft (mainly A-1s and T-38s) are equipped with guns for straffing and conventional bombs but not special night observation devices. Like the gunships, they are used mainly to attack moving trucks in lightly defended areas.

-- Fast-Moving Aircraft. These tactical aircraft (largely F-4s) are largely equipped in the same manner as the slower tactical aircraft. They are used to suppress enemy AAA fire and to attack targets in defended areas, particularly during day-time.

The strengths and weaknesses of the U.S. interdiction effort in Laos, particularly against moving trucks, largely result from the operational characteristics of our aircraft:

-- Target Acquisition. Our tactical aircraft, except for the gunships, are unable to locate their own targets. Instead, targets are located by FACs (aided by the sensor system) which then illuminate or mark the area with flares and lead the fighter pilot to the target. The noise, delay, and illumination involved in locating

a target give the enemy warning of attack and time to take countermeasures.

-- Bombing Accuracy. Our tactical aircraft generally bomb from at least 2,000 feet during the night and higher during daytime. With unguided ordnance, the expected error during daytime when most bombing is done is about 300 feet for a slow-moving plane (A-1) and 500 feet for a fast-moving aircraft (F-4). During nighttime when there is bad weather the expected errors for both aircraft types are 1000 feet or more. These bombing errors are very large given the target size presented by a moving truck or the small storage dumps typical of Laos. With laser-guided bombs, these errors could be substantially reduced but only few bombs of this type are available and few planes are equipped to use them.

-- Bomb Lethality. Our standard 500-pound bomb has a lethal area of about 75 square feet against a truck. With this lethal area and the average nighttime bombing accuracy, it usually takes 10 500-pound bombs -- two full loads of a slow-moving A-1 -- to ensure the destruction of a single truck. For the fast-moving F-4, four sorties and up to twenty 500-pound bombs are required to accomplish this same result. While other types of bombs have a greater lethal area -- firebombs and bomblets -- conventional "iron" bombs are the most frequently used ordnance.

The enemy knows these characteristics of the U.S. aircraft and the tactics used in our bombing effort. He has put great effort and ingenuity into countermeasures that reduce the effectiveness of our bombing:

-- Weather. The enemy operates almost entirely at night or in bad weather when U.S. aircraft are unable to acquire targets visually without warning the enemy and when bombing accuracies are greatly reduced. Because the enemy roadnets are operated far below their capacity, the enemy can move required supplies without exposing them to interdiction during periods of daylight and good weather.

-- Dispersal. The enemy has dispersed his truck convoys and storage areas so as to reduce target size. Convoyed trucks are often spaced about 200 yards apart so that no more than one can be destroyed by a single aircraft. Small storage areas containing five to ten tons of supplies are sprinkled throughout the countryside.

-- Camouflage. The enemy has expertly camouflaged his truck and storage areas greatly increasing the difficulties of locating them in thickly-forested and mountainous Laos. While our Igloo White sensor system and roadwatch teams help to offset this enemy tactic, they are not completely successful.

-- Bomb Countermeasures. The enemy has learned to locate and disarm the mines and delayed-fuse bombs we use. Against the MK-36 anti-vehicular mine, for example, the enemy knows the location of the mine because its tail assembly sticks out of the ground after impact. Because the mine uses a magnetic fuse, the enemy, knowing its location, can trigger it easily from a safe distance using a magnetic coil. While some delay and inconvenience is caused, the enemy does not suffer substantial losses.

-- Road Repair. The enemy has scattered road repair crews and materials along all the principal routes through Laos. While the U.S. attempts to forestall repair by the use of anti-personnel mines and delayed-fuse bombs, the enemy has been able to repair any damage to its roads in less than two days with only a few hours usually required.

Because of these effective enemy countermeasures and our technical limitations, the air interdiction effort has always been relatively inefficient though not without effect. To evaluate these effects, we turn next to a more detailed discussion of truck and supply destruction and road interdiction.

Truck Destruction

Because of these difficulties, U.S. pilots in Laos report that only one out of every five enemy trucks sighted in Laos is destroyed and only a fraction of the actual movement is probably sighted. However, in spite of this acknowledged inefficiency, our pilots also report that they destroyed more than 5,000 trucks per year in 1968 and 1969 and more than 5,000 in the current dry season.

While these pilot reports represent the best information available and, with minor adjustments, are accepted by the Air Force and DIA, they may seriously overstate our actual destruction of trucks for the following reasons:

-- Pilot Error. Rewarded on the basis of reported destruction, U.S. pilots have an obvious incentive to inflate the damage reported. While the pilots reports can be checked against the reports of FACs, there is little doubt that both probably seriously overstate the damage suffered by the enemy. Following the Korean War, detailed analysis showed that individual pilots reported as much as ten times as much destruction as had actually occurred because they tended to restrike over and over targets already destroyed. Because of poor visibility caused by the height, the weather, and effects of exploding bombs, pilots and FACs are often unable to accurately assess the damage they have caused.

-- Other Evidence. Post-strike photography has never revealed the large numbers of disabled trucks in Laos expected from pilot reports. Our best intelligence is that the enemy's total inventory of trucks in Laos (1000 to 1400 vehicles) is substantially less than the trucks reported destroyed even in some periods as short as a month.

For these reasons, I believe it is likely that our estimates of enemy truck losses, based on pilot reports, are probably substantially overstated. This judgment is informally shared by many individuals in the services.

Secondary Fires and Explosions

Besides attacking moving trucks, our bombing effort also hits enemy storage areas and truck parks. The assessment of damage done to these facilities is based largely on the number of secondary fires and explosions reported by U.S. pilots. During the current dry season, our pilots have reported about 20,000 secondary fires and explosions compared to 13,000 in the same period last year. In general, these secondary fires account for about two-thirds of the total supplies the DIA and the Air Force report that the enemy has lost through our air campaign.

However, there is no reliable means of checking these reported results or determining their significance in terms of enemy personnel and supply losses. For purposes of analysis, the Air Force and DIA assign an estimate of the supply tonnage lost in each secondary explosions but these estimates represent little more than arbitrary assumptions that cannot be independently corroborated and are undoubtedly subject to serious errors.

Enemy Supply Flows

Based on the uncertainties of the reported destruction, the intelligence community has been at odds over the extent to which enemy supplies in Laos are actually destroyed by our bombing effort and whether, given the known supply flows into Laos and consumption there, the enemy has more or less supplies available than he needs to meet his requirements in South Vietnam. The two principal views are:

-- The Air Force and DIA officially accept the pilot's reports of trucks destroyed and secondary explosions at face value. Extrapolating these effects into supplies lost to the enemy, they find that the enemy is losing or consuming in Laos more supplies than he has been bringing into Laos. They conclude, therefore, that the enemy has only maintained the flow of supplies into South Vietnam by depleting stockpiles previously built up in Laos.

-- The CIA believes that the actual supplies lost to the enemy are substantially less than reported by our pilots. On the basis of all available intelligence, they believe that the enemy loses about 25% of his supply flow in Laos and that consequently the enemy has more supplies available in Laos than needed to both supply South Vietnam and build substantial stockpiles in Laos.

Thus, there is a basic disagreement about the enemy's supply situation in Laos. Aside from the factors, such an overstatement of enemy losses already mentioned, the principal reason for supporting the CIA view is that our information on actual enemy supply flows into South Vietnam shows that the enemy is able to vary his supply flows greatly, increasing them to levels far beyond his minimal requirements even during periods of intense bombing. During January and February, 1970, the enemy's actual supply flows were almost four times the estimated requirements of VC/NVA forces in SVN during the same period. If these flows occurred, I believe that they prove beyond a reasonable doubt that our interdiction effort has not limited substantial increases in enemy supply flows. This direct evidence is corroborated by what we know of the capability of the enemy supply system: its excess road and truck capacity, and relatively low manpower requirements.

On the other hand, if the pilot reports and the Air Force/DIA view of their implications are correct, they form a strong argument that the interdiction campaign in South Laos has effectively forced the enemy to deplete his stockpiles of war material there and may have reduced enemy supply flows into South Vietnam below its requirements there for some periods.

Other Bombing Effects

Although our bombing may not effectively reduce enemy activity in South Vietnam, it does increase the resources required from North Vietnam and its allies to support its forces and continuously disrupts enemy logistical activity creating substantial managerial difficulties for North Vietnam.

The cost to North Vietnam consists of the supplies destroyed and men killed by our bombing. Since 1964, about 15,000 trucks and 70,000 tons of supplies with an estimated value of $167 million have been reported destroyed. While almost all of this material is provided by Hanoi's allies - not North Vietnam itself - it undoubtedly represents some loss to North Vietnam.

Because our bombing is directed mainly against logistical targets it has not cost the enemy dearly in manpower. Although the incidence of disease among infiltrating personnel is high, most of their personnel recover and few permanent losses (about 10% of the infiltrators) result from it. Likewise, while the North Vietnamese have to maintain some manpower in Laos to offset the effects of bombing that could otherwise be redeployed, the numbers involved (10,000 to 20,000 men) are not substantial.

In addition to increasing the cost to North Vietnam, the bombing in Laos also disrupts the flow of supplies to base camps in South Vietnam. While little is known on this point, I think that these disruptions probably have a very limited impact on enemy operations within South Vietnam itself, because the enemy has been able to maintain his overall supply flows at or above required levels. Though enemy supply shortages are reported in South Vietnam, they are usually caused by forward distribution problems - inadequate numbers of laborers, allied distraction of VC storage areas, and poor transportation - not an overall shortage of supplies coming from Laos.

Even though the disruptive and cost-increasing effects of our bombing are relatively slight, I nevertheless think that they are important enough so that some interdiction campaign can be justified.

There are, however, numerous improvements in our present campaign that would achieve these results at a decreased cost or increase our effectiveness at current expenditure levels.

Some possible improvements are:

-- Wet Season Bombing. The Air Force has usually continued its interdiction effort in South Laos during the wet season at only slightly-reduced levels (5,000 to 7,000 sorties monthly). Because the enemy has sharply reduced his supply activity during these periods, these sorties have been much less effective than sorties made during the dry season when targets are plentiful.

-- Aircraft. The fast-moving jet aircraft (F-4s) used by the Air Force are much less effective than either slow-moving (A-1 or A-20) or gunships (AC-130) aircraft at destroying enemy supplies. Nevertheless, because of its desire to keep fast-moving aircraft in its post war inventory, the Air Force has consistently redeployed slow-moving aircraft rather than fast-moving aircraft and has never deployed gunships in appropriate numbers. As a result, our interdiction effort is probably less effective and more costly than it needs to be.

-- Ordnance. The development of new ordnance suitable for Laos and the reduction of ordnance already developed suffers from many shortcomings. We still largely use conventional "iron" ordnance in Laos even though we have every reason to believe that CBUs, napalm and laser-guided bombs are more effective.

With DOD plans to reduce our overall air effort in Southeast Asia, it is critical that we develop as efficient an air effort in Laos as possible. However, even if our air activities in Laos were as efficient as possible, we would still face the difficult strategic problems created by a budgetary squeeze on our air activity including:

-- Determining the overall sortie level in Southeast Asia required to support our military and diplomatic strategy.

-- Allocating these sorties among the various operational areas and missions within those areas.

-- Funding the level of air activity that appears desirable on strategic grounds.

I have prepared a directive from you to the VSSG designed to start a study effort answering these questions. I suggest that you seek the President's support for the study and familiarize him to a greater extent with the nature of the problem.

RECOMMENDATION

That you forward the enclosed memo (Tab A) to the President asking his approval of a VSSG evaluation of air activity in Southeast Asia.

Approve_____ Disapprove_____

If you feel the memorandum for the President is unnecessary, I recommend you sign the study directive. (Tab B)

Attachments