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Memorandum

*Net Assessment of North Vietnamese
and South Vietnamese Military Forces*



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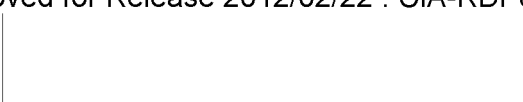


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10 April 1972

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CENTRAL INTELLIGENCE AGENCY
10 April 1972

INTELLIGENCE MEMORANDUM

**NET ASSESSMENT OF NORTH VIETNAMESE
AND SOUTH VIETNAMESE MILITARY FORCES**

Introduction

1. This memorandum presents a net assessment of the North Vietnamese and South Vietnamese armed forces. It considers the principal strengths and weaknesses of both forces as of two dates -- early April 1972 and 1 January 1973. In addition to providing quantitative measurements of the two forces, the memorandum examines certain intangible factors such as morale, national will, and leadership, as well as the contribution which foreign aid has made to the military strength of both sides. Finally, it contains a series of appendixes which treat specific parts of the problem in greater detail.

2. During the preparation of this memorandum, the North Vietnamese began a major offensive in South Vietnam which will almost certainly evolve into a "net assessment" of the two sides' armed forces, played out for real on the field of battle. Present evidence indicates that the action will be heavier than anything which has occurred in South Vietnam since 1968, and that this offensive will involve an all-out effort by Hanoi. If so, this campaign's results will clearly have major implications for the military strengths of both sides by 1 January 1973, the later of the two dates which we consider. If the North Vietnamese Army (NVA) is driven back after a month or so with losses far heavier than those suffered by the South Vietnamese Army (ARVN), Hanoi will have a substantially weaker -- or at least less effective -- army in January 1973 than it has at present, both absolutely and relative to the ARVN. If, on the other hand, the ARVN suffers several major defeats, takes casualties as heavy as those of the NVA, and seems in general to be unable to stand up to the NVA, then it is the ARVN which will be in a substantially weaker position, materially and psychologically, at the beginning of next year. We have taken these factors into account to the best of our ability, but we caution that the fluid, fast-evolving situation on South Vietnam's battlefields precludes confident or certain Washington projections of future net assessments.

The Quantitative BalanceGround Forces - North VietnamThe Present Situation

3. As of early April 1972, the NVA had achieved a maximum forward posture, in terms of the combat forces deployed outside the borders of North Vietnam. Both the movement of NVA infiltration groups into South Vietnam and Cambodia over the past half year and the deployment of integral combat units of the NVA support this judgment.

4. So far this dry season (September 1971 through early April 1972), Hanoi has dispatched about 120,000 infiltrators to the southern war zones. This compares with some 106,200 during the entire dry season last year (September 1970 through June 1971). The following tabulation shows the areas to which these troops were sent.

	<u>1970/71</u> <u>(Sep-Jun)</u>	<u>1971/72</u> <u>(Sep-early Apr)</u>
GVN MRs 1 and 2		
Tri-Thien-Hue	6,000	12,000
MR 5	14,200	16,000
B-3 Front	14,500	42,000
GVN MRs 3 and 4 and Cambodia		
COSVN	45,000	36,000
Southern Laos	26,500 <u>a/</u>	14,000
<i>Total</i>	<i>106,200</i>	<i>120,000</i>

a. Including some units deployed for Lam Son 719.

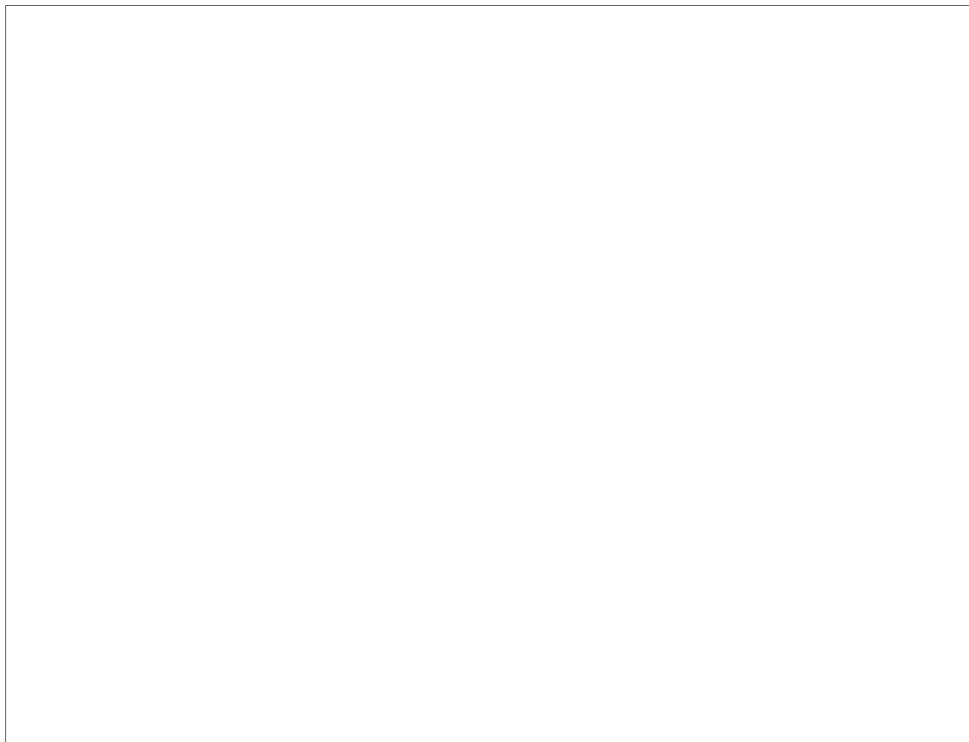
5. The figures above include the movement of the NVA 320th Division to the B-3 Front, and of the NVA 324B Division to Military Region Tri-Thien-Hue (TTH). They do not, however, include other NVA forces which have recently moved into South Vietnam as organic combat units rather than as infiltration groups. These will be discussed in paragraph 7, below.

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6. Our best judgment is that this year's infiltration has resulted in an expansion of the NVA combat order of battle (OB) in South Vietnam by about 22,000 men, and in Cambodia opposite GVN Military Region (MR) 3 by about 5,000 men. Most of the remaining 93,000 infiltrators are to be used to provide a stock of fillers to offset combat casualties and to expand the enemy's rear services system in southern Laos and Cambodia. (Some infiltrators, of course, have been lost en route, either because of disease or because of Allied interdiction efforts.)

7. A further expansion of the enemy forces in South Vietnam occurred with great speed in late March and early April 1972 when 28,000 more combat troops deployed into the country in organic units from North Vietnam, Laos, and Cambodia.* Since 12,000 of these troops were included in the threat category of the December 1971 OB estimate, the net OB increase from these unit redeployments amounts to 16,000. This increase, together with the 22,000 OB increment resulting from infiltration, raised the enemy's combat forces in South Vietnam to about 115,000-130,000 men in early April 1972 (see the table on p. 5).



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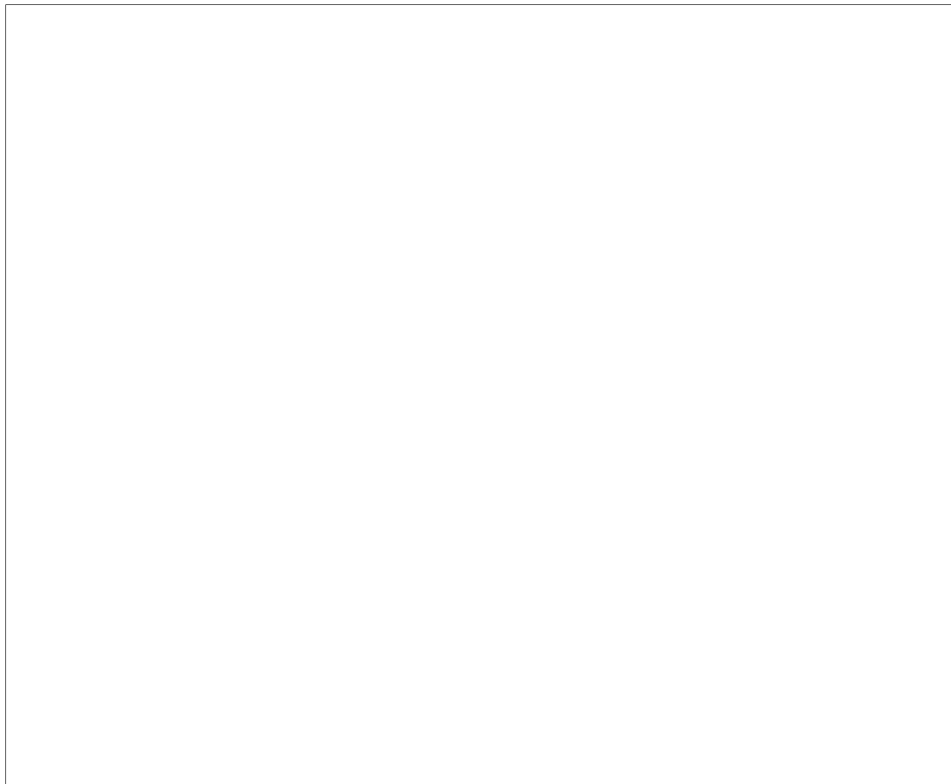
* These forces include the 304th and 308th Divisions from North Vietnam, elements of the 2nd Division from southern Laos, and three regiments from Cambodia which have moved into MR 3.



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9. In addition to its commitment of manpower to South Vietnam, southern Laos, and Cambodia, Hanoi has also sharply increased its deployment of forces to northern Laos this season. Heavy infiltration to this area in the last half of 1971 included the deployment of three infantry regiments, improvements in the air defense system, and increases in heavy artillery. By the end of 1971 the NVA enjoyed a combat force superiority of about 2.5 to 1 over the Lao irregulars, [redacted] Lao regular army personnel in the Plaines des Jarres area. Since then, the ratio has improved somewhat for the Allied side as additional irregulars [redacted] have been introduced as reinforcements.

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10. Overall, Hanoi has committed an exceptionally large portion of its military assets this year to the various military fronts outside North Vietnam. As a result of this year's infiltration, the recent unit deployments into South Vietnam, and the earlier expansion of the force structure in northern Laos, Hanoi now has on its home territory only some 15 regular infantry regiments. This is the smallest reserve force retained at home during any dry season since 1968, when the General Offensive was under way. Actually, Hanoi now has even less of a reserve force in North Vietnam than it had in 1968. Furthermore, there are clear signs that the three regiments of the 325th Division (included in this total) are now moving



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Estimated Strength of Communist Regular Combat Forces
In or Targeted Against South Vietnam, Cambodia, and Laos

	Thousands			
	<u>December 1969</u>	<u>December 1970</u>	<u>December 1971</u>	<u>Early April 1972</u>
VC/NVA	<u>130-150</u>	<u>105-120</u>	<u>105-120</u>	<u>145-165</u>
South Vietnam	130-150 <u>a/ b/</u>	85-95 <u>b/</u>	80-90 <u>b/</u>	115-130
Cambodia	--	20-25	25-30	30-35
Khmer Communist	<u>N.A.</u>	<u>10-20</u>	<u>15-30</u>	<u>15-30</u>
Pathet Lao/NVA <u>c/</u>	<u>55-65</u>	<u>60-70</u>	<u>70-85</u>	<u>65-80</u>
Northern Laos	35-40	30-35	40-45	40-45
Southern Laos	20-25	30-35	30-40	25-35

a. This figure includes enemy main forces actually stationed in Cambodia but targeted against South Vietnam. In later years, separate estimates for South Vietnam and Cambodia have been made, but this was not done for 1969, when all enemy forces in Cambodia were considered to be part of the threat against South Vietnam, and Cambodia itself was not regarded as a theater of the war.

b. The figures for South Vietnam include those NVA forces located in southern North Vietnam between Dong Hoi and the DMZ which are considered to be targeted against South Vietnam. These forces numbered 13,000 in December 1969, 10,000 in December 1970, and 12,000 in December 1971. By late March 1972, this figure had jumped to 20,000. In late March and early April, in conjunction with the new enemy offensive, these 20,000 troops all moved into GVN MR 1. The enemy OB figure for South Vietnam does not increase by the full amount, however, since 12,000 of them had already been included in the OB figure in December 1971. Another 8,000 enemy combat troops, who are included in the early April 1972 OB figure, have moved from Cambodia and Laos into GVN MRs 2, 3, and 4 since late March.

c. This figure includes troops in air defense units.

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southward and may be committed to action in South Vietnam. In addition, there is some evidence that the combat capability of a number of these reserve regiments is not very good.

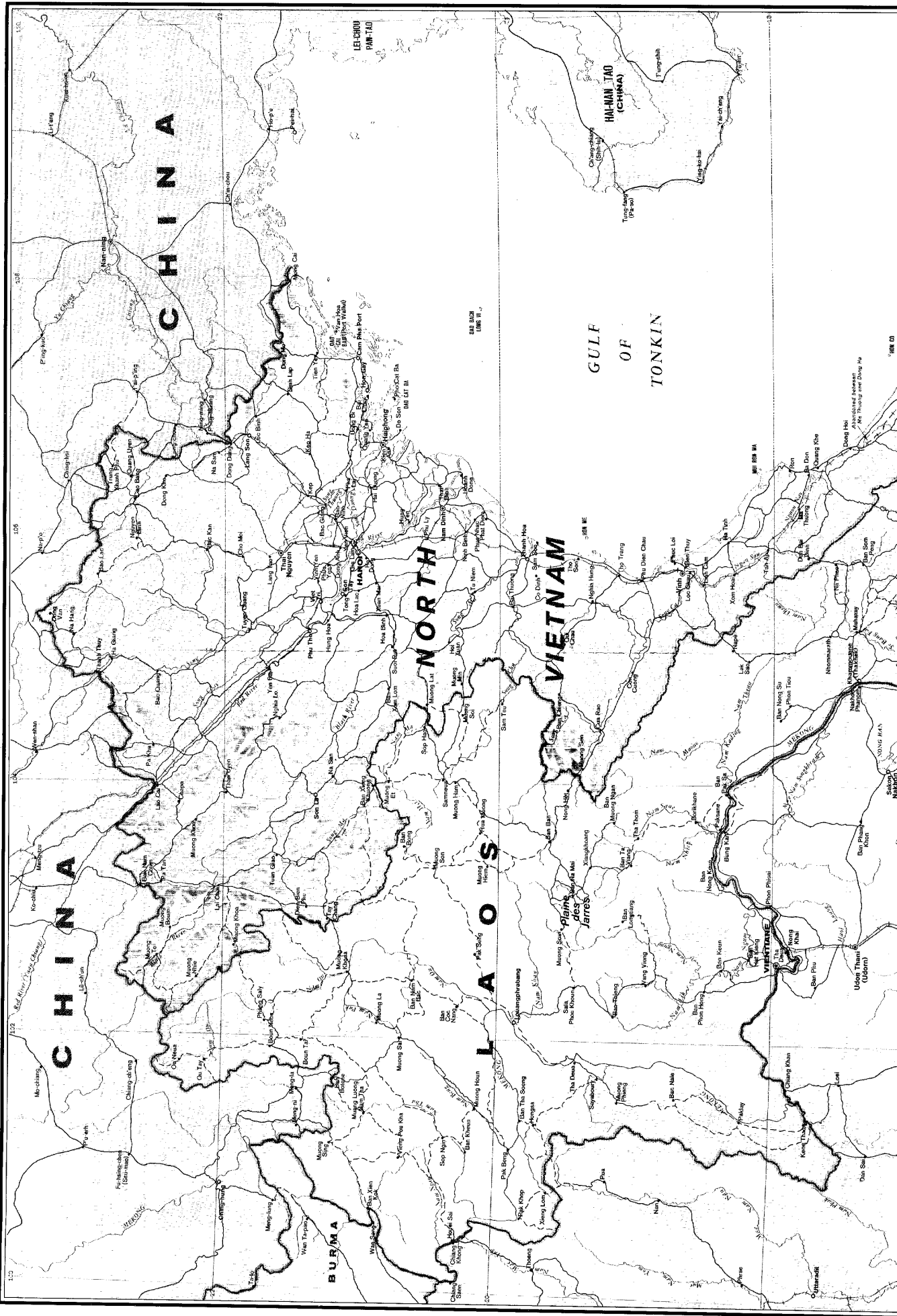
Outlook for 1973

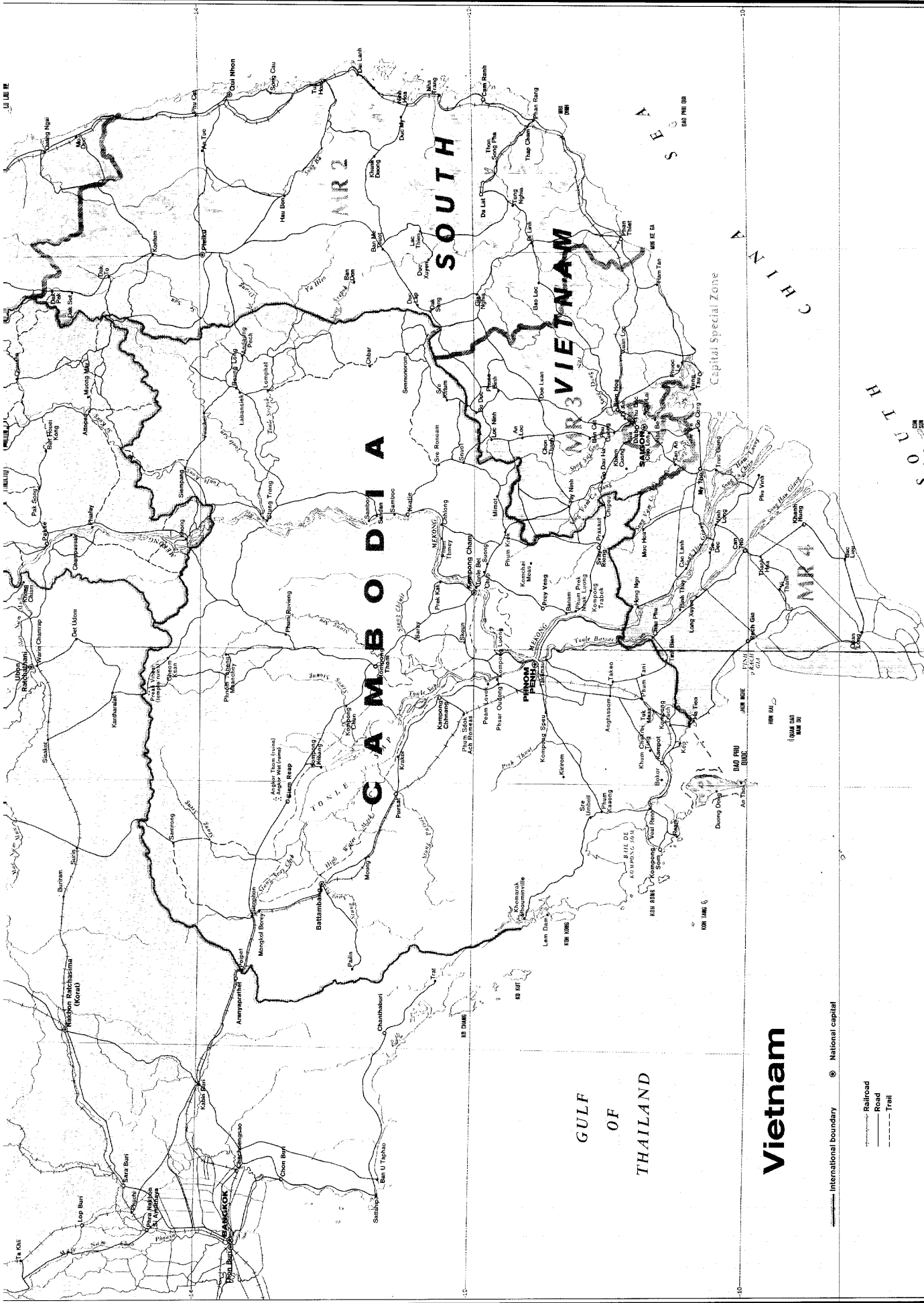
11. The total size of the NVA (including regional forces kept inside North Vietnam) has grown from about 250,000 men in 1964 to 575,000 men at present. In the same period, North Vietnamese losses in the war have amounted to roughly 900,000 men. Hanoi is able to induct about 100,000 men each year into its armed forces without further drawing down its manpower pool, but - if historical precedent is a guide - its losses are likely to be well over 100,000 men in any year in which it launches significant offensive action. Even with high losses, of course, Hanoi could for several years induct men at the 1968 peak rate of about 200,000 per year before its manpower reserves in the prime age group for military service were exhausted. In terms of raw manpower, therefore, North Vietnam's situation is tight and getting tighter, but not critical (see Appendix I).

12. Hanoi's ability to expand its force structure over the next year will be determined by three factors: the availability of raw manpower, the quality and quantity of available cadre, and the regime's willingness to accept the cost of such an expansion. The evidence of the way that Hanoi currently perceives its limitations on this front is extremely thin. In any case, the costs of such an effort undoubtedly would be higher than they have been in the past. The raw recruits would be available for such a structural expansion of the army, but the NVA would face a far more serious problem in finding qualified NCO's and officers. The attrition rate on these has been severe in recent years, and what little evidence there is suggests that North Vietnam does not have a reserve pool of men in this category. It is probable that North Vietnam will not create any major new combat units of divisional size in the near future. We believe they still retain the option of generating at least a few main force units, although it is doubtful that the force structure would be made significantly greater in the next nine months than it now is.

13. This being the case, North Vietnam could not undertake a greater military effort against South Vietnam next year than it is doing this year, unless it were able to get additional manpower from other areas or sources. There are five such potential sources:

- a. **Training Units in the North** These contain some of Hanoi's best cadre, and the North Vietnamese might send some of them back to the front if they believed the need was great enough.







- b. **Northern Laos** The NVA combat OB in northern Laos was expanded by a division during 1971 in preparation for the current campaign. Hanoi's force level requirements in northern Laos next year will depend in large measure on the condition of Lao forces and the extent of Thai involvement. If there was a reduction in the fighting in northern Laos, the enemy might be able to free one of the two divisions now committed there.
- c. **Cambodia** The virtually complete reorientation of the four enemy main force divisions in Cambodia toward South Vietnam in recent weeks has been made possible in part by the poor performance of FANK. The development of Khmer Communist combat forces and the formation of eight light territorial-type NVA regional regiments in Cambodia have also made it easier for these four divisions in effect to turn their backs on FANK. If FANK's performance does not improve by next year, and that of the enemy's regional regiments does improve, the enemy might be able to upgrade some of these regional forces and use them, in addition to the four main force divisions, for attacks against South Vietnam. The number of men likely to be available from this source, however, is not great.
- d. **Air Defense** The recently expanded air defense system of North Vietnam is Hanoi's greatest potential source of additional high-quality manpower. But so long as the US air campaign -- or even the US air threat -- continues, the enemy probably will not reduce significantly the number of personnel assigned to air defense.
- e. **Recruitment Inside South Vietnam** Unless the war turns badly against South Vietnam this year, the enemy's ability to find new Viet Cong recruits in South Vietnam will remain inconsequential.

14. The conclusion from all this -- assuming that the North Vietnamese are unable to achieve significant and lasting military victories in their present offensive -- is that it will be extremely difficult for them to launch action inside South Vietnam on a heavier scale next year. If their casualties are heavy this year, they will almost certainly be unable to launch a campaign anywhere near as large as the current one.



Ground Forces - South Vietnam

The Present Situation

15. The total size of the South Vietnamese armed forces is about 1 million men, of which some 460,000 are main force ground troops of the ARVN or the Vietnamese Marines. (The Regional Forces (RF), Popular Forces (PF), and Vietnamese Air Force and Navy account for the remainder.) The GVN's main forces are thus substantially greater in number than the enemy's main forces ranged against them in South Vietnam. Although the South Vietnamese have had fairly serious problems in building up their armed forces to this level, their casualties in the war have been much less over the years than have the casualties of North Vietnam. On balance, the south's present manpower situation is probably somewhat better than that of the north (see Appendix III). Because its casualties are likely to be less, the south should have less difficulty than the north in maintaining its forces -- numerically -- at their present levels.

16. In terms of equipment and training, as well as in terms of numbers, the South Vietnamese ground forces must be rated as equal or superior to the North Vietnamese forces whom they are fighting. The South Vietnamese have made significant progress in the last several years both in military doctrine and the utilization of manpower. While they still have a long way to go, they are increasingly making military assignments and promotions on the basis of merit. Leadership and training have both improved on the whole, although here again deficiencies remain.

17. The strengthening and upgrading of the RF and PF and the creation of the Peoples Self-Defense Forces have freed ARVN regulars to perform the main force role formerly dominated by US troops. These local forces have also provided the basis for more effective and integrated local security protection. As local security has improved, leading elements of the territorial forces have moved into the main force role. In some areas, RF units -- both battalions and in some cases separate companies -- are now operating across provincial boundaries. In two provinces of MR 4 where security has been good (An Giang and Go Cong), all RF units have recently been operating outside their home provinces.

18. In eight of MR 4's 16 provinces, responsibility for security has rested entirely on the territorial forces. The ARVN regular units in the region have been increasingly free to operate against the enemy's in-country base areas and across the border in Cambodia.

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Outlook for 1973

19. The period of expansion for the South Vietnamese armed forces is now over. Although some South Vietnamese officials desire a further increase in the size of their army, such an increase, which would require US assistance, is not in the cards. As is the case with the NVA, ARVN will be fighting in 1973 with a force structure essentially no larger than that which exists today. Any changes which are made will essentially be readjustments within the existing force structure.

20. Assuming that the present enemy offensive is ultimately beaten back by Allied forces without any lasting military gains to the enemy, there will still probably be some additional manpower requirements placed on ARVN in GVN MRs 1 and 2. An obvious requirement exists to replace the 44,000 Republic of Korea (ROK) troops now in MR 2. Because these troops are less effective in the pacification role than are Vietnamese territorials - in some respects the ROKs are counterproductive - and because much of their support apparatus would be redundant, significantly fewer Vietnamese troops would be required to replace them.

21. The local security problem in the coastal provinces of MR 1 and MR 2 also may require some additional manpower. The requirement may not be great, since there is considerable room for improvement in the utilization of existing assets by local GVN officials. But to the extent that these officials do not prosecute the pacification effort vigorously, both now and after the current enemy offensive ends, more main force troops will be needed in the area.

22. Our judgment is that the additional troops which may be necessary in MR 1 and MR 2 could be provided fairly easily from the ARVN forces now in the Delta. This assumes, once again, that the present offensive ends without major military defeats or a lasting psychological setback for the ARVN. It may prove difficult to move whole ARVN units from their home areas in the Delta, but a sufficient cadre of officers and men could be moved to form the nucleus of new units in locations where they are more needed. In sum, both in the present period and in early 1973, ARVN should - from a quantitative point of view - be able to handle the internal security demands which will be placed on it as well as the main force threat from the NVA.

The Air and Naval Wars

23. North Vietnam now has only limited offensive air capability which is deterred mainly by the continuing US air presence in Indochina. If this US air presence remains, Hanoi's offensive air capability is unlikely to grow

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in the coming year. Defensively, Hanoi already has a well-integrated air defense system consisting of surface-to-air missiles, antiaircraft artillery, and MIG jet interceptors. Top Soviet air defense officials have recently been in North Vietnam, and by 1973 it is likely that Hanoi's air defense network will be further improved through the receipt of additional Soviet equipment. (For a more detailed discussion of North Vietnamese air capability, see Appendix VIII.)

24. South Vietnam has a fairly large and still growing air force, whose combat capabilities are oriented primarily toward tactical air support. By all yardsticks, this air force - the VNAF - has become steadily more effective as it has grown, although there are still deficiencies. A high level of support is still required from the US Government and US contractors for logistical management, maintenance, and training. Furthermore, neither now nor in 1973 will the VNAF be capable of providing sufficient air support during a period of high enemy activity like the present. Nor will it be capable of carrying out an active air interdiction campaign outside South Vietnam in the enemy's well-defended infiltration corridors of southern Laos. The VNAF has been designed primarily to handle "normal" tactical air support requirements inside South Vietnam at a level of military activity similar to that prevailing in 1971 (see Appendix VII). The above comments relate to fixed-wing capabilities. The helicopter situation is somewhat more complex as reflected in Appendix VII.

25. The navies of both North and South Vietnam are coastal defense forces with little offensive punch. The South Vietnamese navy will eventually assume the entire responsibility for MARKET TIME, the program which has been largely successful in preventing North Vietnamese supply/infiltration trawlers from reaching the South Vietnam coast. Although this turnover will almost certainly impair MARKET TIME's effectiveness, measures currently being taken may offset somewhat declining US participation in the program. (For a discussion of the naval capabilities of both North and South Vietnam, see Appendix IX.)

The External Aid Factor

26. Neither North Vietnam nor South Vietnam has an industrial base capable of supporting the kind of war each side is now waging, and both countries are heavily dependent on military aid from abroad. It is a truism to point out that without US aid the South Vietnamese war effort would quickly grind to a halt. But North Vietnam would clearly have similar problems if Soviet and Chinese aid were to cease. For a wide variety of



reasons, in monetary terms US aid to South Vietnam is larger than Soviet and Chinese aid to Hanoi. In terms of real dependence, however, outside aid is probably just as vital to Hanoi as it is to Saigon. The ordnance industries of both countries are small, and each produces only a limited number of light infantry weapons and some ammunition. Lacking resources and a production capability, both countries must also import all the petroleum and vehicles used in prosecuting a modern war.

27. In the case of North Vietnam, military aid deliveries from the USSR and China reached a peak of \$650 million in 1967 but have declined since then to less than \$200 million annually in 1970 and 1971. The decline resulted mainly from a reduced need for sophisticated air defense equipment from the USSR following the bombing halt and not from any limitation imposed by the suppliers (see Appendix XI). The USSR and the People's Republic of China (PRC) have always been willing to meet Hanoi's basic military needs. Both reaffirmed their support for North Vietnam several times during 1971 and early 1972, as evidenced by the dispatch of high-ranking delegations to Hanoi last fall to sign the annual military and economic aid agreements for 1972 and subsequent announcements of supplemental military aid agreements for 1972. The March 1972 visit of Soviet Deputy Defense Minister Batitskiy to Hanoi provides further evidence of Moscow's continuing high-level interest in North Vietnam's air defense capability. The monetary value of Soviet aid to North Vietnam will probably rise as a result of this visit, and the Soviet Union may provide some new types of military equipment.

28. Over the years, the military aid provided by the USSR and the PRC has been more than adequate for North Vietnamese war aims as defined by the North Vietnamese themselves. Moreover, there is no evidence that North Vietnamese war strategy has ever been altered because of insufficient military aid. Current levels of military aid fully meet the estimated current requirements of the enemy. It is only prudent to assume that if those requirements change, as may be the case now in the air defense field, the volume of aid will also change.

29. A sharp reduction (e.g. 50%) in military aid to North Vietnam would not affect its logistic capability to support a protracted warfare strategy throughout Indochina for at least 12 to 18 months, although it would affect Hanoi's ability to launch other all-out main force campaigns of the type now beginning. A scarcity of petroleum might be the most difficult problem for Hanoi if outside aid were slashed in this fashion. Military reserves of petroleum would still be adequate, but an immediate 50% cut in oil deliveries by the USSR almost certainly would lead to deterioration in the civilian transport sector of the economy, which currently has only about a 90-day reserve supply of petroleum. For



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exclusively military purposes, however, the Communists maintain generous stocks of ordnance, petroleum, and trucks. There is ample evidence that such stocks are large, dispersed throughout the logistic system, and would be adequate to support a protracted war strategy to January 1973 even if Soviet and Chinese aid were cut 50% today. In the longer run, of course, a sustained aid cutback would force the enemy into an even lower profile of guerrilla war with increasing dependence on indigenous logistic support.

The Qualitative Balance

Morale and National Will

30. The Vietnamese Communist passion for secrecy makes any evaluation of morale and national will -- among Communists either North or South -- highly speculative. Nevertheless, in the broadest terms there is little doubt about the trends of the last four years. Vietnamese Communist human resources have been stretched in this period, and the military and political apparatus that Hanoi can devote to the struggle is less resilient and responsive, taken as a whole, than it used to be. The decline is best documented among indigenous Communist assets in South Vietnam, who are both less numerous and less well motivated than they were before the 1968 offensives. There has also been a scattering of indications of poor morale among North Vietnamese soldiers, however, and it must be assumed that such difficulties are cropping up with greater frequency. Moreover, there are persistent morale problems among civilians in North Vietnam -- problems that have existed in one form or another as long as the war has gone on but may be worsening as the costs of the North's commitment become more apparent.

31. To date the fighters and commanders on the Communist side have consistently seemed to be more thoroughly indoctrinated, more deeply convinced of the righteousness of their cause, better disciplined, less prone to desert, and more determined to fight hard and win than have the officers and men on the South Vietnamese side. They still may be, but the difference is no longer so clear nor so great. The winds of change have shifted; the Communists no longer appear in so many Vietnamese eyes to be the wave of the future. Today, many more Viet Cong cadre and regulars are filled with doubts about their leadership and their destiny, and many more South Vietnamese have gradually concluded that the Communists are indeed the enemy and must be driven off.

32. When all this is said, however, it still appears that at least as far as North Vietnam itself is concerned, the Communist will to prosecute



the war is essentially unimpaired. Hanoi may not be expecting very much for now out of its apparatus in South Vietnam, and it may be having more trouble with the motivation of North Vietnamese troops and civilians alike than it has ever had before. But the regime's own devotion to its cause has not diminished, and it still seems able to get at least an adequate response from the North Vietnamese populace.

Leadership

33. At the top of the North Vietnamese hierarchy, the fervor and dedication of the men who for decades have set the tone for the Vietnamese Communist movement appear undiminished. Most of these men are now in their sixties and many of them apparently have periodic bouts of ill health; moreover, there almost certainly are disagreements among them on some issues. As a group, however, their quasi-religious commitment to the cause of ridding Vietnam of non-Vietnamese, non-Communist influences – and extending their hegemony to the rest of Indochina as well – seems as strong as ever. The depth of this commitment apparently overrides any differences among them. It also makes them unamenable, by and large, to the notion of compromise with their adversaries. Communist leaders apparently still believe that victory will be theirs if they fight long enough, and they regard negotiations as simply one possible route to this goal. True compromise is regarded as a serious possibility only when the movement's very life is at stake, and there is nothing to suggest that the present leadership believes their cause is in such straits today. Thus a significant softening of their revolutionary line, even for tactical reasons, is unlikely.

34. The ruling group is unusually small by Communist standards, and it has been exceptionally stable. As its members age, the problem of succession looms increasingly large. What evidence there is on the subject suggests that at least a limited effort has been made to move new men into positions of authority – men drawn from the Party, from North Vietnam's nascent managerial bureaucracy, and perhaps also from the army. Practically nothing is known about any of these men, but one or two seem to have a relatively nondoctrinaire attitude and a good many are more closely identified with domestic problems than with the war. It may be that North Vietnam's priorities and strategies would change if such men came to power. This is a risky speculation, however, since for them as for today's ruling group, the Communist struggle has been the biggest single consideration during their entire adult lives. In any case, the regime's devotion to the "revolution" is not likely to diminish so long as the present hierarchy remains intact, and there is nothing to indicate that anyone in the hierarchy is about to leave the scene.

35. Among lower level military leaders, however, doubts about the leadership and the destiny of the Communist cause seem to be cropping



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up with some regularity. We have good evidence of this among Viet Cong cadres and regulars in South Vietnam, and there is little question that the years of war have also taken their toll among experienced North Vietnamese officers and NCOs. The last few years of relative inactivity may also have impaired the combativeness of some Communist main force units. The extent of the decline, which almost certainly is most noticeable in infantry units, is impossible to measure, however, and in some cases it may even have been offset by an increased use of armor and artillery.

36. On the South Vietnamese side, there are leadership problems of a different kind, which at least until recently have been considerably more severe than those of the North. In the top governmental structure there have always been some leaders just as dedicated to the cause of anti-Communism as Hanoi's leaders have been dedicated to their cause. Limitations of social class and educational background, however, have hindered the advancement of many competent people with little formal education, and have too frequently meant that incompetents with "proper" backgrounds have held high positions.

37. These problems have been just as serious in the military services as they have been in the government. (Since many of the leading governmental posts are held by military men, the problems tend to be identical in any case.) Historically, few promotions have been awarded for excellence in the field, and aggressive combat leadership has too often not helped the careers of field grade officers. Furthermore, corruption to one degree or another has been almost routine with many, perhaps most, South Vietnamese officers. This corruption, which also exists on a lesser scale in the North Vietnamese army, makes it difficult for the troops to respect their leaders and dilutes the professional dedication of the officers themselves.

38. None of these deficiencies in the officer corps or among other South Vietnamese leadership groups can be easily eradicated, and one of them -- corruption -- is probably as rampant today as it ever was. (It is probably no more rampant, be it noted, than in various other Southeast Asian countries.) At the same time, progress has been made in dealing with some of the other deficiencies of South Vietnamese leadership. At the Division and Regional (Corps) levels of ARVN, a number of hard driving and aggressive officers have won recognition and positions which they probably would not have won several years ago. Competence is increasingly regarded as a necessary attribute for high rank or office -- though exceptions still abound. In both army and government, most middle- and top-level leaders have become professionally more skillful as managers, planners, and organizers, and the whole apparatus of government and armed forces runs more smoothly. In general, many problems of leadership still exist in South Vietnam, but it is no longer possible to make a clear judgment that they are more severe than the problems which exist in North Vietnam.

APPENDIX I

A Manpower Overview
of North and South Vietnam

1. Starting from roughly similar population bases -- an estimated 20 million for North Vietnam and 18 million for South Vietnam -- both countries appear to have sufficient manpower reserves to continue the war at current or even higher levels of intensity for several years to come.

2. South Vietnam has an estimated manpower pool of about 2-1/2 million men in the prime military age group of 18-39 years of age, and we believe that an additional 175,000-225,000 young men reach age 18 each year. The latter comprise most of the estimated GVN annual inflow requirement of approximately 200,000 men. The principal mobilization constraint faced by South Vietnam over time has been the lack of access to manpower in areas dominated by the Viet Cong.⁽¹⁾ During the critical years of Vietnamization, however, this access improved dramatically, enabling the South Vietnamese to recruit from a larger population base. With no major new force augmentations planned, the GVN should be able to meet military manpower needs for the foreseeable future without significant economic dislocation.

3. North Vietnam, by way of comparison, has a manpower pool of an estimated 1.3 million male civilians aged 15 to 39 who are fit for military service. Approximately one-half million of these men are in the 17 to 25 age bracket that historically has provided most of the manpower for the armed forces. The tabulation below indicates the decline that has taken place since 1964 in the civilian reserve as a result of the induction of an estimated 1.1 million men into military service. Hanoi can induct up to 100,000 per year without further drawdown of its reserve, and it would take several years of inductions at the 1968 peak rate of 200,000 to bring reserves in the prime age group to the point of exhaustion. Even then, a new crop of more than 100,000 men would reach age 17 each year. Hanoi thus has the manpower to continue the war indefinitely at a substantial level of activity.

1. Obviously, the VC recruit from South Vietnam's manpower pool as well. In Tet 1968 the VC recruited as many as 12,000 men a month. By 1970, recruitment dropped to probably not more than 3,000 a month. Clearly, VC recruitment has declined further and is at a level that can very nearly be dismissed when thinking of current balances. Should the current offensive result in a marked increase in enemy control over some areas of South Vietnam, the enemy's recruitment potential would be enhanced.

As of 31 December	Thousand Men ^{a/}	
	15-39	17-25
1964	2,010	760
1965	1,910	660
1966	1,700	480
1967	1,570	380
1968	1,430	310
1969	1,430	350
1970	1,420	390
1971	1,370	390

a. Physically fit males, within the indicated age groups, who are not in the armed forces.

4. Between 1964 and 1971, South Vietnam's regular and territorial forces doubled, rising from 514,000 to more than one million -- most of the growth occurring from 1966 on. During the same period, Hanoi's forces also more than doubled in size, from an estimated 250,000 to a current level of 575,000 -- including some 200,000-220,000 NVA forces located in South Vietnam, Cambodia, and Laos in December 1971.

5. The most salient feature of South Vietnam's manpower, when contrasting it with North Vietnam's, may be its lower level of combat losses.⁽²⁾ To date, about 140,000 South Vietnamese military personnel have been killed. Other permanent losses include a fairly substantial number of disabled, a few discharged for other reasons, and an unknown number of successful draft dodgers. (It should be noted that whatever the size of the latter group -- and it probably is not inordinately large -- it almost certainly has shrunk as the government's control over the population has grown.) Total losses from these causes are estimated to be in the neighborhood of 250,000. The desertion problem is a more serious one, undoubtedly accounting for more losses than all other factors combined. However, deserters also are a major source of "new" recruits. Although soldiers may desert their original units for a variety of reasons, many of them subsequently reappear with other units. Given the difficulty of keeping track of these men, we cannot be sure of the numbers -- but it seems clear that they account for a substantial portion of annual recruitment.

2. A major reason for this situation in the past has been that the VC/NVA have faced the vastly superior firepower possessed by US and the other Allied forces.

6. To get a picture of North Vietnam's manpower management and losses, it is useful to look at aggregate manpower flows. One way to accomplish this is to analyze out-of-country flows compared with the current order of battle (OB). Regular infiltration starts from 1964 (the year prior to expansion of Hanoi's forces) through 1971 total an estimated 930,000. There were also a substantial number of men who moved south in special skilled infiltration groups. The southern Laos OB prior to 1970 (when infiltration to southern Laos began to be reflected in COMINT) of about 50,000 NVA combat and administrative services personnel should be added to the infiltration totals. Although there is no time series on infiltration to northern Laos, an NVA OB and filler estimate should be included as a part of the out-of-country force augmentation. This combined figure is estimated to be on the order of 100,000 troops, bringing total augmentation to 1.1 million men. If the current OB in North Vietnam (365,000) is subtracted from the total North Vietnamese OB (575,000), a current out-of-country OB of 210,000 is obtained. Subtracting this from the 1.1 million troops deployed out of country yields a result of about 900,000, which represents losses. While this methodology is very rough, ignoring such factors as the number of exfiltrators not remaining in military service, it probably is sufficient to indicate a gross order of magnitude of enemy losses. However rough as a measure, it indicates at a minimum that the manpower costs have been greater for the North Vietnamese than for the South Vietnamese in both absolute and relative terms (against total population and military manpower pool bases).

7. Analysis of comparative military training capabilities and results provides yet another yardstick of relative manpower efficiency. As a result of high and persistent loss levels (infantry units have a 50% to 75% annual turnover rate, often for several years running) the quality of North Vietnamese soldiers -- both cadres and troops -- has deteriorated during the past several years. There is sufficient evidence from the testimony of prisoners and defectors and from the analysis of US observers to support this judgment. While this does not necessarily mean that the quality of the basic training of North Vietnamese soldiers has eroded significantly, it faces North Vietnamese infantry commanders with the problem of operating with green troops and a reduced number of experienced cadre. As a result there has been a perceptible decline in the clan and confidence of both cadre and infantry troops. Nevertheless, North Vietnam's social system provides a type of discipline that results in the carrying out of orders -- even when morale is low -- in a vastly superior manner to most armies and especially in contrast to ARVN.

8. Over the same period, ARVN has made qualitative improvements in training, morale, technical skills, and leadership. These are enumerated elsewhere in this memorandum. What is significant is that ARVN performance clearly seems to be on an upward trend. The NVA infantry performance appears to have declined, although the increased use of armor and artillery may have offset this.



APPENDIX II

Growth and Development of the North Vietnamese Armed Forces

1. Since 1964, when Hanoi began to increase its military manpower commitment to the war in the south, the North Vietnam Armed Forces (NVNAF), including the regional forces, have more than doubled in size, from an estimated 225,000-275,000 to currently about 550,000-600,000, including some 200,000-220,000 NVA forces located in South Vietnam, Cambodia, and Laos in December 1971. These latter forces serve to bolster the estimated 140,000-150,000 indigenous regular combat and administrative service personnel in those countries. The distribution of these forces by geographic area is shown in Table II-1.

2. One of the largest increases in NVAF strength occurred during 1966 when NVA regular ground combat (infantry, artillery, and armor) forces in North Vietnam appear to have been expanded by some 100,000 to 150,000 men. This growth was necessary to support Hanoi's increased manpower commitment to the war in the south and also to fill out upgraded or newly created combat units in North Vietnam. During the period 1964 through 1966, for example, Hanoi upgraded four infantry brigades to division level⁽¹⁾ and formed two new training divisions.

3. The expansion of the structure of NVNAF can also be seen in looking at the growth in the number of regular ground combat regiments throughout Indochina during 1965 through 1971. Despite the problems of an increasingly weaker data base as one goes back in time, it appears that the number of such regiments has grown during the period by about 50 (roughly from 55 to 105), most of which were infantry. In addition, many of the currently designated VC regiments in South Vietnam and Cambodia have received such a large number of NVA replacements during the period that the VC designation has become nominal.

4. In addition to its growth, both numerically and structurally, the NVNAF also has substantially improved its combat effectiveness through the use of new, longer range offensive and defensive weapons as well as military equipment. This is evidenced by the current campaign in MR 1

1. These units had previously held division status but were downgraded to brigade level in the late 1950s and early 1960s.



Table II-1

Communist Military Forces in Indochina
December 1971 a/

	Thousand		
	NVN Armed Forces	Indigenous Forces <u>b/</u>	Total
<i>Total</i>	575	145	720
North Vietnam	<u>365</u>	-	<u>365</u>
Regular Armed Forces <u>c/</u>	315	-	315
Regional Forces	50	-	50
Out-of-country	<u>210</u>	<u>145 d/</u>	<u>355</u>
South Vietnam	80	60	140
Cambodia	30	45	75
Laos	100	40	140

a. Estimates are given as midpoints of ranges for the sake of simplicity. In addition, NVA units in the infiltration pipeline in December are counted as part of the North Vietnam figures.

b. Viet Cong in South Vietnam, Viet Cong and Khmer Communists in Cambodia, and Pathet Lao in Laos.

c. Army, navy, and air force.

d. Excluding local guerrilla forces.

in which the enemy is employing the strategic concept of an air defense canopy together with the use of armor and heavy artillery. Almost certainly if this capability exists now, it will be enhanced a year from now.

5. Despite all the growth in the NVNAF's military capability during the period 1965 through 1971, however, there is continuing evidence of increasing shortages of qualified company-grade officers and NCO personnel for individual units. This shortage probably has resulted from the high casualty rates incurred by NVA forces fighting in the south; the upgrading, regeneration, and creation of new NVA units for either home defense or deployment elsewhere in Indochina; and the increased demands for

personnel in the air defense effort. In addition, Hanoi also faces the constant drain of sending a large number of replacement personnel to the south just to maintain its regular combat forces. Many of the filler personnel in the last three years are less experienced and not as well prepared for combat as they were earlier in the war, as evidenced by low morale and high desertion rates among the newer recruits. Another indicator of shortages of qualified cadre in "first line" regular combat infantry units may be the increased willingness since 1969 to use North Vietnamese provincial units to fight in Laos and the DMZ area.

6. Although the previous sections have taken an overview of posture of North Vietnam's military forces during 1965 through 1971, there are several points worth noting within the individual functional categories of the armed forces within North Vietnam.

Infantry

7. While NVNAF has expanded its infantry structure throughout Indochina, Hanoi appears to have attempted to maintain through the creation, regeneration, and rotation of units about 30 regular infantry regiments (either subordinate to a division or independent) within North Vietnam during the last half of each year. During the first half of any given year, however, Hanoi has been willing to draw down on the structure to support its external forces by about ten regiments. For example, North Vietnam is estimated to have had at least 27 infantry regiments in North Vietnam (including those in the infiltration pipeline) in December 1971. By early April 1972, the arrival in South Vietnam of 12 infantry regiments of the 320th, 324B, 304th, and 308th Divisions reduced this structure to some 15.

8. These deployments reduce the number of infantry divisions available within North Vietnam for home defense or use elsewhere in Indochina to its lowest level of the war (as shown in Table II-2), including early 1968 and the period in early 1971 when Hanoi deployed four of the nine divisions to Laos to counter Operation Lam Son 719. In addition, on a regimental basis if we consider the independent infantry regiments together with those subordinate to divisions, the number available in North Vietnam would drop to approximately the same level as existed in early 1968.

9. It is difficult to imagine at this time Hanoi further drawing down on its home defense/reserve infantry structure without the regeneration or creation of some new units. The last large regeneration of units occurred in the latter part of 1968. This included the regeneration of the 325th

Table II-2

Disposition of NVA Infantry Divisions

<u>Division</u>	<u>March 1968</u>		<u>April 1972</u>	
	<u>North Vietnam</u>	<u>Out-of-Country</u>	<u>North Vietnam</u>	<u>Out-of-Country</u>
304th		South Vietnam		South Vietnam
308th	X			South Vietnam
312th	X			Laos
316th		Laos		Laos
320th		South Vietnam		South Vietnam
324B		South Vietnam		South Vietnam
325th		South Vietnam	X	
330th	X		X	
350th	X		X	
<i>Total</i>	4	5	3	6

Division -- for the fourth time in the unit's history -- and the 36th Regiment of the 308th Division. The former regiments of the 325th Division and the 36th Regiment were left in South Vietnam when the 325th Headquarters and the 308th Division rotated back to North Vietnam after the heavy fighting in South Vietnam in 1968. Since then, the two known regenerations of large units were the 52 "B" Regiment of the 320th Division by March 1971, after the 52 "A" had deployed to Cambodia in January of that year, and in late 1971 a 166th Regiment was formed in Quang Binh Province from elements of the 271st Regiment, which subsequently deployed to Cambodia in early 1972. Despite Hanoi's increasing commitments of units to the war in Indochina, these two regiments appear to be the only new regimental infantry units created within North Vietnam since the end of 1968.⁽²⁾

10. This raises the crucial question of Hanoi's current ability to form new divisional or regimental infantry units. The previous upgrading, regeneration, and creation of units; the large number of NVA casualties incurred to date throughout Indochina; the apparently growing use of

2. Recent evidence suggests the NVA may have created a new division in 1971, now apparently deploying into Cambodia.

provincial and militia forces in roles previously reserved for the regular combat units; and the continuing demands for qualified replacement personnel -- are all factors which have reduced the pool of readily available experienced cadre within North Vietnam from which to form new units as well as to provide replacements for existing out-of-country forces.⁽³⁾ This is not to say categorically that Hanoi cannot create new units. However, there would be some question concerning the combat effectiveness of such new units.

11. In addition to the regular infantry forces within North Vietnam, there are currently an estimated 50,000 troops in 17 regional regiments that are considered to be part of North Vietnam's reserve forces. Although these regional forces are generally considered "second line" troops, they are full-time, armed, and actually engaged in military training and duties, including, in some cases, air defense. While these are usually employed only within their home province, they are mobile and can be deployed elsewhere within North Vietnam if required.

Artillery

12. As of December 1971, there were an estimated ten NVA artillery regiments in North Vietnam.⁽⁴⁾ Contrary to past deployments, current evidence indicates that those infantry divisions that have deployed to South Vietnam this dry season -- that is, the 320th, 304th, and the 308th -- are doing so for the first time with a subordinate artillery regiment. Since December, one such artillery regiment has arrived in the B-3 Front area, and two others deployed into Quang Tri Province in April.

3. One illustration of the shortage of experienced NCO personnel is suggested by the promotion record of a recently captured NVA sergeant of the 165th Regiment of the 312th Division in Laos. He was drafted into the army in May 1971, promoted to private first class in August, to corporal in October, and to sergeant one month later after his infiltration into northern Laos as part of a 500-man replacement group for the 312th Division. His unusually rapid promotions occurred despite the fact that he had been expelled from the Labor Youth Group in early 1971 for evading the draft, an obvious mark on the record against him.

4. This number excludes the four artillery regiments subordinate to the B-5 Front that traditionally operate in the DMZ area and are carried as part of the enemy order of battle for South Vietnam.

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Air Defense

13. North Vietnam's air defense (AD) system, including its air force, has consumed a considerable amount of manpower. Currently, the AD forces are estimated at nearly 100,000 men, including antiaircraft artillery (AAA), surface-to-air missiles (SAM), air force, radar, and associated support personnel. These persons are deployed in more than 65 regiments⁽⁵⁾ and a large number of independent battalions. Only recently has the Intelligence Community been able to get a more complete picture of the AD structure

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that now permits the identification of the numerical designation of AAA units. (Previously, the number of AAA forces had to be estimated on the basis of gun counts.) In terms of deployment, there was a major north-to-south realignment of AAA forces within North Vietnam in 1971. Of the 46 AAA regiments of the AD Command, nine shifted from the Northern Air Defense Region (NADR) in the Hanoi-Haiphong area to south of the 20th parallel during the third quarter of 1971. Currently, there are 15 AAA regiments in the NADR, 28 in the North Vietnamese and Laotian Panhandles (elements of three of the 28 now have, for the first time, deployed into northern SVN), and three in northern Laos.

14. The basic regimental structure for the various AD forces appears to have been essentially established by 1968. Since that time, however, the development of an integrated command and control system, as well as additional and upgraded weapons and equipment, and increased manpower and training have all contributed to a significant increase in North Vietnam's AD capability. Part of the increased manpower allotted to AD has served to increase the manning levels of AD units. Some of the manpower has come from upgrading the status of some local militia forces and integrating these into regularly constituted AAA units. The use of militia forces in AD units results not only from the heavy regional emphasis on AD but also from the lack of available qualified personnel in the regular armed forces.

Armor

15. There is very little information available on armor units in North Vietnam. The North Vietnamese Armor Command was formed in mid-1965 with the 202nd and 203rd Armored Regiments, the latter being formed early that year from personnel of the 202nd. Although small NVA armored

5. Including elements of 14 AAA regiments and 1 SAM regiment deployed at this time in northern and southern Laos.

elements have been identified in Laos and South Vietnam in the past, these have not been larger than battalion size. Evidence received in late 1971 and early 1972, however, suggests that North Vietnam may currently have more than the two armored regiments identified above. This is supported by the presence of a large number of tanks in Quang Tri and the B-3 Front area, apparently the largest deployment of NVN armor outside North Vietnam in the course of the war.

Training

16. During the period from late 1965 to early 1966, Hanoi increased its training capability by upgrading one infantry brigade into a training division and forming two other divisions. There are currently 14 training regiments subordinate to these three divisions. In addition to the three divisions, there is the 22nd Training Group with an estimated ten battalions, one regiment of the 330th Division, and two regiments of the 350th Division, which also provide basic and preinfiltration training. These units are estimated to be capable of training some 40,000 men per training cycle.⁽⁶⁾ In addition, provincial regiments have been training substantial numbers of recruits for the NVA since the summer of 1967 when preparations for the Tet Offensive of 1968 were under way. Provincial forces are estimated to be capable of training at least 20,000 men per cycle. Moreover, these estimates understate the NVA training capability in that some training is also performed within regular infantry units.

6. A training "cycle" is normally three to six months.



APPENDIX III

Growth and Development of the South Vietnamese Armed Forces

1. Between 1965 and 1968, GVN forces were primarily used as a pacification and security apparatus, while US forces conducted aggressive combat operations designed to weaken and ultimately destroy VC/NVA main forces. Following the 1968 Tet Offensive, the GVN mobilized its military forces and expanded its authorized manning level to 1.1 million men. The regular force structure was expanded from 341,000 in January 1968 to 514,000 in December 1971 for a 51% increase. The Regional and Popular Forces were increased 75%, from 305,000 in January 1968 to 533,000 in December 1971.

2. The reduced military posture of VC/NVA forces after 1968 allowed the GVN to upgrade its forces and implement a successful pacification program. The implementation of the Vietnamization Program in late 1969 provided modern military equipment for GVN forces designed to increase their mobility and firepower effectiveness. The GVN force structure now has a complement of individual weapons and military equipment that formerly characterized only US forces. The M-16 rifle has been distributed to all RVNAF forces. Other small-unit weapons such as the M-60 machinegun, M-79 grenade launcher, 60-mm mortar, and the 81-mm mortar provide lower echelon combat units with the necessary firepower to conduct aggressive combat operations.

3. Since mid-1970, ARVN cross-border operations and in-country combat operations have substantiated the GVN's ability to provide combat support to ground troops with a minimum of US assistance under most military conditions. Combat support in the form of artillery, tactical air support (tacair), and logistics has demonstrated the dramatic growth and development of the GVN military forces since the crisis months of late 1964 and early 1965.

Artillery

4. The GVN has significantly expanded its artillery support to ground forces. Since June 1968 the number of 105-mm howitzer battalions has been increased from 23 to 50. This development has increased the total number of 105-mm guns available by 74% - from 414 to 720. The number of 155-mm howitzer battalions has been increased from 7 in June 1968 to 18 during fiscal year (FY) 1972. The total number of 155-mm guns subsequently increased from 126 to 324. In September 1971 the GVN

activated its first 175-mm howitzer battalion with 12 guns, and subsequently deployed it to northern Quang Tri Province in Military Region (MR) 1.⁽¹⁾ An additional battalion is scheduled to be activated during FY 1972, to increase the total number of 175-mm guns to 24.

5. The expansion of the 105-mm and 155-mm howitzer battalions almost equals the peak number of guns available to US forces in December 1968. The number of 105-mm guns was 738 and the number of 155-mm guns was 342 at the end of December 1968, but the total number of 175-mm guns was 216. The fact that RVNAF has fewer 175-mm guns is disconcerting, but the North Vietnamese heavy artillery threat is concentrated in the DMZ area and MR 1 where GVN 175-mm artillery is deployed. Some of the deficiency presumably will be alleviated, however, by the continued presence of US tacair, B-52 aircraft, and VNAF close air support.

6. The expansion of GVN territorial forces was complemented by the development of 105-mm howitzer platoons designed to support territorial forces. Since 1970 the number of 105-mm howitzer platoons has been expanded from 100 to 176. This increased the total number of 105-mm guns available to territorial forces by 76% from 200 to 352.

Armor

7. Before 1968 the GVN armor capability was quite limited with only 11 armored cavalry squadrons deployed as separate units throughout the four military regions. There were no organized tank battalions. In mid-1970 the armored cavalry squadrons were task organized at the division level and expanded to 18 squadrons, of which 11 are at the division echelon. This development increased the total number of armored personnel carriers available for combat from 132 to 216 between 1968 and 1972. Normally, one armored cavalry squadron is assigned to operate with each ARVN division. The first medium tank battalion was activated in September 1971 and has a complement of 54 tanks.⁽²⁾ At the present time there are no known plans to activate additional armored cavalry squadrons or tank battalions.

Regular Forces

8. Currently the ARVN regular force establishment has primary responsibility for parrying VC/NVA main forces while GVN territorial forces

1. A number of these guns apparently have been lost in the current action in Quang Tri. These must be replaced to enable ARVN to return to authorized strength.

2. In the country as a whole, the tank inventory consists of 65 medium and 400 light tanks.

are responsible for local security and implementation of the pacification program. In addition to the dramatic expansion of regular forces since 1968, there has been a general improvement in leadership at all military echelons as a result of an active national policy, improved training, and changes in military doctrine and tactics.

9. Several personnel command changes effected recently at the division level should provide additional impetus to the combat effectiveness of ARVN regular forces. However, chronic problems continue to exist, such as desertions, marginal leadership, and the inability of maneuver battalions to maintain authorized strength levels. Several ministerial directives have been decreed recently providing for combat pay and the reassignment of personnel from overstrength combat support units to understrength maneuver battalions. Manpower reports of January and February 1972 indicate some progress had been made in bringing maneuver battalions up to authorized strength levels.

10. The military role of the ARVN maneuver battalion has changed between 1968 and 1972 from primarily a pacification and security mission to one of active combat operations. Factors responsible for this development have been the substantial withdrawal of US forces and the successful implementation of many US military programs designed to improve and modernize the GVN main force structure. Since the first quarter of 1968 the number of GVN maneuver battalions assigned to combat operations has doubled, growing from 78 to 159 between 1968 and 1972. Maneuver battalions assigned to security and pacification decreased by 65%, from 97 to 34, between 1968 and 1972. Lending additional support to this development has been the success thus far of the pacification program in South Vietnam in expanding GVN influence and control over the rural population. The complementary factors of an erosion of VC/NVA Regular Combat Forces and Guerrillas since 1968 and a concurrent upgrading of South Vietnamese territorial forces aided and abetted the improvement in GVN main forces, as has the overall qualitative improvement in the combat performance of ARVN maneuver battalions.

Ranger Border Defense and Regional Force Battalions

11. The growth and development of territorial forces since 1968 have generated a new echelon of forces that complement the ARVN regular force establishment. In early 1970, 37 CIDG camps along the South Vietnamese border were converted to Ranger Border Defense Battalions and placed under the authority of the respective military region commanders. This

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policy significantly improved the capability of military region commanders in intelligence gathering and in the interdiction of lines of communications.

12. During 1970 the Regional Forces were organized into battalions and separate companies. The battalions were expanded from 31 to 46 between 1970 and 1972. The Regional Force battalion headquarters is based on the headquarters organization of an ARVN maneuver battalion. Regional Force battalion personnel are trained and equipped for mobile operations within their province and across province boundaries under the control of the province chief or military region commander. In many areas of South Vietnam, particularly since 1971, Regional Force battalions have assumed combat missions normally assigned to ARVN maneuver battalions. Fire support for the Regional Force battalions is provided by 105-mm howitzer platoons within the province.

13. The development of Ranger Border Defense and Regional Force battalions probably has been one of the most significant military developments within the RVNAF force structure. It has provided the ARVN regular force structure with additional maneuverability and firepower.

Future Expansion

14. As of December 1971 the assigned strength of RVNAF was approximately 50,000 men below the authorized manning level for FY 1972 of 1.1 million men -- about 30,000 in the regular and 20,000 in the territorial forces. Once the force level of 1.1 million men is reached, however, there are at this time no plans to expand the RVNAF further. When this level is reached, any expansion of forces in a given area of South Vietnam will be at the expense of the RVNAF elsewhere in the country. The most likely sources for this type of reinforcement are main forces elements in the Delta or from the upgrading of territorials. This is, in fact, now taking place. Although the expansion of the regular forces is possible within the RVNAF structure if one is willing to draw down on the size of the territorials, such action could jeopardize some of the progress previously made in pacification.

APPENDIX IV

Balance of Forces (Allied to VC/NVA), 1968-72,
by Military Region

Force Levels⁽¹⁾

1. To explain changes in the relative military strength of the two sides in South Vietnam, we have employed three force ratio concepts. These are Main Force Ratio, Main and Local Force Ratio, and Total Force Ratio. The force ratio concepts have been developed according to the roles of particular friendly and enemy forces since 1968, rather than standard organizational missions. This is most apparent in the Main Force Ratio definition. For each of the three echelons, maneuver personnel only are included. No combat support, combat service support, or headquarters personnel are included on either side. To show the dynamics of the changing relationship over time, three separate time periods were selected. The first quarters of 1968, 1970, and 1972 were chosen because (1) 1968 includes the General Offensive and the highest strength level reached by VC/NVA forces, (2) 1970 includes the period of protracted warfare and the highest strength level reached by combined Allied forces, (3) 1972 includes the current buildup of enemy forces and a significantly improved GVN force structure, and (4) the first quarter of each of the years reflects maximum dry season forward deployment of North Vietnamese forces. In addition a "maximum enemy threat" ratio for the beginning of the 1972/73 dry season has been constructed to show the upper range of the enemy's combat force expansion and its impact on the friendly versus enemy force ratios.

Main Force Ratio

2. This ratio includes those forces on each side employed in a main force role and is calculated from aggregate maneuver battalion strengths. Thus, on the VC/NVA side, although the number of battalions increased over the four-year period, the number of personnel in the Main Force Ratio

1. All ratios are based on current VC/NVA main force deployments to South Vietnam in early April 1972 and during 1968-70 include forces rotated into the DMZ, MR 1, and the threat area south of Dong Hoi. Recent GVN planned main force deployments are not reflected and would alter the ratios. However, they would be offset somewhat by enemy and friendly losses during the current enemy offensive.

[REDACTED]

declined because of the sharp reduction in the average number of men per battalion.

3. The administrative subordination of units in the Main Force Ratio was changed to reflect changes in roles and in the character of the war. For 1968, on the GVN side, the strength of all regular Allied maneuver battalions was included; on the VC/NVA side, all main force battalions plus local force battalions were included. For the 1970 ratio, Allied battalions on pacification status and VC local force battalions were dropped on the grounds that because of their mission (and condition in the case of the VC local forces) and the changed nature of the war, neither could be considered to be in the main force role. The 1972 ratio was changed further to include the personnel in the GVN's newly developed regional force battalions. Thus, the Main Force Ratio reflects the current absence of the VC local forces from the main force war and the upgrading of GVN territorials. All US and Free World forces are excluded from the Main Force Ratio for 1972.

Main and Local Force Ratio

4. This ratio expands the concept to include local force-type troops on both sides. It is intended to include echelons that typically have some limited mobility and greater firepower than lower echelon elements. It includes friendly battalions on pacification status and separate regional force companies. On the VC side are included the local force battalions. These definitions hold for all years.

Total Force Ratio

5. To the above are added on the GVN side, the popular forces and, on the VC side, the local force companies and platoons and guerrillas. An argument can be made for including the local force companies and platoons in the Main and Local Force Ratio in 1968. However, they are small numerically and do not affect the ratios significantly. In any event, by 1970 their status clearly had eroded sufficiently to drop them from the category. Also, various small elements on each side could have been included in this ratio, such as the police field forces and the VC infrastructure armed units, but these would not meaningfully change the ratios. Conceptually, the People's Self-Defense Forces -- also excluded -- belong in this ratio. They are of some significance from the security point of view, but, more importantly, their existence shows that the GVN has successfully mobilized massive numbers and denied them to the VC.

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Analysis of Force Ratios for South Vietnam

Main Force Ratio⁽²⁾

6. The Main Force Ratio for South Vietnam increased from 2.9 to 4.2 between the first quarters of 1968 and 1970. This was primarily caused by the severe erosion of VC/NVA main forces following the 1968 Tet Offensive and the upgrading (from pacification status) of GVN maneuver battalions to conduct combat operations. VC/NVA main forces decreased approximately 50% between 1968 and 1970 while the percentage of GVN maneuver battalions on combat operations increased from 47% to 77% during the same period, causing friendly main forces to decrease by only 26% despite US troop withdrawals.

7. From the first quarter of 1970 to the first quarter of 1972 the Main Force Ratio declined from 4.2 to 3.3. This trend reflects primarily the accelerated withdrawal of US forces and the recent enemy main force deployments from Cambodia to GVN MRs 2 and 3. Friendly main forces were decreased by 22% while enemy main forces remained about the same. A separate ratio is provided to show the impact of adjacent VC/NVA main forces in Cambodia. Their effect reduces the 1972 Main Force Ratio from 3.3 to 2.8, about the same as the 1968 ratio.

Main and Local Force Ratio

8. The Main and Local Force Ratio again shows an increase between 1968 and 1970 and a decrease between 1970 and 1972. Even though additional forces on both sides are included, the impact of changes within the friendly and enemy forces since 1968 has the same effect upon the Main and Local Force Ratio as the Main Force Ratio. Also if we include adjacent VC/NVA main forces in Cambodia, the ratio declines to the 1968 level.

Total Force Ratio

9. The Total Force Ratio highlights the accelerated erosion of enemy local forces and guerrillas and the rapid growth and development of GVN territorial forces. The ratio shows a continued increase through 1972, going from 2.6 in 1968 to 4.1 in 1970 to 4.8 in 1972. Total enemy forces

2. See Tables IV-1 through IV-3.

decreased 48% while total friendly forces decreased only by 3% between 1968 and 1972. If we allow for adjacent VC/NVA main forces in Cambodia, the ratio declines slightly to 4.5 but is still higher than in any previous time period.

Military Region Force Ratio Analysis

Main Force Ratio

10. The ratios for military regions reflect interregional differences and intertemporal changes. For example, the current MR 1 ratio is the lowest for any military region in the period. This is in part due to an ever-present North Vietnamese threat in the DMZ and to the fact that a majority of US troop withdrawals have come from MR 1. Since the first quarter of 1968, friendly main forces have declined by 53% and enemy main forces by about 42%. For 1972, we have included the entire VNMC Division in friendly main forces and the 324B, 304th, and 308th NVA Divisions in enemy main forces. The ratio increased marginally between 1968 and 1970 from 2.4 to 2.5 but has declined to 1.9 in 1972.

11. In MR 2 the ratio increased between 1968 and 1970 from 3.3 to 7.0. This was primarily due to a significant erosion in the enemy's forces and several enemy main force unit deployments out of the military region in mid-1968. From 1970 to 1972 the ratio declined drastically from 7.0 to 2.1, reflecting accelerated US troop withdrawals and the current enemy buildup of main forces in western Kontum Province. In fact, between the first quarter of 1970 and 1972 enemy main forces increased by 220%, from 5,000 to 16,000. Friendly main forces have decreased by 6%, from 35,000 to 33,000. The 1972 ratio reflects the assumed deployment of the ARVN Airborne Division from MR 3 to MR 2.

12. MRs 3 and 4 show that there is a friendly main force surplus at the present time. The main force war in MRs 3 and 4 has diminished since 1968. Since 1968 the ratio has increased from 3.9 to 7.8 in MR 3. Factors responsible for this development have been the erosion of enemy forces since 1968, the deployment of enemy main force units to Cambodia in early 1970, and a general improvement in GVN military forces. Although the withdrawal of US forces caused friendly main forces to be reduced by 50% after 1968, enemy main forces were reduced by 75%. However, if we include the adjacent VC/NVA main forces in Cambodia the ratio falls somewhat below the 1968 level to 3.3. In MR 4, friendly main force strength has not been significantly affected by US troop withdrawals and the enemy's main forces have been significantly reduced. Friendly main

forces were reduced by 15% between 1968 and 1970, but were increased by 12% between 1970 and 1972. On the other hand, enemy main forces have been reduced by 69% since 1968 primarily through the erosion of forces and to a lesser extent main force unit deployments to Cambodia in early 1970.


13. In the final analysis, it is quite apparent from the Main Force Ratios that the GVN has a main force distribution problem that could be alleviated, if necessary, by deploying main forces from MR 3 and/or MR 4 to MRs 1 and 2.

Main and Local Force Ratio

14. The 1972 ratios for MRs 1 and 2 again show that the GVN's military posture has deteriorated from 1968 and 1970 levels relative to MRs 3 and 4. The inclusion of additional friendly forces in the Main and Local Force Ratio definition is not quite enough to increase the 1972 ratios to 1968 levels. In MR 1 between 1968 and 1972, friendly main and local forces were reduced by 41% and enemy main and local forces by only 26%. During the same time period in MR 2, friendly forces were decreased by 5,000 men, from 95,000 to 90,000, and enemy forces were increased from 18,000 in 1968 to 20,000 in 1972 because of the 1972 buildup in western Kontum Province.

15. Ratios for MRs 3 and 4 suggest that a highly favorable military situation has occurred in both regions since 1968. A large portion of the erosion of enemy main and local forces and out-of-country main force unit deployments have occurred within MRs 3 and 4. Between 1968 and 1972, enemy main and local forces decreased by 40% in MR 3. Friendly main and local forces decreased by 33% during the same time period. The ratios reflect the drawdown of enemy forces in both regions. The MR 3 Main and Local Force Ratio moves from a low of 6.0 in 1968 to 6.7 in 1972. However, if adjacent VC/NVA main forces in Cambodia are considered, the ratio falls below the 1968 level to 4.7. The MR 4 Main and Local Force Ratio shows an increase from 6.1 in 1968 to 10.3 in 1972.

16. Application of the Main and Local Force Ratio definition has provided additional evidence confirming that there is a surplus of friendly forces in MRs 3 and 4. Except for rare threat periods the GVN advantage in MR 3 is as high as in MR 4.


Total Force Ratio

17. The Total Force Ratio definition probably provides the most complete trend in the relationship between friendly and enemy forces over time. Since the 1968 Tet Offensive, the war in South Vietnam has been generally characterized as a period of protracted warfare. However, there have been regional exceptions to this general characterization of the war. In MRs 1 and 2, US and GVN military forces have been waging two kinds of warfare, protracted warfare in the coastal lowlands and main force warfare in the northern and central highlands. The net effect of the Total Force Ratio concept reveals that friendly forces have achieved substantial success in maintaining an adequate force structure in all military regions since 1968 despite the withdrawal of large numbers of US forces.

18. The MR 1 Total Force Ratio increases from 1.8 to 2.5 between 1968 and 1970 and increases again in 1972 to 2.8. Total enemy forces in the region had been eroded by 52% between 1968 and 1972 with local forces accounting for much of the erosion while enemy main forces in 1972 were maintained at strength levels comparable to 1970. Total friendly forces were reduced by only 25% between 1968 and 1972, with US troop withdrawals responsible for much of the decline.

19. MR 2 ratios reflect an increase since 1968. Total enemy forces have been eroded since 1968 particularly at the lower echelons, but total enemy forces for 1972 have been augmented with substantial main forces and infiltration causing the 1972 total force level of 37,000 to approach the 1970 level of 38,000 -- lower than the 1968 level of 51,000. Total friendly forces in 1968 were 134,000 compared with 1972 total forces of 141,000. This development has occurred because of the growth of territorial forces and the assumed deployment of the ARVN Airborne Division from the General Reserve to MR 2 during 1972. The total friendly forces in 1972 of 141,000 were less than the 174,000 in 1970, when substantial numbers of US forces were present.

20. In MRs 3 and 4 the Total Force Ratio has shown substantial improvement since 1968 (see Table IV-1). This is primarily due to the significant erosion of enemy local forces and guerrillas and several main force unit redeployments to Cambodia in early 1970. In addition the growth and development of GVN territorial forces since 1968 has further enhanced the military posture of friendly total forces in both regions.

21. Providing additional impetus to the friendly total force structure has been the development of the People's Self-Defense Forces (PSDF). Since

Table IV-1

Ratio of Allied and VC/NVA Combat Forces
in South Vietnam

First Qtr	MR 1 <u>a/</u>	MR 2	MR 3 <u>b/</u>	MR 4 <u>c/</u>	South Vietnam <u>d/</u>
<u>Main Force Ratio</u>					
1968	2.4	3.3	3.9	2.4	2.9
1970	2.5	7.0	4.5	8.3	4.2
1972	1.9	2.1	7.8 (3.3)	7.4 (4.6)	3.3 (2.8)
<u>Main and Local Force Ratio</u>					
1968	3.5	5.3	6.0	6.1	4.9
1970	3.3	8.3	7.5	10.2	6.5
1972	2.8	4.5	6.7 (4.7)	10.3 (7.8)	5.1 (4.7)
<u>Total Force Ratio</u>					
1968	1.8	2.6	4.1	2.5	2.6
1970	2.5	4.6	5.8	4.4	4.1
1972	2.8	3.8	7.4 (5.6)	6.8 (6.1)	4.8 (4.5)

a. Including NVA combat forces between the DMZ and Dong Hoi, North Vietnam, which represent a threat to the military region.

b. Data in parentheses include adjacent VC/NVA combat forces in Cambodia, the 5th, 7th, and 9th Divisions; the 24th NVA Regiment; and the 271st Independent NVA Regiment. They do not include the possible new division which fragmentary evidence suggests may be in Cambodia.

c. Data in parentheses include adjacent VC/NVA combat forces in Cambodia (roughly a divisional equivalent of the Phuoc Long Front).

d. Saigon General Reserve forces have been assigned as follows: the 369th VNMC Brigade to MR 1 and the First and Third Airborne Brigades to MR 2. Data in parentheses include adjacent VC/NVA combat forces in Cambodia which may be deployed to MRs 3 and 4.

1969 there have been more than 4 million organized throughout South Vietnam with 1.5 million assigned to combat status and 2.5 million assigned to combat support missions. The PSDF are a part-time irregular force designed to replace territorial forces to conduct local security operations. This development has permitted territorial forces to be integrated with regular GVN maneuver and regional force battalions to conduct combat operations. As this phenomenon occurs more frequently in the future, the PSDF may be considered as a part of the total forces structure which would increase the Total Force Ratio for each military region.

22. To illustrate the roles of the various forces in the Main Forces Ratio, the nationwide figures for first quarters of 1970 and 1972 are shown below:

	Strength	
	1st Qtr 1970	1st Qtr 1972
US forces	53,000	--
ARVN forces	83,000	106,000
Free World forces	14,000	--
Ranger Border Defense/CIDG ^{a/}	34,000	18,000
Regional forces	--	20,000
Total	184,000	144,000
VC/NVA	44,000	44,000
Including adjacent VC/NVA forces in Cambodia	--	(52,000)
South Vietnam ratio	4.2	3.3 (2.8)

a. The decrease in strength of the Ranger Border Defense/CIDG forces was due to a reorganization in late 1970 when many of them were designated Ranger Group battalions and Regional Force companies.

[REDACTED]

Probable 1973 Maximum Threat

23. To illustrate a situation of maximum possible threat to South Vietnam going into the 1972/73 dry season (see Table IV-2), current enemy main forces have been augmented with additional main force units from North Vietnam, Laos, and Cambodia. In MR 1 the augmentation includes the 325th NVA Division near Hanoi and several independent combat units in southern Quang Binh Province, North Vietnam. MR 2 main forces have been augmented by the 312th NVA Division in northern Laos. For MR 3, we foresee no main force augmentations over and above the 1972 level. Enemy main forces in MR 4 have been augmented by one additional regiment from the Phuoc Long Front, complementing approximately three regiments for the 1st VC Division included in our 1972 analysis.

24. Analysis of augmentations for each Military Region indicates that there is not a highly significant decrease in any of the force ratios as compared with the 1972 ratios. The largest decline occurs in MRs 2 and 4. The MR 2 Main Force Ratio decreases from 2.4 to 1.7, while that of MR 4 declines from 4.6 to 3.7 between 1972 and 1973.

Battalion Strength Analysis

25. The erosion of enemy main forces between 1968 and 1971 is shown by the decrease in average maneuver battalion strengths in Table IV-3. During the first quarter of 1972 the average battalion strength increases, reflecting the enemy buildup in MRs 1, 2, and 3. However, the 1972 averages are probably somewhat lower because of the casualties sustained during the present enemy major offensive.

Table IV-2

Ratio of Allied and VC/NVA Combat Forces
in South Vietnam
(Maximum Threat 1972/73 Dry Season)

	MR 1 <u>a/</u>	MR 2 <u>b/</u>	MR 3	MR 4 <u>c/</u>	SVN
Main Force Ratio	1.5	1.7	3.3	3.7	2.2
Main and Local Force Ratio	2.2	3.9	4.7	7.1	4.0
Total Force Ratio	2.4	3.5	5.6	5.9	4.5

a. Including the 325th, 304th, 308th, 324B, and 711th NVA Divisions.

b. Including the 312th NVA Division in northern Laos.

c. Including four regiments of the Phuoc Long Front.

Table IV-3

VC/NVA Average Maneuver Battalion Strength
Yearend 1967-71 and April 1972

	1967	1968	1969	1970	1971	April 1972
<i>South Vietnam</i>	375	260	225	185	160	230
MR 1	460	305	220	200	200	270
MR 2	325	275	270	185	175	290
MR 3	370	245	190	135	125	210
MR 4	355	245	245	225	135	160



APPENDIX V

Infiltration and Order of Battle Estimating⁽¹⁾

1. An important difference between infiltration starts and order of battle (OB) augmentations results from the dynamics of the two methodologies involved. The OB methodology produces an *ex post* (after the fact) assessment by changes in the OB. Observed average battalion strengths are multiplied by the number of battalions to make the OB estimates. The infiltration methodology, on the other hand, provides an *ex ante* (before the fact) estimate of personnel flows into the various OB areas. Personnel are observed leaving North Vietnam or moving through southern Laos and are projected for arrival in the OB areas. There is usually a one-month to three-month lag between detection and arrival, even if the infiltrators move straight through the system. There have been cases where infiltrators have been delayed for one reason or another in the infiltration pipeline and have not arrived for several additional months at their final destination.

2. Even after an infiltration group arrives at its destination, it will not immediately affect the combat OB unless it has been identified as a new organic combat unit. The bulk of the remaining infiltrators fall into three general types: combat services support units that will cause an expansion of the NVA administrative services OB; filler personnel for rear services units; and filler personnel for combat units. The majority of infiltrators fall into the latter category.

3. These personnel are held in Recovery/Replacement Regiments to be used as replacements in combat units. Some are moved to combat units directly to make up for losses incurred during the previous fighting season, and others are held to be fed into units during the season in which they arrive.

4. So far in the 1971/72 dry season, enemy personnel infiltration departures for southern Laos, South Vietnam, and Cambodia have totaled about 120,000 men as of 3 April 1972. Many of these personnel have already arrived at their final destinations, and the remainder will arrive at them by June at the latest. Table V-1 shows personnel infiltration starts

1. Over the years there have been differences of opinion over the relationship of infiltration and order of battle estimating. This Appendix is intended to shed some light on the relationship.



by final destination and then regroups these final destination totals into the areas used in OB estimates.

5. The augmentation in enemy combat forces by area from December 1971 through 3 April 1972 is shown in Table V-2, below. This augmentation was arrived at using the *ex post* OB methodology described above.

6. Table V-3, below, shows infiltration compared with combat OB augmentation resulting from infiltration by area so far this dry season. The difference between the 120,000 infiltration estimate and the 27,000 OB augmentation this dry season results from the factors previously discussed.

7. In MRs 1 and 2 and Cambodia, large numbers of infiltrators have arrived who have not yet been included in the combat OB; 12,000 men in MR 1, about 41,000 men in MR 2, and 21,000 men in Cambodia. In each of these areas, there are indications that the enemy has been preparing for substantial offensives which could produce heavy casualties requiring large numbers of replacements. In the B-3 Front area of MR 2 and in Cambodia, some of these infiltrators will undoubtedly be used to augment the logistics structure and will not, therefore, receive combat assignments. However, in those areas where heavy combat does not ensue in the near future, we will expect to see some of these infiltrators reflected in the reporting as forming new units or building up existing units. For example, if there is not a substantial increase in combat activity in Cambodia, we expect the OB there to be augmented by at least another 5,000 men unless substantial numbers of combat troops deploy back into South Vietnam.

8. It is obvious from the preceding discussion that during the latter half of each infiltration cycle, there are a number of enemy combat troops physically located in the various OB areas but who are not yet included in the OB. If we had perfect knowledge about enemy forces, many of these personnel would still not be included in the OB. While they are resting or training after infiltration and not yet formed into new units or filling out existing ones, they are still part of the manpower flow used to maintain the OB stock level.

9. Gains-loss methodologies for OB estimating using infiltration estimates as gains in the OB and reported losses for deduction from the OB have not been successful.



Table V-1

1971/72 Dry Season Infiltration Starts

Thousands			
<u>Destination</u>	<u>Strength</u>	<u>OB Area</u>	<u>Strength</u>
Tri-Thien-Hue Region	12	MR 1	20
MR 5 <u>a/</u>	16		
B-3 Front	42	MR 2	50
COSVN <u>a/</u>	36	MR 3	5
		MR 4	5
		Cambodia	26
Southern Laos	14	Southern Laos	14
<i>Total</i>	<i>120</i>		<i>120</i>

a. The MR 5 and COSVN infiltrators have been arbitrarily assigned to OB areas on the basis of the OB already in these areas.

Table V-2

VC/NVA Combat Order of Battle

Thousands				
	<u>December 1971</u>	<u>April 1972</u>	<u>Infiltration Augmentation</u>	<u>Total Augmentation <u>a/</u></u>
MR 1 <u>b/</u>	22	50	8	28
MR 2	21	33	9	12
MR 3	12	19	2	7
MR 4	14	17	3	3
Cambodia	30	35	5	5
Southern Laos <u>c/</u>	35	30	0	-5
<i>Total</i>	<i>134</i>	<i>184</i>	<i>27</i>	<i>50</i>

a. Including unit redeployments in late March and early April from North Vietnam, Laos, and Cambodia.

b. In-country strength only. Excluding 12,000 men carried in the threat area in 1971.

c. Including personnel in air defense units.



Table V-3

Infiltration and Combat Order
of Battle Augmentation
1971/72 Dry Season

	Thousands	
	<u>Infiltration</u> ^{a/}	<u>Combat Order of Battle Augmentation</u>
MR 1	20	8
MR 2	50	9
MR 3	5	2
MR 4	5	3
Cambodia	26	5
Southern Laos	14	0
<i>Total</i>	<i>120</i>	<i>27</i>

a. Infiltration estimated using 570-man gapfills. Recent evidence indicates that 500-man gapfills may be more accurate. Had that been used, the estimate would have been 113,000 men.





APPENDIX VI

Pacification Trends and Prospects

1. During the 1965-71 period, although US forces were effective in maintaining pressure on enemy forces, they appear also to have had an inhibiting effect on some GVN main forces and local security forces. As the US forces were withdrawn, however, some ARVN regular units whose records were abysmal came to life. A good example is the ARVN 7th Division, whose 12th Regiment did not take a single casualty during the second quarter of 1969 when the 2nd Brigade of the US 9th Division was located in its area of operation. The 7th Division has since that time provided the main force clout for the pacification effort in Dinh Tuong and Kien Hoa Provinces in upper MR 4. In addition, ARVN territorials (Regional and Popular Forces) have become increasingly effective in their local security role. This has resulted, at least partly, from reequipping them with the M-16 and providing other equipment, support, and training.

2. Pacification over the period of US withdrawals may be characterized as follows. During the first half of the period, the effect of US withdrawals was on balance positive. Departures were made from areas where good momentum was under way and enemy main force threats had been reduced. Later, as more marginal security situations had to be faced, it was found that GVN forces were not equal to the task in some areas. These included several tough VC areas in the populated lowlands of MR 2. More recently, during 1971 the withdrawals of the last two infantry division equivalents from MR 1 have caused concern in the well-pacified areas, such as Thua Thien, as well as the more difficult areas in the southern three provinces of MR 1.

3. Table VI-1 shows yearend trends in pacification using the VSSG population control indicator.

4. We see the pacification situation and prospects for improvement during the next year by military region as follows:

MR 4: The momentum that began immediately after Tet 1968 when General Thang took over and pushed ARVN forces into the countryside continues. The able General Truong has an overwhelming manpower superiority at all levels. Unless the present offensive destabilizes the situation, gains should be made in several provinces where the VC were

Table VI-1
Percent of Rural Population
Under GVN Control a/

	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>
MR 1	9	25	53	73	73
MR 2	19	26	45	55	56
MR 3	24	26	45	69	83
MR 4	23	28	48	69	82
<i>Total</i>	<i>19</i>	<i>27</i>	<i>48</i>	<i>67</i>	<i>76</i>

a. The VSSG population control indicator is a selective yardstick measuring the depth of each side's presence and influence among the rural populace. It is based on indices of the Main Force war, the Local Force war, the respective political apparatus, and popular attitudes and socio-economic conditions. A shift in any of these four variables -- particularly the Main Force war -- will be mirrored by changes in the VSSG indicator. Thus the current enemy presence and activity in the very fluid MR 1 obviously could alter the ratings there rapidly and sharply.

traditionally strong. The requirement for regular ARVN troops should become increasingly marginal, and, to the extent possible, they can be utilized for tasks outside MR 4.

MR 3: It will be difficult to significantly improve security -- already the highest in the country -- until the border areas can be better protected from the threat of enemy forces in Cambodia. Also, routing out the weak but bothersome VC/NVA concentration in southern War Zone C would help in the eastern part of MR 3.

MRs 1 and 2: MRs 1 and 2 have been the most difficult military regions and the present offensive, of course, vastly complicates the situation. The VC infrastructure is most resilient in the northern coastal provinces of MR 2 and the three southern provinces of MR 1.



5. In sum, for the most part local security forces have been doing reasonably well. If ARVN main forces can protect populated areas from enemy main forces, security probably will not deteriorate and in many areas should improve. For pacification to advance satisfactorily, however, a better job must be done to break the link between the populated lowlands and the NVA manpower and materiel flow across the highlands in MRs 1 and 2.



APPENDIX VII

Allied Air Capability

1. The profile of air assets available in Southeast Asia, shown in Table VII-1, has changed markedly since the end of 1968. Gross air assets of all kinds have been reduced by about one-third, from about 6,400 airplanes in 1968 to a scheduled level of about 4,250 by mid-1972. The reduction of US presence has cut back the US inventory by one-half, while the Vietnamization Program has expanded the assets of the South Vietnamese Air Force (VNAF) to a level four times that of 1968 by mid-1972. The sharpest increase in the VNAF inventory has been their helicopter capacity and their tactical aircraft inventory. The growth of VNAF will be nearly completed by mid-1972 following an expansion of 68% in 1970 and a further 59% in 1971. The growth of VNAF is phenomenal given that in 1954, when the French pulled out, Vietnam possessed only 32 old transport planes. By June 1973, VNAF is scheduled to consist of 51 squadrons,⁽¹⁾ a fleet that will rank VNAF as the seventh largest air force in the world.

2. The aggregate inventory of fighters and attack aircraft has been reduced by about one-half during the last three years, with 65% of the US planes being withdrawn from Southeast Asia. The loss has been only partly offset by an increase in VNAF assets, which accounted for only 4% of the total of 1968 but by mid-1972 will represent 42% of the total. The major period of expansion of VNAF tactical aircraft (tacair) occurred in 1970 and again in early 1972 with the planned augmentation of 36 A-1s (to a total of 96) and 30 A-37s (to a total of 120).

3. Non-attack fixed-wing aircraft have been reduced less sharply than other assets. The VNAF fleet has expanded to 39% of the total, as its possessed aircraft increased by 152% to 458 planes in 1971. The US component has been decreased by 53% since 1968, but the United States still supplied the great bulk of air transport. The principal VNAF aircraft in this category are the O-1 (155), C-123 (48), U-17 (42), AC-47/AC-119 (36), RC/EC-47 (24), T-41 (18), C-119 (16), and C-47 (16).

1. One transport, one reconnaissance, one liaison, and two attack squadrons will be activated.

Table VII-1
Allied Aircraft in Southeast Asia
as of Yearend a/

	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>Planned June 1972</u>
Fighter and attack air- craft	<u>1,143</u>	<u>1,053</u>	<u>721</u>	<u>547</u>	<u>558</u>
US	1,099	933	555	387	324
VNAF	44	120	166	160	234
Non-attack fixed-wing aircraft	<u>1,731</u>	<u>1,752</u>	<u>1,429</u>	<u>1,187</u>	<u>1,187</u>
US	1,549	1,562	1,194	729	729
VNAF	182	190	235	458	458
Helicopters	<u>3,529</u>	<u>3,750</u>	<u>3,447</u>	<u>2,457</u>	<u>2,506</u>
US	3,431	3,649	3,156	1,974	1,974
VNAF	98	101	291	483	532
<i>Total air- craft</i>	<i>6,403</i>	<i>6,555</i>	<i>5,597</i>	<i>4,191</i>	<i>4,251</i>
US	6,079	6,144	4,905	3,090	3,027
VNAF	324	411	692	1,101	1,224

a. Excluding B-52s.

4. Helicopters have been reduced in number by 1,300 aircraft, or 34% of the 1969 high. The US inventory has dropped by 46% but still has about 2,000 machines. VNAF has augmented its helicopter fleet from only 100 in 1968-69 to 532 by mid-1972. Almost all of the VNAF helicopters are UH-1Hs (500) with the balance consisting of the heavier CH-47s (32).

Helicopter Support

Helicopter Assets

5. Two-fifths of VNAF's inventory are helicopters. This is consistent with the US doctrine under which technology (especially helicopters) has served as a surrogate for men (and people's war). Helicopters have so revolutionized ground warfare -- giving foot soldiers both unprecedented mobility and aerial firing platforms -- that the US air assets inventory in Vietnam has consisted of about three-fifths helicopters.

6. Many of these helicopters have been turned over to the VNAF which is now very close to its goal of 500 UH-1H (Huey) and 32 CH-47 (Chinook). By the end of 1971, VNAF had phased out its limited inventory of old reciprocal-engine H-34 (Choctaw) helicopters. The typical Huey squadron of 31 helicopters consists of 20 troop carriers, nine gun ships, and two command and control craft. Thus, VNAF will have shortly a total of 320, 144, and 32 such helicopters, respectively. The Chinook medium-lift helicopter can carry 44 men but normally is used to move equipment and supplies.

Asset Management

Utilization Rates

7. A basic measurement of aircraft management is sorties per aircraft. Table VII-2 shows the helicopter utilization rates for the US and South Vietnamese Air Forces during 1971. By the end of the year, VNAF had achieved a sortie rate per helicopter on a par with the US rate. While this was achieved in part because of the decline of the US rate, VNAF managed to improve its utilization rate by 59% during the fourth quarter of 1971 compared with the first quarter. This occurred despite a 25% increase in the VNAF inventory. Moreover, the VNAF performance actually excels the US performance since the computed sortie rates are not completely

Table VII-2
Helicopter Utilization Rates
in South Vietnam
1971

	<u>1st</u> <u>Qtr</u>	<u>2nd</u> <u>Qtr</u>	<u>3rd</u> <u>Qtr</u>	<u>4th</u> <u>Qtr</u>
US Army				
Sorties (thousand)	1,274	1,144	1,041	724
Helicopters possessed (units)	2,644	2,542	2,452	2,067
Sorties per aircraft	482	450	425	350
VNAF				
Sorties (thousand)	77	101	137	153
Helicopters possessed (units)	361	419	428	451
Sorties per aircraft	213	241	320	339
<i>VNAF sorties per aircraft as a percent of US Army sorties per aircraft</i>	44	54	75	97

compatible. In part because VNAF helicopters are based at more centralized locations further from the front lines than are US helicopters, the average VNAF sortie is about 30% longer in flying time than the US average sortie. Thus, if utilization per helicopter were calculated by flying time rather than per sortie, by the end of 1971 VNAF had achieved a utilization rate superior to the equivalent US rate.

Operational Rates

8. The quality of support provided to an aircraft fleet is usually indicated by three standard measurements. The most important of these is the rate of Operational Readiness (OR) of aircraft, which is the percentage of possessed aircraft capable of accomplishing their primary mission or missions. The US standard OR rate for all helicopters in Vietnam is 76%; the standard for VNAF is a less stringent 71%. Those aircraft which are not operationally ready fall into two separate categories: failure because of the supply system or because of the maintenance system. The effectiveness of the supply system is measured by the Not Operationally

Ready -- Supply (NORS) rate, or the percent of possessed aircraft not operationally ready because of a lack of serviceable parts. The US and the VNAF standard NORS rate is 5%. The effectiveness of the maintenance system is indicated by the Not Operationally Ready -- Maintenance (NORM) rate. While the US standard is 19%, the VNAF standard is that the NORM rate should not exceed 24% of possessed aircraft. Table VII-3 shows the appropriate operational rate data for 1971 for the two types of helicopters in the VNAF inventory and the corresponding US helicopters.

9. The Vietnamese have encountered particular difficulties in achieving the standard OR for their helicopters. During 1970-71, while all other aircraft (except the F-5) were meeting or exceeding acceptable standards, the entire helicopter fleet was below standards. The rapid increase in helicopter inventory -- the number of UH-1Hs tripled during 1971, from 135 to 413 aircraft -- should have been expected to and did cause the OR rate to fall slightly below standards. In the last three quarters of the year the logistical system proved more inadequate than the VNAF maintenance personnel, despite the dilution of the experience level associated with the inventory buildup.

Operational Management

10. Helicopter operations mounted by VNAF in 1971 more than doubled those of 1970, which in turn were more than twice the level of 1969. Table VII-4 shows the trend of US and VNAF helicopter sorties broken out by various mission types. Although the VNAF sortie rate has quintupled and the level of US sorties has declined since 1968, the VNAF load still represents only 10% of all helicopter sorties flown in South Vietnam. In 1971, VNAF recorded a near six-fold increase in the number of armed helicopter sorties and achieved a rate of armed helicopter sorties relative to total sorties comparable to the equivalent US rate. Nevertheless, qualitative assessments of VNAF helicopter operational performance from all sources indicate a high degree of professionalism by the VNAF crews. Their weakest areas are in mounting night and medical evacuation missions.

The Role of US Helicopter Support

11. The United States at the end of 1971 mounted nine times the number of helicopter sorties of all types than did VNAF (Table VII-4). An increasing proportion of the US sorties are being used to support Republic of Vietnam Armed Forces (RVNAF) ground forces, although the absolute level of such direct support is declining. Table VII-5 shows the amount of helicopter support received by RVNAF from both the US and

Table VII-3
Helicopter Operational Rates

		Percent				
		1971				
		<u>Stand-</u> <u>ard</u>	<u>1st</u> <u>Qtr</u>	<u>2nd</u> <u>Qtr</u>	<u>3rd</u> <u>Qtr</u>	<u>4th</u> <u>Qtr</u>
UH-1H (Huey)						
US						
OR	78	76.6	78.6	81.3	78.6	
NORS	3	3.2	2.7	2.3	2.6	
NORM	19	20.2	18.7	16.4	18.8	
VNAF						
OR	71	72.4	68.7	67.2	69.3	
NORS	5	4.6	5.3	6.1	8.9	
NORM	24	23.0	25.9	26.7	21.8	
CH-47 (Chinook)						
US						
OR	70	74.1	76.0	76.3	72.9	
NORS	7	3.9	5.1	3.7	5.2	
NORM	23	22.0	18.9	20.0	21.9	
VNAF						
OR	71	71.9	66.7	58.9	59.2	
NORS	5	3.7	12.9	15.0	15.8	
NORM	24	24.4	20.4	25.1	25.0	

Table VII-4

US and VNAF Helicopter Sorties in South Vietnam
by Type of Mission

	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>
	Thousand			
<i>US</i>	7,416	8,441	7,564	4,212
Armed	863	915	799	423
Combat support	4,100	4,670	4,052	2,045
Non-combat support	2,453	2,856	2,713	1,744
<i>VNAF</i>	94	96	215	467
Armed	0	5	6	40
Combat support	68	65	121	253
Non-combat support	26	26	88	174
	Percent			
<i>US</i>				
Armed	12	11	11	10
Combat support	55	55	53	49
Non-combat support	33	34	36	41
<i>VNAF</i>				
Armed	0	5	3	9
Combat support	72	68	56	54
Non-combat support	28	27	41	37

Table VII-5

US Army and VNAF Helicopter Sorties in South Vietnam
and RVNAF Helicopter Support

	Thousands					
	US Army Helicopter Sorties					
	1970		1971			
	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Force supported						
US	1,398	1,014	876	753	660	429
RVNAF	387	327	342	312	312	252
Other	90	60	57	78	69	43
<i>Total</i>	1,875	1,401	1,275	1,143	1,041	724
RVNAF as a per- cent of US	28	32	39	41	47	59
	VNAF Helicopter Sorties					
RVNAF	49	65	77	101	137	153
	RVNAF Helicopter Support					
Received from						
US	387	327	342	312	312	252
VNAF	49	65	77	101	137	153
<i>Total</i>	436	392	419	413	449	405
VNAF as a per- cent of US	13	20	23	32	44	61

25X1

25X1

VII-8

South Vietnamese Air Forces. Together, both have provided to RVNAF a relatively constant level of 420,000 sorties per quarter for the past year and a half. This level is about the same provided US ground forces alone in the last quarter of 1971. US support to RVNAF has declined about one-third, although as a share of total US sorties that portion assigned to RVNAF has doubled. Nevertheless, RVNAF remains very dependent upon US helicopters for support. Despite an enormous increase in VNAF helicopter support, it still equals only 61% of the US contribution and accounts for only 38% of the current level of helicopter support received by RVNAF.

Assessment

12. The VNAF has greatly expanded its inventory of helicopters and is now approaching the planned ceiling. Despite the high growth rate, these assets have a utilization rate equal to that of the United States. VNAF has encountered difficulty in achieving the standard operational readiness rate, but by the end of 1971 it was off by only 2% for the principal UH-1H helicopter. Their primary weak spot in this regard is not maintenance but supplies, a problem more amenable to alleviation. The United States still provides the bulk of helicopter support to RVNAF. Assuming maximum VNAF capability (inventory, utilization, and OR rates), they will be hard pressed to provide one-half of the current level of combined US-VNAF helicopter support.

Tactical Air Support

Tactical Aircraft Assets

13. The stable of VNAF attack aircraft includes the A-1, which they have had for many years, and the A-37, since early 1969. The VNAF fighter inventory is limited to the F-5A aircraft. The inventory of attack aircraft will be increased significantly in early 1972 with the addition of 36 more A-1s (a jump of 60%) and 30 new A-37s (up 33%). This will increase the VNAF tacair assets from 160 aircraft at the end of 1971 to 234 in mid-1972; by 1974 they will possess more than 300 attack aircraft. The one squadron of 18 F-5As is not planned to be supplemented until fiscal year 1974. At that time, VNAF will receive the F-5E international fighter. This advanced fighter in clear weather can out-maneuver in combat the MIG-21s currently deployed in North Vietnam. All A-1 and A-37 attack squadrons have become qualified in night and all-weather bombing techniques.

Asset Management

14. Although VNAF has increased its inventory by one-third since 1969, and has switched from the A-1 to the A-37 as the primary aircraft, VNAF has been able to maintain a satisfactory utilization rate. Table VII-6 shows the US and VNAF tactical aircraft utilization rate for the last four years. By the end of 1971, VNAF had achieved a utilization rate of only 14% below the US rate. This was a considerable improvement from the previous year when VNAF sorties per aircraft fell off by 17%. It is probable that VNAF can improve its utilization rates in the future (in January 1972 the rate was 291, or only 7% below the US rate).

Table VII-6

Tactical Aircraft Utilization Rates

	1968	1969	1970	1971
US				
Sorties (thousand)	372	299	192	121
Aircraft possessed	1,099	933	555	387
Sorties per aircraft	338	320	346	313
VNAF				
Sorties (thousand)	23	33	38	43
Aircraft possessed	44 ^{a/}	120	166	160
Sorties per aircraft	N.A.	275	229	269
<i>VNAF sorties per aircraft as a percent of US sorties per aircraft</i>	N.A.	86	66	86

a. Abnormal figure because of exceptional A-1 aircraft attrition which reduced fighter aircraft inventory.

Operational Management

15. Tactical air sorties in Southeast Asia are shown in Table VII-7. The decline in US tactical air sorties since 1968 was 67% throughout the region, while in South Vietnam the level of US sorties has plummeted by 92%. Fewer US sorties were flown in all of Southeast Asia in 1971 than in South Vietnam alone just two years ago. The share allocated to Cambodia now exceeds the number of US tacair sorties in South Vietnam.

Table VII-7
US and VNAF Tactical Air Sorties
in Southeast Asia

	Thousands			
	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>
US tactical air sorties	<u>372</u>	<u>299</u>	<u>192</u>	<u>121</u>
South Vietnam	205	155	76	16
North Vietnam	92	Negl.	Negl.	Negl.
Laos	75	144	101	88
Cambodia	0	Negl.	15	17
VNAF tactical air sorties	<u>23</u>	<u>33</u>	<u>38</u>	<u>43</u>
South Vietnam	23	33	28	31
North Vietnam	0	0	0	0
Laos	0	0	0	Negl.
Cambodia	0	0	10	12
US B-52 tactical air sorties	<u>21</u>	<u>20</u>	<u>15</u>	<u>12</u>
South Vietnam	17	14	5	2
North Vietnam	1	0	0	0
Laos	3	6	9	9
Cambodia	0	0	1	1
<i>Total</i>	416	352	245	176

16. The same pattern of current activity is true for B-52 sorties. The number of sorties in South Vietnam has dropped by 85% since 1968 as a large proportion has been diverted to interdicting the Ho Chi Minh Trail in Laos and supply concentrations elsewhere. In 1971, there were approximately 1,000 sorties per month in Southeast Asia (as shown in the tabulation below) -- the planned monthly rate through June 1973. However, a surge capability to 1,500 sorties per month will be available. VNAF has no matching B-52 ordnance delivery capability.

	B-52 Sorties (Thousand Sorties)				
	1968	1969	1970	1971	Jan 1972
Laos	3.4	5.6	8.5	8.8	0.7
South Vietnam	16.5	13.9	5.3	2.4	0.2
North Vietnam	0.7	0	0	0	0
Cambodia	0	0	1.3	1.3	0.1
<i>Total</i>	<i>20.6</i>	<i>19.5</i>	<i>15.1</i>	<i>12.5</i>	<i>1.0</i>

17. Two significant trends emerge from the data in Table VII-7. First, attack sorties flown in Laos remain virtually the exclusive domain of US air forces. VNAF began flying sorties in Laos last year, but to date these sorties are only a small fraction of the total Allied interdiction effort. Second, the percent of attack sorties flown by VNAF in South Vietnam and Cambodia has increased steadily since 1968. In that year, VNAF flew less than 10% of the total number of attack sorties in South Vietnam and Cambodia; by 1971 more than 50% of total sorties were initiated by VNAF. The share of VNAF sorties in South Vietnam has increased (while the number of VNAF sorties has remained fairly stable) since 1969 because of the marked decline in US sorties.

The Role of US Tactical Aircraft Support

18. The volume of tactical air strikes flown by both the US and South Vietnamese Air Forces in both South Vietnam and Cambodia has fallen by 67% during the last four years. By 1971, VNAF flew 30% more sorties than the United States and in South Vietnam alone nearly twice as many

as the United States. These trends are shown in Table VII-8. Data for January 1972 indicate a further substantial improvement in VNAF tacair sorties to an annual rate of 38,000 attack sorties, up from 31,000 in South Vietnam in 1971. The VNAF sortie rate flown in January 1972 accounts for 95% of all attack sorties in South Vietnam. While 5,000 of the 7,000 sortie gain represent a shift from Cambodia, in January 1972 VNAF flew 42% of the total in Cambodia, the same as in all of 1971.

Table VII-8
Tactical Air Support

	Thousands			
	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>
Total sorties flown				
In South Vietnam				
US	205	155	76	16
VNAF	23	33	28	31
In Cambodia				
US	0	Negl.	15	17
VNAF	0	0	10	12
Total	<u>228</u>	<u>188</u>	<u>129</u>	<u>76</u>
Total sorties received <u>a/</u>				
By US forces	154	116	49	10
By RVNAF	74	72	80	66
Total	<u>228</u>	<u>188</u>	<u>129</u>	<u>76</u>
US (percent)	68	62	38	13
RVNAF (percent)	32	38	62	87

a. For calculation purposes, assumes (1) an average of 25% in 1968-69 and 35% in 1970-71 of US sorties in South Vietnam are in support of RVNAF, and (2) all tactical air sorties in Cambodia are in support of RVNAF.

19. The lower half of Table VII-8 shows the relative amount of tacair support received by US and RVNAF ground forces. The calculations are based on derived data and, therefore, should be considered as only indicative of trends over time. US ground forces -- consistent with the redeployment program -- have experienced a 94% decline in direct tacair support since 1968; RVNAF ground forces until late 1971 had been receiving a relatively constant number of supporting tacair sorties. In percentage terms, in 1971 RVNAF received at least 87% of all tacair flown, whereas in 1968 they received only 32%. By early 1972, nearly all attack air sorties were flown in support of RVNAF.

Assessment

20. The VNAF capability to provide tactical air support has increased and will continue to grow through mid-1972. VNAF has proved to be a less efficient utilizer of its assets than the United States in terms of sorties per craft, but not significantly so.

21. The sharp decline in air attack sorties flown in South Vietnam in the last four years has apparently affected US combat forces more than RVNAF. Table VII-9 shows a comparison of RVNAF and US ground forces and the amount of attack air support received per maneuver battalion, per large-size ground operation, and per man killed in action. The relative "richness" of air support for US forces has declined appreciably in terms of battalions and operations, but less so in terms of combat fatalities. RVNAF on the other hand has not experienced such a reduction in air support.

22. Nevertheless, when the amount of support received by RVNAF is compared with that enjoyed by US troops, it is clearly evident that RVNAF units in South Vietnam over time have received significantly less support than the US forces. During 1971, however, the relative position of RVNAF units improved considerably. Whereas they received only about one-half as many sorties per battalion in 1968, they could count on 92% as many sorties as US battalions. In terms of operations and men killed in action, the RVNAF relative position is still significantly inferior to that of US forces, but considerable improvement was made in 1971.

23. Based on January 1972 data, VNAF possessed 155 attack airplanes and was mounting sorties at an annual rate of 45,000. By June 1972, VNAF is scheduled to possess 234 attack airplanes, which for the

Table VII-9

Comparison of US and RVNAF
Air Sortie Support Levels

	1968	1969	1970	1971
Total tactical air sortie support received <u>a/</u>				
Maneuver battalion <u>b/</u>				
US	1,375	1,234	925	625
RVNAF	698	673	699	574
RVNAF as a percent of US	51	55	76	92
Ground operation <u>c/</u>				
US	158	133	81	23
RVNAF	11	6	8	7
RVNAF as a percent of US	7	5	10	30
Allied killed in action				
US	10.6	12.4	12.0	7.7
RVNAF	3.0	3.8	3.4	3.0
RVNAF as a percent of US	28	31	28	39

a. As adjusted, see Table VII-8.

b. As adjusted. For calculation purposes, assumes one ARVN battalion equates to 0.6 US battalion.

c. Battalion-size or larger.

last half of the year could be flown at a rate of 68,000 sorties per year. This could yield an average annual sortie flown figure of 57,000, which amounts to an increase over 1971 of about 30%. Surges in enemy-initiated activity will reduce the relative effectiveness of VNAF tactical air support, and, obviously under such a situation, greatly increased assistance from US tacair will be required. From June 1972 through June 1973, however, VNAF is programmed to fly 98,400 tacair sorties and 9,600 gunship sorties. This is a major improvement from current levels, although for tacair it is far below the number of sorties flown by the US and VNAF combined in 1968 and 1969 and slightly below the 1970 total. Except during periods of high enemy activity, it should be sufficient to accommodate tactical air support requirements.

24. There are, in addition, qualitative factors which will constrain the future role of VNAF. For example, recruitment and training of skilled personnel continues to be one of VNAF's most pressing problems.

APPENDIX VIII

North Vietnam Air Capability

Offensive Capabilities

1. North Vietnam has only a limited offensive air capability, given a continuation of US air presence in Indochina. Nevertheless, its air force could present an increasing threat to Allied forces over the next six months. North Vietnam has about 250 MIG-15, MIG-17, MIG-19, and MIG-21 jet aircraft.⁽¹⁾ Although these aircraft have been used exclusively in a defensive role against US aircraft, they could be converted and used in a tactical support role with little trouble.

2. The current level of North Vietnamese air activity, coupled with the construction of two new airfields in the far southern Panhandle, strongly suggests that Hanoi plans to utilize its air force in the war more fully in the future than it has in the past. For the near term, Hanoi has three options which it can exercise while US air power remains in Southeast Asia: (1) increase MIG response to Allied aircraft interdicting the enemy supply effort in both northern and southern Laos, (2) provide ground support to enemy forces in Laos and northern South Vietnam, and (3) use its aircraft in an interception role against Allied aircraft providing ground support to ARVN.

3. The commitment of multiple fighter sorties against Allied aircraft in Laos, staging from five bases south of the 19th Parallel and Bai Thuong at the 20th Parallel, would increase the threat to Allied air operations. Surface-to-air missile and antiaircraft artillery units now in place are available to provide cover for enemy aircraft operations. By concentrating training efforts on ground attack during the next several months, the North Vietnamese could balance out their air threat to include tactical support to their ground forces. Using the southern bases, this threat would be positioned within striking range of targets in Laos, and, equally important, in northern South Vietnam.

1. Including eight IL-28 bombers; however, given the current combat environment in Indochina with the heavy employment of the F-4 fighter by the US Air Force, the offensive threat of the IL-28 is considered insignificant.

4. Factors which limit the size of operations by Hanoi are its tactical doctrine calling for positive ground radar control of all fighter activities and the apparent inability of North Vietnam's GCI controllers to direct more than one to two flights simultaneously. Even if the North Vietnamese doctrine on this point is changed, however, the principal deterrent to large-scale North Vietnamese air operations in 1972 remains the threat of US retaliation.

Defensive Capabilities

5. North Vietnam has a well-integrated and effective air defense system embracing surface-to-air missiles (SAM), antiaircraft artillery (AAA), and jet interceptors. Currently, in the southern Panhandle of North Vietnam, there are more than 20 SAM battalions, 19 AAA regiments,⁽²⁾ and an increasingly aggressive MIG force. In southern Laos, at least eight AAA regiments plus nine independent AAA battalions and three SAM battalions protect the major lines of communication. Additionally, in recent months MIG fighters have begun to overfly the Laotian border, providing even a greater threat to US aircraft operating in the area.

6. North Vietnamese MIGs do not necessarily have to engage US aircraft to have a significant impact on our ability effectively to support friendly forces. The MIG intrusions into Laos have frequently caused us to divert bombers and gunships away from primary targets. Hence, the use of MIGs over northern South Vietnam could, depending on the US response, cause a drop in our effectiveness in helping the South Vietnamese ward off Communist ground attacks. North Vietnamese MIGs were used in this way over northern Laos during the heavy fighting that took place in December 1971, and the penetration of northern South Vietnam by a MIG-21 on 30 March suggests that MIGs may be used in a similar role in this area.

7. Hanoi's air defenses have inflicted an increasingly heavy toll on US aircraft. From the start of the dry season in October 1971 through January 1972, 18 US aircraft have been lost from hostile action -- a loss rate of 0.33 per 1,000 sorties, compared with a loss rate of 0.24 during the same period last dry season. The expanded air defense network has been a factor in allowing the enemy to move significantly larger quantities of supplies into South Vietnam and Cambodia this dry season compared

2. Elements of three of these AAA regiments have now moved to northern South Vietnam.

with a year ago. This supply movement has given the North Vietnamese the capability of maintaining an augmented force structure in southern Laos and the B-3 Front this dry season and of sustaining a major offensive in northern South Vietnam and Cambodia.

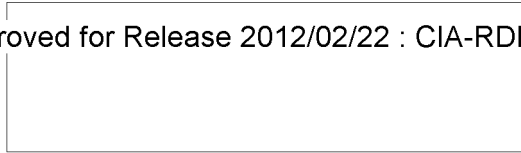
8. The Communists continue to pay a high price for their logistic successes, however. Even though the number of US sorties has been decreasing throughout Indochina in recent years, the increased employment of the highly effective AC-119 and AC-130 gunships has compensated for the overall numerical decrease in sortie rates.

Prospects

9. During 1972, North Vietnam probably will continue to build up its air defenses in support of its logistics effort. The recent visit to Hanoi by Deputy Defense Minister Batitskiy, Chief of the Soviet Air Defense Forces -- the first such visit since 1966 by a comparable Soviet official -- may indicate that additional deliveries of Soviet air defense equipment are forthcoming.

10. Hanoi appears to have several options. It could ask the USSR to provide the SA-3 SAM system, but this seems unlikely. The SA-3 missile is designed to operate more efficiently than the SA-2 against aircraft flying at lower altitudes. Thus, it would complement, not replace, the SA-2. On the other hand, the altitude at which the SA-3 operates best is already well covered by AAA in southern North Vietnam and southern Laos (although the SA-3 has a longer range than AAA). Additionally, conversion training on the SA-3 would probably take at least 9-12 months; thus, it probably would not be operational until late next dry season.

11. A more likely course of action over the next nine months appears to be a further deployment of SA-2 battalions and AAA from North Vietnam into Laos (and probably northern GVN MR 1 as well). Additional SAM battalions could be introduced into Laos and sites could be established as far south as the tri-border area, should protection of supply flows require. At the same time, the North Vietnamese will continue to beef up their AAA posture by additional guns and fire control radar along the main lines of communication in the Laos Panhandle, and possibly by moving some of the highly mobile ZSU 57-2 self-propelled AAA weapons from North Vietnam into Laos.



12. More aggressive use of MIG aircraft probably will also add to North Vietnam's defensive posture. Since October 1971, North Vietnamese MIGs have penetrated Laotian air space more than 50 times, on several occasions engaging US aircraft. In 1972 the Communists have begun construction of two new airfields at Khe Phat and near Bai Duc Thon in southern North Vietnam. Khe Phat is nearing completion now, and the other should be finished this summer. These airfields will give the enemy two additional staging areas from which to launch MIGs against US aircraft, thus enhancing his defensive aggressiveness and increasing the threat to US or VNAF aircraft.



APPENDIX IX

Naval CapabilityNorth Vietnam

1. North Vietnam's Navy adds little to the Communists' overall military capability. The Navy is very small, utilizing only about 45 watercraft and some 3,000 personnel. Its responsibilities are limited; it is primarily a coastal defense force charged with maintaining the security of territorial waters. The largest ships in the North Vietnamese Navy are two SO-1-class submarine chasers used primarily for training and extended patrol duty because they can operate for relatively long periods without shore support. Gunboats and torpedo boats compose the remainder of the North Vietnamese inventory, which in February 1972 was as follows:

<u>Naval Craft</u>	<u>Number of Units</u>
SO-1 class subchaser	2
Shanghai-class motor gunboat	11
Swatow-class motor gunboat	14 - 16
P-6-class motor torpedo boat	6
P-4-class motor torpedo boat	6
Miscellaneous gunboats	6
<i>Total</i>	<i>45 - 47</i>

Torpedo-carrying patrol boats serve a dual role in the North Vietnamese Navy: they provide the North Vietnamese with a very limited military offensive capability and, in addition, provide the main strike force for defense against major surface units. Most of the above naval craft and numerous readily available junks also can be employed in laying minefields, an integral part of the defense in in-shore waters.⁽¹⁾

2. The Navy's size and its total dependence on outside aid are its principal weaknesses. The scant number, small size, and lack of diversity of its naval craft, the lack of experienced cadre, and a generally inadequate training program are obvious liabilities. The Navy does not have a shipbuilding or extensive repair capability and is completely dependent on the People's Republic of China and the Soviet Union for naval equipment

1. For data on North Vietnam's inventory of trawlers used for logistic/infiltration purposes, see Table IX-1.

and armaments. Thus any increases in its offensive and defensive military capabilities will continue to depend on the training and technical and material assistance given by China or the USSR.

South Vietnam

3. Like its North Vietnamese counterpart, the South Vietnamese Navy does not add significantly to the nation's overall military capability. The Navy's responsibilities are limited by its relatively small size and a lack of experienced naval personnel. Because of these limitations, many of its operations are conducted with a high degree of US cooperation and supervision. The Navy's responsibilities include river and canal control within South Vietnam, coastal patrol, naval gunfire support, mine countermeasure operations, and naval maintenance. Its basic role is defensive: a deterrent to North Vietnamese naval activity in and around South Vietnam. It possesses little offensive capability. Part of the Navy's role requires significant air support, which is shared by the South Vietnamese and US Air Forces, the latter bearing a heavy share of the burden.

4. From the point of view of Communist military capabilities in South Vietnam, one of the most important roles of South Vietnam's Navy is its participation in the MARKET TIME program: a joint GVN-US surveillance and deterrent program against Communist steel-hulled infiltration trawlers attempting to deliver supplies to enemy forces in southern South Vietnam (see Table IX-2). The program has been quite successful to date: of the 46 detected infiltration attempts since 1965, only two are known to have been successful. Although other successful sea infiltration attempts may have escaped detection, MARKET TIME's record remains impressive. However, much of this success has been a direct result of the US role. MARKET TIME has in the past consisted of three lines of defense: the outermost air barrier maintained by US Navy aircraft; an outer surface barrier using US and Vietnamese Navy ships; and an inner surface barrier under complete control of the South Vietnamese Navy. The outer barrier has been extremely effective to date, while the two surface barriers have had significantly lower effectiveness.

5. The important question for the future is the ability of South Vietnam's Navy to offset the loss of the outer barrier as the US commitment there declines and must be offset with indigenous resources. The US Navy estimates that the South Vietnamese Air Force could develop a limited but effective maritime air patrol if given the proper resources. Since the US Navy believes that introduction of new types of aircraft is not feasible (because of the training and logistic support required), aircraft presently in the South Vietnamese inventory are considered more suitable for the task. Other aspects must also be upgraded, including the establishment of a new coastal radar surveillance system to offset the loss of US aircraft

in the outer barrier. Although that system is now operational, South Vietnam's Navy has shown slow progress in mastering its operation. Similarly, the Navy is slated eventually to assume complete control over the outer surface barrier to complement the radar surveillance system with an effective reaction role. This will require additional ships, which a preliminary US Navy estimate stated could be absorbed by the Navy in FY 1973.

6. Overall, it appears that South Vietnam's Navy is being strengthened and its capability increased. Its current major shortcoming is its lack of leadership around which to build a viable naval force. The scarcity of Navy management capability will be the pacing factor in its development for some time in the future. Insofar as MARKET TIME is concerned, South Vietnamese naval and air force participation in coastal surveillance as the US effort is phased out will complicate the already difficult task of preventing seaborne infiltration of supplies. The ideal solution to this problem lies with the elimination of enemy rear services and support units on the water's edge and the pacification of the coastal areas, particularly in MRs 3 and 4. Unless this is accomplished, the South Vietnamese Navy, operating largely on its own, will have a very difficult time maintaining MARKET TIME's now excellent record of deterring sea infiltration.

Table IX-1

North Vietnamese Inventory
of Logistics/Infiltration Trawlers, March 1972 a/

<u>Type</u>	<u>Units</u>	<u>Speed (Knots)</u>	<u>Capacity (Metric Tons)</u>
SL-1	33	14	200
SL-2	6	17-over 25	150 - 200
SL-3	2	14	100
SL-4	5	14	100
SL-5	1	14	100
SL-6	1	14	100
SL-7	4	Over 25	150 - 200
SL-8	9	15	400
Wu Hu	7	Unknown	75
<i>Total</i>	<i>68</i>		

a. The SL-1, SL-7, and Wu Hu have not been observed attempting to infiltrate cargoes to South Vietnam, but all the other types have.

Table IX-2

Detected North Vietnamese Seaborne Infiltration
Attempts by Steel-Hulled Trawlers
Since the Initiation of MARKET TIME Operations

Year	Number of Detections	Detection Date	Result	Destination by Military Region
Mar-Dec 1965	1	31 Dec	Aborted	4
1966	3	10 May	Destroyed	4
		19 Jun	Destroyed	4
		23 Dec	Aborted	2
1967	3	1 Jan	Destroyed	4
		14 Mar	Destroyed	4
		11 Jul	Destroyed	1
1968	5	22 Feb	Aborted	2 a/
		28 Feb	Destroyed	4
		29 Feb	Destroyed	1
		29 Feb	Aborted	2
		29 Feb	Destroyed	2
1969	3	24 Aug	Aborted	4
		16 Nov	Aborted	4
		23 Dec	Aborted	4
1970	12	11 Mar	Aborted	4
		21 Apr	Aborted	4
		19 May	Aborted	4 a/
		29 May	Aborted	Unknown
		10 Jun	Aborted	4
		6 Jul	Aborted	4
		2 Aug	Aborted	Unknown
		28 Aug	Successful	4
		4 Sep	Aborted	4
		9 Oct	Aborted	Unknown
		28 Oct	Aborted	4
		19 Nov	Destroyed	4
1971	11	Late Dec 1970 - Mar 1971	Successful	4
		24 Feb	Aborted	4
		22 Mar	Aborted	4
		27 Mar	Aborted	4
		8 Apr	Destroyed	4
		3 Oct	Aborted	4
		17 Oct	Aborted	4
		28 Oct	Aborted	4
		16 Dec	Aborted	4
		19 Dec	Aborted	4
		26 Dec	Aborted	4
1972	8	16 Jan	Aborted	2 a/
		2 Feb	Aborted	4
		16 Feb	Aborted	4
		27 Feb	Aborted	4
		14 Mar	Aborted	4
		22 Mar	Aborted	4
		25 Mar	Aborted	4
		28 Mar	Aborted	4

a. Estimated.



x



APPENDIX X

Logistic Capabilities
(South Vietnam and North Vietnam)

South Vietnam

1. Approximately 20% of the in-country cargo tonnage for support of South Vietnam's armed forces (RVNAF) is carried by US-piloted transport aircraft (C-7s, C-123s, and C-130s). These US aircraft also carry approximately 30% of the personnel moved in support of RVNAF operations. The South Vietnamese Air Force (VNAF) air transport capability will be increased significantly by the acquisition of 48 C-7s during the period March through July 1972. These additional aircraft will be sufficient to provide the cargo and passenger airlift now provided to RVNAF by the USAF.

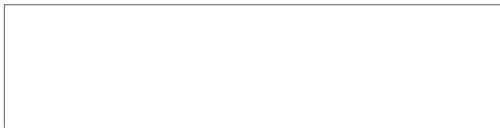
2. ARVN provides all of its own ground transportation. However, about 40% of the RVNAF water-borne transportation is provided by the United States. There are no plans to provide the South Vietnam Navy with additional ships for this purpose since the Navy already possesses sufficient ships but does not use them for cargo (they are used tactically).

3. Major shortcomings in the ARVN logistical capability are:

a. Ability to overhaul and rebuild major items of equipment. To improve the ARVN capability, 17 year olds are being given draft deferments if they enter into a depot training program and then continue working in ARVN depots. While this program has been successful, it is expected that the ARVN will not be self-sufficient in overhaul and rebuild capability for several years.

b. Repair of communications, electronics, and other sophisticated equipment. A self-sufficient capability is not expected for several years.

c. Supply management, inventory control, and requisition processing operations. While there has been progress in these areas, including use of data processing equipment, much needs to be done to integrate the procedures of ARVN,



VNAF, and the Navy. There is also the need to assume those supply functions previously performed by the United States, the most difficult being aircraft supply and maintenance.

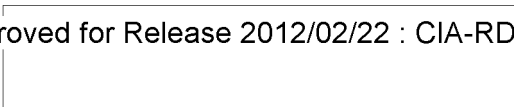
North Vietnam

4. North Vietnam's logistic system is one of its greatest assets in the continued prosecution of the war. It has performed extremely well under severe pressure during the past several years to maintain an adequate flow of supplies to Communist forces operating in Laos, South Vietnam, and, more recently, Cambodia. It has evolved into a complex network of rail, road, trail, and waterway routes, supplemented by petroleum pipelines and overseen by logistical stations placed at strategic locations along the traditional Ho Chi Minh Trail and its recent extensions. Overall, the system now extends some 700 to 800 miles from central North Vietnam deep into the southern reaches of South Vietnam. It employs tens of thousands of men and thousands of vehicles to maintain the level of support required by combat units in forward areas.

5. The northernmost half of the system is the best developed. Supplies move primarily by rail into the North Vietnam Panhandle and are offloaded into trucks for movement into the Laos Panhandle. In Laos, they move south and east toward northern South Vietnam or directly south to Cambodia and southern South Vietnam. It is this latter route that is the least developed: only since mid-1970 have the Communists invested substantial resources in the logistic network in extreme southern Laos and northeastern Cambodia. This has paid off in the last year, and the area now is a viable link between the north and the battle areas further south.

6. The greatest deterrent to Communist logistics through the course of the war has been the Allied aerial interdiction campaign. The millions of tons of bombs dropped in the Laos Panhandle have blocked routes, destroyed or damaged thousands of vehicles, and destroyed large quantities of supplies. This extra burden on the logistic system has been substantial. Even this, however, has been overcome by Communist road and bypass construction, camouflage, and defensive measures. Throughout the war, despite the destruction, there has always been a ready reserve of vehicles and supplies to offset losses. Simply stated, while the Allied bombing campaign has made the Communist logistic effort costly, it has not prevented them from continuing to move very large quantities of supplies through the system.

7. What then is the logistic outlook? There is no reason to believe that the Communists will not continue large-scale logistic activity



throughout the system. They have the demonstrated capability, and, as the Allied air interdiction effort declines, their chore becomes an easier one. If they can attain a halt or even a slowdown in the bombing from negotiating concessions or the withdrawal of the US effort, the Communists should be able to sustain a high level of logistic activity with even fewer resources than are now committed. In the future, then, both short-term and long-term, the viability of the Communist logistic network would seem to provide them with a strong logistics base from which to operate.





APPENDIX XI

Military Aid and
North Vietnamese Strategic Stockpiling

Military Aid -- Past Patterns

1. A predominantly agricultural country with only a small industrial sector, North Vietnam lacks the capacity to produce the sophisticated weapons and war-supporting goods and equipment needed for its military efforts throughout Indochina. The ordnance branch of North Vietnam's industry produces only a small number of light infantry weapons, mortars, grenades, and some ammunition but no other types of military hardware and concentrates primarily on repair of equipment. North Vietnam is totally dependent on the Communist aid donors for supplies of all its air defense weapons and virtually all its ground forces equipment. North Vietnam also lacks such domestic resources as petroleum and the industrial capability to produce such essential war-supporting goods as trucks. In addition to imports of weapons and war-supporting goods, Hanoi has been forced to rely on the Communist aid donors for supplies of food and other consumer necessities to offset shortfalls in domestic production.

2. Communist military aid deliveries to North Vietnam have declined sharply in recent years from the wartime peak of \$650 million in 1967 to less than \$200 million per year in 1970 and 1971 (see Table XI-1). The decline has resulted largely from reduced requirements for air defense equipment, missiles, and antiaircraft artillery ammunition following the bombing halt in 1968. As the USSR is the main supplier of air defense materiel, the value of Soviet military aid has also dropped sharply during this period. Meanwhile, Hanoi's need for ground force equipment and ammunition, largely supplied by the People's Republic of China (PRC), has remained fairly constant. The net result has been a decline in the Soviet share of Communist military aid to North Vietnam from about three-quarters in 1967 to one-half in 1970 and a corresponding rise in the Chinese share. The increase in aid from \$155 million in 1970 to \$180 million in 1971 was due largely to increased deliveries of SA-2 equipment to support the stepped-up resistance to the US air interdiction campaign.

Table XI-1
Communist Military Aid to North Vietnam

Type of Aid	Million US \$														
	1967			1968			1969			1970			1971		
	Total	USSR	PRC	Total	USSR	PRC	Total	USSR	PRC	Total	USSR	PRC	Total	USSR	PRC
All types <u>a/</u>	650	505	145	390	290	100	225	120	205	155	70	85	180 <u>b/</u>	100	75
Air defense equipment <u>c/</u>	115	95	20	88	81	7	77	60	17	9	5	4	49	46	3
Missiles	120	120	0	34	34	0	6	6	0	3	3	0	2	2	0
Ammunition	369	275	94	226	164	62	74	37	37	102	49	53	74 <u>b/</u>	34	37
Ground forces equipment	36	11	25	34	4	30	57	9	48	28	4	24	40 <u>b/</u>	13	25
Naval craft	4	0	4	1	Negl.	1	Negl.	Negl.	0	0	0	0	8	0	8
Other	8	4	4	7	5	2	8	7	1	16	10	6	9	5	4

a. Totals are rounded to the nearest \$5 million. Because of rounding, components may not add to the totals shown.

b. Including about \$5 million in military aid from Eastern Europe, consisting of about \$3 million in ammunition and \$2 million in small arms.

c. Air defense equipment includes jet fighter aircraft, antiaircraft artillery, radar, and equipment for SA-2 missile battalions (excluding missiles).

XI-2

25X1

25X1

3. The Communist donors have traditionally responded promptly to North Vietnam's need for military aid. During the US bombing campaign, the USSR provided sophisticated air defense equipment while the PRC concentrated on providing equipment for North Vietnam's ground forces. Both the USSR and China provided additional confirmation of their support for Hanoi on several occasions during 1971 and are continuing to reaffirm their support for Hanoi in 1972. China signed a supplemental aid agreement immediately after the start of Operation Lam Son 719 in February 1971 and subsequently signed a protocol on military aid in July 1971. (Both these documents were apparently designed to provide for the replacement of equipment lost during Lam Son 719.) The USSR also signed a supplemental aid agreement in early summer. In early autumn 1971 both China and the USSR sent high-level delegations to Hanoi to sign the annual military and economic aid agreements for 1972. Subsequently the USSR announced a supplementary military aid agreement in December 1971 and the Chinese announced a similar supplemental protocol on military and economic aid in late January 1972. These latter agreements are apparently intended to reassure Hanoi that there will be no slackening in the Communist countries' support of its goals. Further evidence of this support is provided by the March 1972 visit of Soviet Deputy Defense Minister Batitskiy to Hanoi, which reemphasized Moscow's continuing high-level interest in improving North Vietnam's air defense capability.

Increase in Aid

4. We believe that during the course of the war North Vietnam has consistently received as much military aid as its war policy has required. Nevertheless for illustrative purposes we have examined the possible impact of an increased level of military assistance. A 25% (\$45 million) increase in military aid deliveries in 1972, for example, could provide significant amounts of additional equipment including any one (or a combination) of the following packages:

- (a) Ten additional SA-2 battalions or about 5-6 new SA-3 battalions.
- (b) About 40 additional MIG-21s or more than 300 additional MIG-17s.
- (c) Almost 400 T-54 medium tanks or 800-900 PT-76 light amphibious tanks.

(d) About 40 more PGN-2 Shanghai-class motor gunboats.

(e) A 60% increase in ammunition and missile deliveries.

5. North Vietnam increased its SAM strength to 45-50 SA-2 missile battalions by adding 10 battalions in 1971. A similar increase in 1972 would add 15% to 20% to its air defense capability. A somewhat less likely prospect would be the addition of SA-3 missile battalions to North Vietnam's arsenal. SA-3 missiles would increase North Vietnam's ability to engage low-flying aircraft at greater distances, but would require a substantial investment in training personnel to operate and maintain the system. The use of two SAM systems would also complicate logistics and support. The North Vietnamese have already developed a high degree of skill and logistical capability in site preparation and transportation of the SA-2 missile system. The benefits from introduction of the SA-3 at this time probably would not be worth the cost.

6. The addition of up to 40 MIG-21s to North Vietnam's current inventory of 250 jet aircraft probably would not provide a significant improvement in North Vietnam's jet fighter capability despite the qualitative improvement offered by larger numbers of this advanced jet fighter. Hanoi's inventory currently includes about 130 MIG-15/17s, 30 MIG-19s, and more than 80 MIG-21s.

7. Hanoi's recent military efforts indicate that field artillery and armored equipment would be included in any package of additional aid. Hanoi's continuing emphasis on its air defense effort would probably also require strengthening of its antiaircraft artillery along with possible increases in its SA-2 capability. In addition to air and ground weapons, Hanoi has also expanded its coastal patrol force by the addition of eight Shanghai-class motor gunboats, and expansion here might be continued to a limited extent.

Decrease in Aid

8. Again for illustrative purposes, we have postulated a reduction in military aid. A 50% reduction in military aid deliveries below the 1971 level would cut deliveries to about \$90 million, and North Vietnam would be unable to replace in full ammunition and equipment expended or lost during 1972 even if the rate of expenditure equaled the relatively low 1971 rate. In 1971 the estimated value of ammunition and replacement missile deliveries amounted to about \$75 million. Deliveries of ground forces

equipment amounted to about \$40 million, including more than \$10 million to replace tanks lost during the year, nearly \$25 million of infantry weapons, and more than \$5 million of field artillery.⁽¹⁾

Capabilities of Enemy Stockpiles to Dampen
the Effects of Reduction in Aid

9. Throughout the war in Indochina, Communist forces have adhered to a stockpiling concept that calls for supply reserves to exceed anticipated requirements by several fold. Stores of food, weapons, and ammunition are established at three distinct echelons of command. Field stockpiles -- also called combat stockpiles -- are maintained in all operational areas to meet the specific firepower requirements of units that are to be committed to combat, in addition to normal day-to-day requirements; campaign stockpiles are stored in more secure areas, but at locations relatively close to potential combat areas in anticipation of military actions; and finally, strategic stockpiles to meet various contingencies are established in base areas having a high degree of security.

10. Strategic stockpiles have been established principally in North Vietnam and Laos, although there are undoubtedly some in South Vietnam and Cambodia in base areas deemed adequately secure. Campaign stockpiles have been established widely throughout the Laotian and Cambodian base areas and in the more secure areas within South Vietnam. Combat stockpiles exist solely in South Vietnam unless they are designed to support specific military operations outside of South Vietnam. The various types of stockpiles are not necessarily maintained separately. For example, a single supply depot may contain both strategic and campaign stockpiles. Thus the chief distinction between the two would be one of warehouse accounting and planning.

11. We do not have firm intelligence on the aggregate size of the enemy's stockpiles in Indochina. From what we know of his logistic planning doctrine, the enemy's strategic stockpiles should approximate 12 months' resupply requirements; campaign stockpiles, 6 months' requirements; and combat stockpiles, 3 months' requirements -- a total of 21 months of resupply requirements. Current stocks probably do not equal 21 months, because the dry season effort to move large quantities of supplies to both South Vietnam and Cambodia is still under way. Communist stock levels are increasing and probably represent at least a 12-month resupply

1. Other war-supporting goods and supplies such as petroleum are included in economic aid.

requirement. For example, COMINT intercepts of January 1972 revealed that more than 4,500 tons of supplies were stored in eight storage areas in the Laotian Panhandle. These storage areas are only a fraction of the number currently being maintained in the Panhandle alone. COMINT also indicates a similar picture in the North Vietnamese Panhandle -- largely bomb-free since 1968. One late 1971 intercept revealed more than 5,000 tons of supplies stored in several areas in Quang Binh Province. More recently, intercepts have indicated several thousand tons of ordnance stored in the key Vinh area.

Petroleum and Trucks

12. To support its military activities throughout Indochina and sustain its domestic economy, North Vietnam has imported between 360,000 and 390,000 tons of petroleum products per year since 1968. Most of the imports -- 90% -- are made up of gasoline and diesel fuel, of which 85% is consumed by civil and military transport. Countrywide, North Vietnam maintains an estimated 90-day stockpile of petroleum on the average. However, stocks may be substantially higher than this in the North Vietnamese Panhandle -- possibly as high as 45,000 tons -- in terms of requirements there and in southern Laos. Petroleum requirements in southern Laos are estimated at about 70 tons per day, or roughly 17,000 tons for the entire dry season. Therefore, even if petroleum imports were halved through January 1973, sufficient stocks probably are on hand to ensure continued support of the war in the south, although the cut in petroleum deliveries would adversely affect the transport sector of the economy.

13. Currently, the North Vietnamese truck inventory is at the highest level ever, and a record number of trucks are on order from the USSR for delivery this year. It is unlikely that the USSR would default on this order; thus in January 1973 the North Vietnamese should continue to have excess stocks assuming no major increase in the current rate of enemy truck losses in Laos.

APPENDIX XII

Regional Assessment (Including Cambodia)⁽¹⁾

Military Region 1

Background

1. Military Region (MR) 1 encompasses five provinces representing about 20% of the total population of South Vietnam. To protect this population the United States had as many as four infantry divisions deployed within MR 1 in addition to two ARVN infantry divisions. Beginning in late 1969, the United States began a phased withdrawal of troops from MR 1 so that by February 1972 all four infantry divisions had been completely withdrawn, leaving three ARVN infantry divisions to assume primary responsibility for protecting the population. Despite substantial US troop withdrawals, the VSSG Control Indicator for GVN control over the rural population increased from 53% to 73% between 1969 and 1971.

2. Friendly main forces were reduced by about one-third between early 1970 and early 1972, reflecting the withdrawal of US forces. On the other hand, enemy main forces were reduced by only 10%. Our Main Forces Ratio indicates that in this period the ratio decreased from 2.5 to 1.9.⁽²⁾ However, the Total Force Ratio has increased from 2.5 to 2.8 during the same time period. This is explained by the fact that enemy local forces had been seriously eroded while GVN territorials had been expanded and upgraded. Total enemy forces decreased by 33% while total friendly forces decreased by 26% between the first quarter of 1970 and 1972.

-
1. The situation as of 3 April. See Appendix IV for a definition of the force structure.
 2. This ratio does not include all the force changes which are the consequence of the current enemy offensive, for example, the recent ARVN redeployments and enemy and friendly casualties. It does include the recent enemy redeployment from North Vietnam.

[REDACTED]

The 1971/72 Dry Season (3)

3. The enemy main force buildup this dry season is concentrated in Quang Tri and Thua Thien Provinces and has reached a magnitude greater than any year during the war. Four new roads have been constructed through the DMZ facilitating the rapid movement of men and materiel into northern MR 1. In recent weeks, heavy artillery such as 130-mm field guns and 152-mm howitzers have been deployed to Quang Tri Province, complementing the deployment of several air defense weapons already in Quang Tri and western Thua Thien Provinces. The deployment of heavy combat support weapons to northern MR 1 enhances the combat effectiveness of enemy ground forces and presents a significant threat to Allied tactical air (tacair) and helicopter support operations.

4. To counter the enemy threat in Quang Tri and Thua Thien Provinces, friendly forces are relying heavily on concentrated B-52 bombing support missions and tacair. The main force shield around the coastal lowlands, which depended on long- and medium-range artillery (175-mm, 155-mm, and 105-mm), armor/infantry reaction forces, and Allied tacair has been broken. The shield, which was comprised of several fire support bases forward of the urban population had, for the past two years, been successful in preventing enemy main forces from infiltrating the lowlands. It is now an open question as to when this shield will be reestablished.

The Battle Zone

5. Because much of the enemy's current dry season augmentation is concentrated in the two northern provinces of MR 1, we have expected to see much of the main force combat action occur in these provinces -- as has thus far been the case. As of 31 March there were 32 GVN maneuver battalions available for combat operations in Quang Tri and Thua Thien Provinces, or roughly 50% of the total number of GVN maneuver battalions available within MR 1 -- 26, or 81%, were deployed in the highlands west of Quang Tri City and Hue City on or near key fire support bases. Opposing the GVN maneuver battalions are 48 enemy maneuver battalions, providing enemy main forces with a 1.5 maneuver battalion advantage over friendly main forces in Quang Tri and Thua Thien Provinces. (The maneuver battalion strength ratio is about 1.0.) From the manpower point of view this does not necessarily give the NVA a decisive edge, because usually

3. The dry season in MR 1 usually begins in January and continues through August.

[REDACTED]

two or three Communist maneuver battalions are employed against one friendly maneuver battalion. The augmentation in enemy main forces in Quang Tri and Thua Thien Provinces this dry season suggested that the enemy would change his strategy this year from protracted to main force warfare. In fact, the enemy has committed a large main force supported by heavy artillery and air defense weapons against GVN main forces in Quang Tri and Thua Thien Provinces.

Military Region 2

Background

6. GVN MR 2 has been a chronic security problem for the South Vietnamese government for many years. Two main reasons for this are the historical presence of a well-organized enemy political and military infrastructure and the nonavailability of Allied military assets to initiate an aggressive pacification campaign in the military region. However, since late 1970 the population security apparatus has shown some significant improvements. Reporting since 1969 has shown that the VSSG Control Indicator for GVN control over the rural population has increased from 45% to 56% between 1969 and 1971.

7. Except for US forces, Allied combat forces in the region have not been characterized by aggressive combat operations. While US forces had primary responsibility for containing enemy main forces in the highlands, the remaining two ARVN infantry divisions and two South Korean infantry divisions were assigned to population control. As US forces were routing the enemy's main forces in the highlands, only marginal gains were made in pacification and population control between 1968 and 1970. In early 1970, US forces began withdrawing which caused GVN forces to assume primary responsibility for combat operations.

8. Between the first quarter of 1970 and 1972, friendly main forces were reduced by 6% by the withdrawal of two US infantry divisions. Enemy main forces have more than tripled during the same time period while total enemy forces declined by 3%. The increase in enemy main forces reflects the dramatic buildup of main forces during the 1972 dry season. The decline in total forces has been caused by the severe erosion of enemy local forces and guerrillas in the coastal lowlands of the military region.

[REDACTED]

The 1971/72 Dry Season⁽⁴⁾

9. Since January 1972 the enemy has dramatically increased his main force structure in MR 2, primarily within Pleiku and Kontum Provinces. Estimated infiltration to the B-3 Front currently is approximately 42,000 men, with an additional 16,000 destined for VC MR 5 along the coastal lowlands of MR 2 and southern MR 1. Infiltration to MR 2 is the highest recorded at any time during the war. Included in the infiltration is the deployment of one full division, the 320th, in addition to filler and replacement personnel. Moreover, two regiments of the 2nd NVA Division have been deployed into Kontum Province from southern Laos. Rounding out the enemy manpower buildup has been the unprecedented flow of war materiel to the western highlands. Although 130-mm field guns have not been detected in the area, heavy mortars and medium-range artillery (160-mm mortars and 122-mm field guns) have been deployed to support enemy ground forces. In addition, it is believed that a substantial increase in antiaircraft artillery has taken place, representing a threat to Allied tacair and helicopter support operations. Finally, reports have suggested that the enemy plans to employ a significant armor force, possibly two armor battalions, during offensive operations this dry season. COMINT and forward air controller reports have indicated that NVA tanks were deploying in the direction of the western highlands from southern Laos.

10. Facing the enemy threat in Kontum and Pleiku Provinces are two ARVN infantry divisions. Both divisions are considered marginal at best when compared with other GVN infantry divisions, but they have been augmented with elements of a third division and a Ranger Group. For analytical purposes and because the JGS has deployed two airborne brigades from the General Reserve with one more scheduled to be deployed, we have assumed that the entire airborne division is in Kontum Province. In addition, we have not included South Korean forces or GVN maneuver battalions assigned to pacification missions as part of friendly main forces.

11. The MR 2 Main Force Ratio declined from 7.0 to 2.1 between the first quarter of 1970 and 1972, primarily because of the withdrawal of US troops, the significant increase in enemy main forces, and the omission of GVN and Free World maneuver battalions on pacification status from the main force structure. Because the enemy main force buildup has been confined to a small geographic area and friendly main forces have about a two to one advantage over enemy main forces for the military region as a whole, the GVN has been able to meet the enemy threat by

4. The dry season in the highlands of MR 2 usually begins in November and continues through April.

concentrating its main forces in the same area without major risk to the rest of the military region. Assuming the arrival of the entire airborne division, there will be 42 GVN maneuver battalions deployed within Kontum and Pleiku Provinces, representing about 60% of the total number of GVN maneuver battalions available within the military region. Opposing the GVN maneuver battalions are 35 enemy maneuver battalions which could be increased by approximately 12 maneuver battalions from forces in southern Laos and the lowlands of Binh Dinh Province. However, this is unlikely because the forces in southern Laos are currently located near Pakse and those in Binh Dinh will probably be targeting GVN maneuver battalions in the lowlands. Assuming no further enemy main force reinforcement capability from outside the military region, the maneuver battalion strength ratio is roughly 1.4 in favor of friendly forces.

12. Tactically, friendly main forces have assumed a defensive posture centered around key fire support bases forming a main force shield supported by B-52 bombing missions, Allied tacair, medium-range artillery (155-mm and 105-mm), and armor/infantry reaction forces designed to protect the province capitals of Kontum and Pleiku Cities and key lines of communication. As in MR 1, friendly main forces in MR 2 have been fighting two types of warfare since 1969, protracted warfare in the lowlands and main force warfare in the highlands. During the last two years, enemy total forces were severely eroded by adopting this strategy. A gradual erosion occurred in the lowlands, while limited enemy main forces attacked Allied fire support bases in the highlands, resulting in heavy casualties with no strategic military successes achieved by either side.

13. This dry season the enemy's main targets probably are Kontum City and Pleiku City. The enemy probably hopes that even a short occupation of either of these cities would discredit the Vietnamization Program and quite possibly have some influence upon the outcome of US elections in November.

14. The position in the highlands, however, still appears to be favorable to friendly forces. By concentrating their efforts in a small geographic area and lacking the capability to bring additional main force pressure upon friendly forces elsewhere in the military region, the GVN has been able to meet the threat thus far by redeploying additional main forces to the battle zone.

15. We anticipate further heavy fighting within the next few weeks in the highlands, together with a continuation of the heavy fighting in MR 1, resulting in a great loss of life to both sides. Given the current friendly main force shield supported by effective Allied firepower and armor/infantry reaction forces, we feel the GVN should be able to parry

enemy main forces this dry season, but it will be faced with the strongest enemy total force structure in MR 2 since early 1968.

Military Region 3

16. Enemy strategy and assets directed against GVN MR 3 – or, more specifically, directed against Saigon – have been concentrated largely in the border areas of the region and on adjacent enemy bases in Cambodia. During the past few months there has been some attempt by the enemy to reinforce his former internal base areas and their populated fringes. Although security deteriorated some on the fringes of these bases during this time, vigorous GVN countermeasures early this year did much to counter these enemy gains. In the region as a whole, the present GVN posture is firm, but, in the northwestern border areas, it has been seriously challenged by main forces deploying from Cambodia.

17. In recent years, the enemy has faced difficult situations in conducting protracted warfare in MR 3. He has been seriously hurt by a severe deterioration of his assets in the villages. Last year the enemy resorted to widespread assignment of North Vietnamese to village guerrilla units. While the enemy has tried since 1970 to counter his weakness and the GVN presence at the village level by expanding the clandestine side of his infrastructure, he has not been able to do so. Rather, his existing assets at the village echelon have been further eroded.

18. While enemy assets (including a large share of his weak and dispersed main and local forces) were important in bringing about deterioration in the security of the fringes of War Zones C and D, the root cause was poor local GVN leadership. In early 1972, however, extensive sweeps by all three ARVN divisions assigned to MR 3 may have delayed enemy preparations for future activity in these areas.

19. Current evidence suggests that the enemy is shifting to main force warfare supported from Cambodia. In early April a number of main force units returned to MR 3 from Cambodia, reducing the MR 3 Main Force Ratio. The extremely dense GVN local forces provide sufficient rear area security to free the entire main forces in the military region to concern themselves with the COSVN main force threat from Cambodia. The final outcome of this year's dry season operations in MR 3 obviously will be largely dependent on the extent of the enemy's commitment of main forces currently located in Cambodia. As of 3 April, at least three infantry regiments had deployed from Cambodia into the border provinces of MR 3, and indications are that several more will follow. Three VC/NVA main force divisions have been located in Cambodia adjacent to the MR 3 border, and very recent information suggests that elements of all three have moved into MR 3.



Military Region 4

20. Enemy forces in the Delta continued to erode during the last dry season and probably will repeat their performance during the present dry season. Last year the enemy's dry season campaign of protracted warfare was muted and the coordination of his occasional highpoints was impaired by aggressive friendly combat operations. Behind the favorable GVN developments in the Delta last year was a gradual improvement in all phases of its military operations.

21. For most of the war, Delta warfare was unique in that it was mainly between indigenous forces on both sides. Small US combat forces (two brigades at the peak) operated there during 1967 to mid-1969. On the enemy's side, however, the war has been increasingly fought by North Vietnamese since early 1969. NVA personnel now predominate in the main forces and are assigned to some local force units as is the case in the other military regions.

22. The strongest enemy resistance in the Delta during 1971 centered in the U Minh Forest, traditionally his largest and most important base in the Delta -- one which was essentially inviolate as late as the fall of 1970. However, the GVN made reduction of the U Minh base a high priority goal, and the enemy's attempt to counter GVN moves with his largest concentration of military forces in the Delta faltered badly. Presently, only one large insecure area remains. The U Minh is one of five principal bases, together with numerous small enemy mini-bases in the Delta, in which the GVN has conducted extensive operations and which have been partly occupied during the past year. A longstanding and continuing trend of declining guerrilla forces also has seriously affected the enemy's protracted warfare in the Delta. What once was a platoon of full-time guerrillas in enemy villages in the mid-1960s had become a weak squad by 1969 and then a cell of several men in far fewer villages by last year.

23. Once dominant throughout much of the Delta, the enemy's eroded and weak posture at the end of 1971 stemmed from his disastrous military losses during the 1968 Tet Offensive, the subsequent movement of the GVN into his villages and, more recently, improved ARVN aggressiveness. Since early 1970, the GVN's regular troops in the Delta have shifted from static to aggressive operations owing to direction from Saigon, improved competence in the higher echelons as a result of personnel shifts, and a growing sense of will and confidence among these higher echelons within the past year. Among three ARVN divisions in the Delta, the 9th has performed a Delta-wide mobile role for two years now and has, with other Delta regulars, conducted shallow operations into Cambodia as well as providing security along the Mekong River in Cambodia since early 1970.



In the past year the increasing assumption by the GVN territorial forces -- Regional and Popular Forces -- of the entire security burden in half of the provinces of the military region has been especially important. Formerly characterized as static defense forces, the territorials were utilized in extended Delta-wide sweeps on a regular basis beginning last year. Additionally, their mobile capabilities were increased by the formation of 20 Regional Force battalions and the assignment of these battalions to a mobile reaction role.

24. Faced with a weak position in MR 4 and desiring to strengthen his forces in preparation for offensive action this dry season, the enemy infiltrated at least one new NVA regiment into the Delta early this year. More recently, he shifted at least two and possibly three regiments from the Phuoc Long Front in Cambodia to the GVN Chau Doc Province border. Also in late 1971 the enemy activated a division command echelon from assets already within the Delta. Even with these forces, enemy capabilities in the Delta probably still are not sufficient to seriously challenge GVN military dominance, although there has been a recent upsurge of enemy harassing actions. Currently, enemy forces probably are insufficient to tie down all GVN regulars there in any offensive. However, if an ARVN division is redeployed to MR 1, the friendly main force advantage in MR 4 will be significantly reduced.

Enemy Combat Forces in Cambodia

25. Communist combat forces in Cambodia fall into two main groupings: (a) the VC/NVA mobile strike forces and (b) the VC/NVA and Khmer Communist (KC) regional forces. The mobile strike force is composed of the 5th, 7th, and 9th Divisions plus the 69th Artillery Command and the Phuoc Long Front, and its strength is estimated to be at least 27,000 men. Most of these forces at present are targeted against South Vietnam. The regional force structure is composed of at least eight regiments plus a large number of local district-level company units. Its strength is estimated at between 23,000 and 38,000 men.

26. The mobile strike forces are currently deployed in two major formations. As of March, the first formation, composed of the 5th, 7th, and 9th Divisions plus the 69th Artillery Command, was located in Kompong Cham Province, Cambodia (opposite Tay Ninh Province in South Vietnam), and had an estimated combat strength of about 20,000 men. In early April, however, elements of all three Divisions had moved into GVNN MR 3, together with two independent regiments. The second formation, the Phuoc Long Front, has been deployed in an area west and south of Phnom Penh, but a division-sized element has recently moved near the Chau Doc Province border of MR 4 (see discussions on MRs 3 and 4, above).



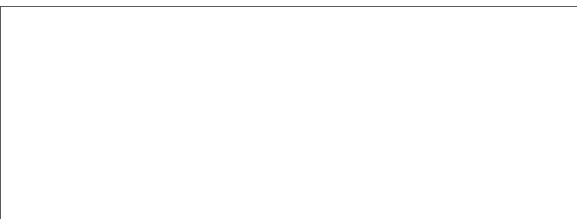
27. The mobile strike forces in Cambodia are similar in strength and character to the VC/NVA main force units operating in northern South Vietnam. The strike force battalions average about 300 men each and are well-equipped with modern small arms and crew-served weapons. At the regimental and division level, additional combat support units are available, which increases the firepower of the mobile strike force battalions when operating as a part of these larger formations. The mobile strike force units are the only units capable of posing a significant threat to ARVN units inside South Vietnam.

28. The VC/NVA and KC regional forces (about 8,000 VC/NVA and 15,000 to 30,000 KC) are much less capable than their strike force counterparts. Even the VC/NVA regional units contain substantial numbers of locally recruited ethnic Khmer, who are much less motivated than recruits from North Vietnam. In addition, these units lack much of the combat support that the mobile strike forces enjoy. The regional forces have the primarily defensive missions of population control and the protection of Communist lines of communication running through their areas of responsibility. The regional forces in Cambodia with their large number of KC personnel and reduced firepower are not deemed a serious threat to South Vietnam at the present time.



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