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Analysis of Vietnamization: A Description of the War, 1967-71 (U)

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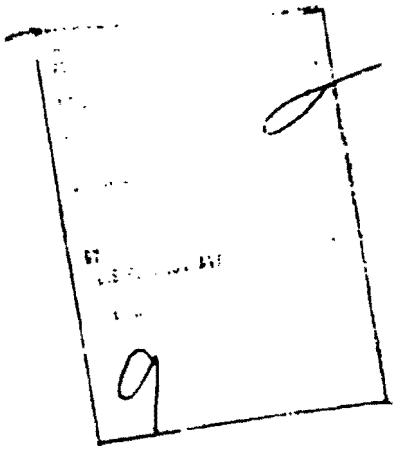

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GLOSSARY OF ABBREVIATIONS

ARVN	Army of the Republic of Vietnam
GVN	Government of Vietnam
KIA	Killed in Action
MR	Military Region - There are four in Vietnam.
NVA	North Vietnamese Army
PF	Popular Forces - Territorial troops assigned as village or hamlet security forces.
RF	Regional Forces - Territorial forces recruited and employed within a province
SVN	South Vietnam
US/FW	United States/Free World Forces
VC	Viet Cong
VCI	Viet Cong Infrastructure
VNMC	Vietnamese Marine Corps

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ANALYSIS OF VIETNAMIZATION: A DESCRIPTION OF THE WAR, 1967-71 (U)

SECTION I

SUMMARY

Problem

(U) In general terms the main theme of Analysis of Vietnamization is the identification and interpretation of the statistical relationships between the following general concepts:

- GVN, U.S., and 3rd Country Military Activities.
- GVN, U.S., and 3rd Country Resources.
- VC and NVA Military Activities.
- VC and NVA Resources.
- GVN Political and Economic Activities.
- VC and NVA Political and Economic Activities.
- Cultural and Economic Factors.
- Other Environmental Factors.
- Popular Attitudes.
- Political Behavior.

Planners and decisionmakers have long recognized that the relationship between the first and last concepts above is weak, probably indirect, and conditioned in varying ways by the eight intervening concepts. The basic definition of counter-insurgency recognizes this complexity of relationships be stating it consists of "those military, paramilitary, political, economic psychological, and civic actions taken by a government to defeat subversive insurgency."[1] The ten concepts listed above represent only the basic framework for organizing the raw materials (data) utilized in developing an empirical description of the Vietnam War. This description is based on the province to province differences and similarities in the profiles of military presence, activity, combat, and direct results which have been found to best represent the first four basic concepts above.

---

[1] (U) Joint Chiefs of Staff, Dictionary of United States Military Terms for Joint Usage, JCS Pub. 1, (GPO, Washington, D.C., 1966), p. 51.

Research

(U) This study is a supplementary analysis to our paper, Analysis of Vietnamization: A Description of the War, 1967-70. Specifically this report more intensively examines the Province Cluster Profiles of the aforementioned paper. U.S. statistics had been deliberately downplayed or eliminated in the above study because of a primary concern with the South Vietnamese aspects of the war. This paper represents an attempt to provide a more complete perspective of the war by inclusion of U.S. data.

(U) The description of the war across the 44 provinces of Vietnam produced in this study consists of a simplification and interpretation of the relatively unstructured and unintelligible description contained in the data for hundreds of variables recorded monthly for each province. The complexity due to the large number of variables was simplified by elimination of redundancy and construction of aggregate indices to obtain 22 key indicators of combat intensity and participation plus opposing military force presence and activity. The problem of 60 monthly observations was simplified by aggregation to nine six-month intervals from the summer of 1967 to the summer of 1971. The problem of considering 44 provinces was simplified by obtaining three clusters of provinces which are similar to each other in terms of three distinct patterns of the war which were identified in an OASD(SA) 1970 military region analysis. The results are a description of the characteristics which distinguish the three patterns (province clusters) and an evaluation of the variations of province cluster composition and unique characteristics over the nine time periods.

Findings

Province Cluster Profiles

(U) This analysis demonstrates that there are three major types of war in South Vietnam. They are characterized by distinctive patterns which occur in varying mixes in 31 of the 44 provinces. The wars are given the following names: main force, hybrid, and guerrilla. These war types are technically described in Table I-1. Less rigorously, the "main force" and "guerrilla" wars can be characterized as evidencing the distinction between regular unit activity and local unit activity. It is important to note from Table I-1 that both troop strengths and results are significant characteristics of these typologies. In addition to "main force" and "guerrilla" typologies, a third distinct pattern of conflict is found. This "hybrid" war is a result of a unique pattern of interaction or combinations of local and main force activity.

(U) TABLE 1-1.

WAR TYPE CHARACTERISTICS SUMMARY

Indicator	Main Force	Hybrid	Guerrilla
War Deaths	High	High	Low
Total Enemy Personnel Strength	High	High	Low
NVA Combat Unit Personnel Strength	High	Average	Low
VC Percent of Enemy Combat Unit Strength	Low	Average	High
VC Small Unit Local Strength	Average	High	Average
Total VCI Strength	Low	High	High
Total Friendly Personnel Strength	Average	High	Average
RF/PF Personnel Strength	Low	High	Average
Total Enemy Initiated Incidents	High	High	Low
Friendly Large Operations	Average	High	Average
Friendly Small Operations	Low	High	Low
RF/PF Percent of Friendly Deaths	Low	Low	High

(U) Reference to the above table indicates the degree to which the hybrid war type dominates the magnitudes of the indicators. The only "low" rating for hybrid war is the RF/PF (territorial forces) percent of friendly deaths. Main force and guerrilla war, on the other hand, show a great deal more diversity in comparison. Main force war is very high in enemy NVA strength, enemy incidents, and total war death variables. This war type is the scene of a war of attrition, with particularly heavy fighting in lightly-populated areas. These indicators are also absorbed in the hybrid category. However, the hybrid war, in addition, assimilates characteristics of the guerrilla war which are of low consequence to a main force environment: high percentages of local troop strengths, lower levels of conflict, and more highly populated surroundings. In essence, therefore, the hybrid war denotes those areas where combat is heavy, casualties are high, all troop levels are utilized and population is substantial.

(U) As important as designation of war activity and characteristics are the patterns which can be observed over time. The war has presented a very observable current of activity which displays a large degree of constancy and, therefore, some accompanying predictability. Hybrid war provinces have been consistently representative of areas in which friendly strength, regular and territorial, faces threat of heavy enemy incidents and resultant casualties. Large portions of Military Regions I and IV demonstrate hybrid characteristics, but most often with concomitant main force and guerrilla distinctions. Therefore, the hybrid category is not a separate entity itself insomuch as it constitutes a structure defining those areas in which portions of both main force and guerrilla war take place.

(U) The period between October 1968 and April 1970 sees the war acquiring relatively unchanging characteristics. Both the patterns and magnitudes remain stable. The patterns, in fact, become increasingly clearly defined. The spring/summer of 1970, however, saw the most striking increase in activity since the TET (February, 1968). Concomitant with U.S. withdrawal, hostilities began to flare. Total combat deaths alone increased by 30%, this being the sharpest ascent since the TET offensive. However, whereas the TET offensive resulted in weak and diffuse war patterns, followed nine months later by return to stability, the summer of 1970 activity produced highly patterned behavioral characteristics.

(U) By 1971, the war has attained even a greater degree of stability and strength. What variation there is appears to be a function of the winding down of activity and withdrawal of U.S. forces. The following conclusions can be derived from the data analyzed for 1971:

- Total war deaths are declining in all provinces but those in the guerrilla war structure.
- Friendly deaths are significantly decreasing in most provinces.
- Friendly combat strength has declined somewhat in both main force and hybrid provinces, while the guerrilla provinces (Military Region IV) are experiencing a conspicuous increase in friendly support.
- The percentage of territorial force (RF/PF) deaths is increasing in all provinces.

(U) These conclusions offer a picture of a war on the decline, although one which has changed character over the years from a substantially regular unit battle to one being fought more predominantly at a local level. Yet despite the steadily falling troop strength, the VC-NVA have been able to hold the level of their initiative (number of incidents) essentially constant. They can be expected to re-introduce large numbers of regular forces if a shift from the protracted war strategy appears desirable or necessary. The shift from large unit domination of the war to a more local war reflects both the VC-NVA strategy change and the way in which the ARVN and RF/PF have adapted themselves to carry out the main combat role with U.S. withdrawal. The large scale escalation by the NVA-VC in 1972 will require further changes by the RVNAF when their organization and deployment may have been at near optimum for the protracted war threat, yet as events have shown, very weak and dispersed with respect to the large unit war threat that was faced.

(U) The three types of war essentially describe a pattern of activities which to varying degrees have existed at least since 1967. Even though the basic structure has not changed, the clarity of the patterns has steadily improved. Although no proof yet exists, the comparison between the conduct of the war and the patterns is very striking. It is worth noting that contrary to the opinions expressed by many skeptics, the withdrawal of U.S. forces did not result in a major disruption of the war. Rather, the strength of the patterned characteristics increased despite (and perhaps because of) the withdrawal of U.S. and third country forces.

(U) Finally, on a very general level, the clustering analysis raises some fundamental questions about the nature of revolutionary and counter-revolutionary efforts. It is suggested (but not proved), that the real conflict occurs not over what ground rules will be used, but whether they will be employed. Once a set of implicit rules for accepted and prohibited behavior are established (whatever that may be) the guerrilla forces have suffered a loss. Conversely, if the counter-revolutionary forces cannot force some boundaries to the conflict, they may have no chance of winning. The reasons are that once the patterns are set, the government forces can prepare appropriate defenses and offenses. Since the government generally has at its disposal a wider base of resources, it can succeed if it can only plan what it must succeed at. The data would indicate that this thesis might be true. As was noted earlier, however, it remains to be subjected to a formal test.

Cambodia and Laos

(U) The main force, guerrilla and hybrid war types provide a logical structure for a description of the war in South Vietnam on a province by province basis.

The use of Cambodia and Laos as supply routes and sanctuaries for the NVA and VC, as well as the extension of ground combat into Cambodia and Laos in 1970 and 1971, has made these countries an integral part of the war in South Vietnam. The nature of the war in Cambodia and Laos is examined by comparing the strength and deadliness figures with the South Vietnam province averages.

(U) Although Laos is found to represent a special case, Cambodia appears to have had the effect of adding three main force war provinces to South Vietnam. Models which explain the process at work in the main force war type can probably also be applied to Cambodia. It should also be possible to project trends for the activity in each war type, including the three main force provinces for Cambodia, as a guide to force structure planning and estimating future levels of military activity.

Implications

(U) The basic simplification and structuring of the Vietnam War as described in the data used in this research has meaning for the Government and for further quantitative analyses of the war. For decisionmakers monitoring the progress of the war, a relatively small set of key indicators have been identified which will reflect any significant change in the character of the war. The identification of redundant measures of the same basic concept also has implications for the simplification or reduction of data reporting systems. Future analyses of the concepts defined by this research can be carried out using only a relatively small number of variables to measure these concepts as the study moves into efforts to explain and predict. The differences across provinces can readily be incorporated into time series analyses for this effort by the use of province associations with the major war patterns as variables. Finally, a key question for future research is implied by the finding that the major war patterns have become more pronounced through time. Is the highly structured war found in 1971 the result of GVN initiative or otherwise?

SECTION II

INTRODUCTION

Purpose

(U) This study is a supplementary analysis to our paper, Analysis of Vietnamization: A Description of the War, 1967-1970.[2] Specifically, this report more intensively examines the Province Cluster Profiles of the aforementioned paper. Without going into a complete justification of the need for continuation of such analyses or for an empirical description of the war in Vietnam, it would be helpful to briefly summarize the purposes of the research and the basic procedures which are being followed. In the most general sense, this a ysis is a search for a series of quantitatively based descriptions of selecte. ocial-political-military processes in Vietnam which are of central importance to decision-makers. These descriptions are the initial effort in a program oriented toward two basic types of outputs:

- Explanation of the basic processes involved in Vietnam to enable decision-makers to more accurately assess the situation knowing the current status of and changes in existing processes.

- Identification of the causal relationships between actions and effects in the Vietnam War to provide decision-makers with the ability to predict and control the probable outcomes of their decisions.

Thus, the purpose is to provide decision-makers with tools to implement their management role through better understanding of the situation and its implications and through monitoring and controlling their efforts to influence that situation.

Research Strategy

(U) Substantively, the foci of attention might be divided according to friendly or enemy activities. The study of only enemy activities is more

[2] (U) Analysis of Vietnamization: A Description of the War, 1967-1970, ARPA Order No. 1770; Contract No. DAHC 15 71 C 0222; Bendix Corporation, November 1971, (CONFIDENTIAL).

likely to produce the first type of output. Analysis of friendly behavior can produce both types. It is possible, indeed probable, that there are major portions of VC-NVA activities which are not normally subject to influence by either American or South Vietnamese initiatives. Examination of this type of influence relationship should not be precluded, but the primary emphasis will be directed at identification of regularities in enemy activity which can be explained and predicted from evidence of other processes which have historically preceded changes in enemy behavior.

(U) A number of major measurement systems have been introduced into Vietnam for a variety of reasons. Although the breadth of measurement has the advantage of providing indicators of an extremely wide variety of phenomena, it has the disadvantage of overwhelming the analyst with a quantity of data so great that he must carefully and systematically reduce it down to a few critical indicators. From literally thousands of candidate indicators, we organized a listing of variables which index the following general concepts:

- GVN, U.S., and 3rd Country Military Activities.
- GVN, U.S., and 3rd Country Resources.
- VC and NVA Military Activities.
- VC and NVA Resources.
- GVN Political and Economic Activities.
- VC and NVA Political and Economic Activities.
- Cultural and Economic Factors.
- Other Environmental Factors.
- Popular Attitudes.
- Political Behavior.

(U) This report develops our previous province cluster profile study which was designed to simplify the description of the war represented by the data for the first four of those general concepts, friendly and enemy military activity and resources. This task, which will be described in detail in Section IV, deals with the fact that military resources and activity are not uniformly distributed throughout South Vietnam. There are differences between provinces, the basic unit of analysis for this study, and those differences could explain important aspects of the enemy behavior and the processes involved in the conduct of the war. This task revolves around the identification of province characteristics.

Research Methods

(U) The analysis techniques employed were several variations of factor analysis. A detailed example of the application of this technique to a simple problem is presented in Appendix A. The selection of data for analysis in both tasks involved both the deletion of some variables to eliminate redundancy and the combination of other variables to create aggregate indices. For example, several data sources contained variables which measure the number of ARVN operations. For both tasks the variable selection retained the large unit-small unit distinction; however, the variables selected were those from the OPREP reporting system. This selection was on both the basis of completeness of the time series and the substantive meaning inherent in the number of operations with contact as opposed to the total number of operations conducted as reported over a shorter time period by the SEER reporting system.

(U) This data selection resulted in 22 variables for 44 provinces which enabled the description of differences between provinces to be reduced from 44 provinces to four groupings or clusters of similar provinces. The substantive meaning of these four groupings was enhanced by a technique of fitting them to four categories of provinces identified in an OASD(SA) 1970 military region analysis.[3]

(U) U.S. statistics had been deliberately downplayed or eliminated in our paper last November because of a primary concern with the South Vietnamese aspects of the war. This paper represents an attempt to provide a more complete picture of the total war effort by inclusion of U.S. data. We will be able thereby to assess the Vietnamese war effort against the exigencies of the U.S. withdrawal.

---

[3] (U) "The Situation in South Vietnam," Southeast Asia Analysis Report, November/December 1970, OASD(SA), Regional Programs, Washington, D.C., December 1970, (SECRET-NOFORN).

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SECTION III

BACKGROUND AND APPROACH

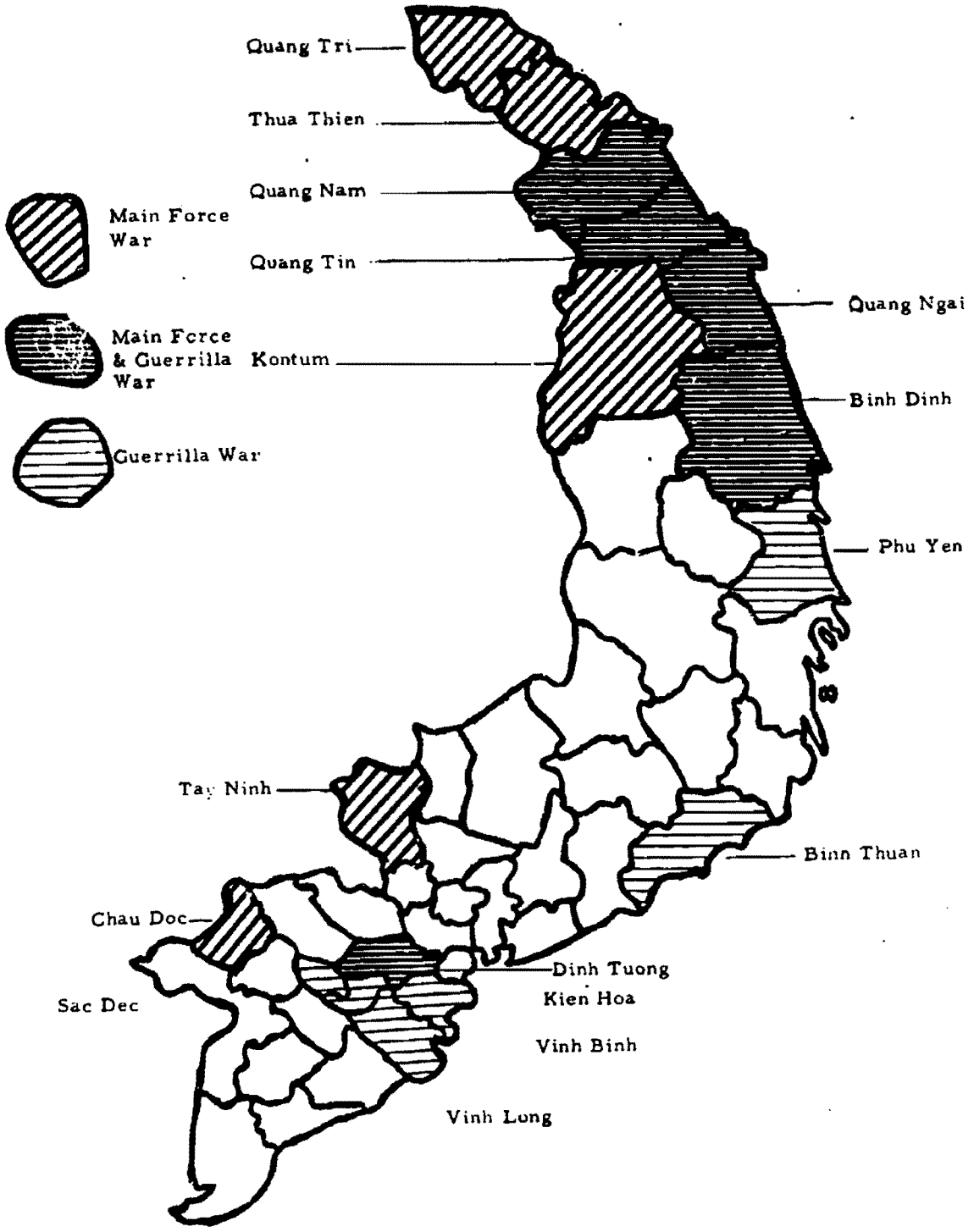
Background

(U) In a 1970 analysis of the situation in Vietnam, OASD(SA) intuitively identified types of provinces in which distinctly different types of activities (war) occurred.[4] This was accomplished through the examination of seven variables which measure types of warfare. The clustering technique used in this military region analysis to identify the provinces and types of warfare is described in the following excerpt:

> Where the War is Being Fought
>
> An even closer look at the war reveals it is being fought mainly in 10 provinces of South Vietnam (see Map page III-2). The intensity of the conflict in the other 34 provinces is very low.
>
> These 10 provinces, Quang Tri, Thua Thien, Quang Tin, Quang Nam, Quang Ngai (MR I), Kontum, Binh Dinh (MR II), Tay Ninh (MR III), Dinh Tuong and Chau Doc (MR IV) comprise 23% of the SVN provinces, but account for:
>
> - 53% of the allied deaths (US and SVN).
> - 72% of the US combat deaths.
> - 62% of the enemy KIA.
> - 56% of the enemy attacks.
>
> These provinces contain 54% of the allied regular combat strength, and about 58% of the enemy's combat strength.
>
> A fairly straightforward main force war is being fought in five of the provinces:

---

[4] (U) "The Situation in South Vietnam," op. cit., pp. 3-5.



(U) WHERE THE WAR IS FOUGHT

- Quang Tri
- Thua Thien
- Kontum
- Tay Ninh
- Chau Doc (because of the NVA influx during late 1969 and early 1970)

In the other five, a complex mixture of main force and guerrilla war is being fought, caused by a strong enemy main force presence closely linked with a strong, well-entrenched VC infrastructure (VCI):

- Quang Nam
- Quang Tin
- Quang Ngai
- Binh Dinh
- Dinh Tuong (to a lesser extent)

To illustrate the point, these five provinces contain over 35% of the US/FW combat strength and more than 20% of the ARVN/VNMC combat strength facing about 25% of the enemy's regular combat strength. Additionally, 20% of the country's RF/PF face 28% of the enemy's separate unit (company or platoon) and guerrilla forces there. Nearly 30% of all KIA (both enemy and friendly) occur there, as well as about 20% of all the terrorist incidents. The five provinces also contain over 30% of the nation's VCI.

Five other provinces are of continuing interest because they feature a high level of guerrilla warfare and contain about 25% of the reported VCI:

- Phu Yen
- Binh Thuan
- Kien Hoa
- Vinh Binh
- Vinh Long

(U) The Analysis of Vietnamization paper done by Bendix in November, 1971, elaborated on the war descriptions as identified in the above excerpt. Our time span covered April 1967 through September 1970, divided into 7 six-month time periods. These time periods began in April and October of

each year for purposes of distinguishing seasonal variations within the data.[5] As mentioned in the Research Methods described above, ARVN variables were emphasized in the data base while U.S. strengths and activities indicators were largely excluded. This strategy led us to utilize the following 27 variables:

	Bendix Variable List	OASD(SA) Variable List
Total Deaths	1) Total combat deaths in friendly initiated actions	Total U.S. combat deaths
	2) Total war caused deaths (friendly and enemy)	Enemy combat deaths
	3) Total allied deaths	Total allied deaths
	4) Enemy attacks	Enemy attacks
Total Strength	5) Enemy combat strength	Enemy combat strength
	6) GVN combat strength	Allied combat strength
VCI Strength	7) VCI total strength	VCI strength
	8) VCI high level strength	
Main Force War Candidate Variables	9) % of GVN KIA on ARVN/VNMC large scale operations	
	10) % of total deaths for ARVN/VNMC	
	11) % of incidents targeting military	
	12) NVA combat unit % of enemy strength	
	13) VC combat unit % of enemy strength	
	14) ARVN/VNMC % of GVN strength	
	15) Total friendly large scale operations	
	16) ARVN/VNMC % of friendly large operations	
	17) ARVN/VNMC % of total friendly operations	
	18) ARVN/VNMC personnel strength	
Small Scale/ Guerrilla War Candidate Variables	19) % GVN KIA on ARVN/VNMC small scale operations	
	20) % GVN KIA on RF/PF operations	
	21) % total deaths for RF/PF	
	22) % of incidents targeting civilians	
	23) VC local unit personnel strengths	
	24) Total friendly small scale operations	
	25) RF/PF % of friendly small operations	
	26) RF personnel strengths	
	27) PF personnel strength	

[5] (U) There are two principle seasons in Vietnam: hot and monsoon. The southern part of the country experiences the southwest monsoon which lasts from May to October. The northern part of the country undergoes the northeast monsoon which lasts from September through February.

(U) To make the translation from these measures to a clustering of provinces analogous (but not necessarily similar in content) to that developed by OASD(SA) analysis, the following logic was utilized. The set of values for each province across the 27 variables defined a series of 44 province profiles. This analysis sought simplification of the 44 profiles by grouping provinces according to the degree of similarity in their profiles. For example, if there was a group which was high in GVN KIA in friendly initiated actions, high in total war caused deaths, and low on percent GVN KIA on RF/PF operations, etc., it would be expected to identify them as a group of provinces exhibiting the characteristics of one type of war.

(U) It should, however, be recognized that no two provinces are identical, and that many provinces might exhibit some characteristics similar to one province and some like another. Because of this, it was necessary to initially develop measures of the level of similarity between each pair of provinces. This can be achieved by correlating each of the province profiles across the 27 variables.

(U) As an illustrative example, the correlations between eight selected provinces are presented in Table III-1. These are provinces which appear

(U) TABLE III-1.

CORRELATIONS BETWEEN EIGHT EXAMPLE PROVINCES - 1970 DATA[6]

	Quang Tri	Thua Thien	Kontum	Tay Ninh	Vinh Binh	Vinh Long	Ba Xuyen	Kien Hoa
	Main Force Provinces				Guerrilla War Provinces			
Quang Tri	1.000							
Thua Thien	.468	1.000						
Kontum	0.567	0.493	1.000					
Tay Ninh	0.759	0.444	0.617	1.000				
Vinh Binh	-0.365	-0.320	-0.221	-0.296	1.000			
Vinh Long	-0.395	-0.250	-0.547	-0.385	0.663	1.000		
Ba Xuyen	-0.493	-0.477	-0.621	-0.427	0.620	0.862	1.000	
Kien Hoa	-0.290	-0.228	-0.427	-0.286	0.465	0.693	0.526	1.000

[6] (U) The correlation coefficients are measures of pattern similarity between the provinces. They range from -1.0 which indicates that the provinces are exact opposites to +1.0 which indicates that they are identical. A correlation of 0.0 indicates that there is no observed systematic similarity or dissimilarity between the provinces.

to characterize main force war and guerrilla war in 1970. It can be seen that the highest set of correlations exists at the intersections of the provinces within the similar types of war and that the lowest is at the intersection of main force war with guerrilla war. From this examination it is possible to expect that clusters would probably be similar to the OASD(SA) clusters.

(U) Figure III-1 further illustrates similarities and differences in province profiles. The profiles on the 27 variables for Quang Tri and Tay Ninh which are highly correlated main force war provinces are drawn in dotted and dashed lines. Ba Xuyen which is a guerrilla war province and uncorrelated with these two is shown in the solid line. The similarity between Quang Tri and Tay Ninh is clear. Ba Xuyen, on the other hand, has a profile which is dissimilar to the other two. These statistics enabled this analysis to disentangle the set of forty-four profiles into a small number of meaningful groups of provinces (for details see Appendix B).

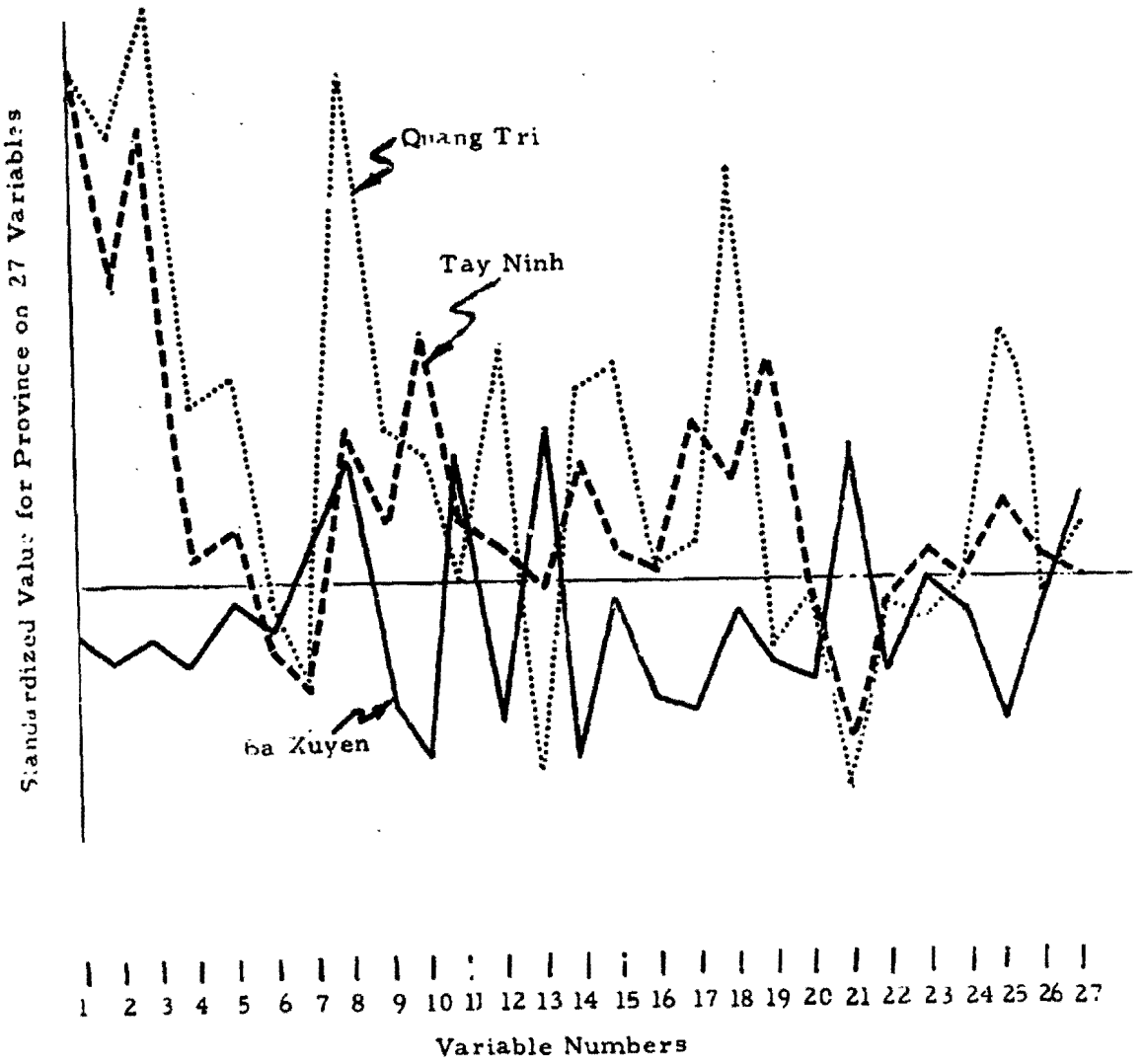
(U) Using these variables, the three war types -- main force, hybrid and guerrilla -- were found to be characterized by distinctive patterns which occur in varying mixes in 34 of the 44 provinces. The main force and guerrilla war types were found to basically evidence the distinction between regular unit activity and local unit activity. Examination of Table III-2 indicates that both troop strengths and results are significant characteristics of these typologies. The hybrid war typology was found to be a unique pattern of interaction or combinations of local and main force activity. In the hybrid war provinces, the regular force units apparently do the greatest portion of the fighting, while the local forces provide a stable reserve to protect the population against guerrilla activities and overflow from the regular unit combat. The hybrid is distinguished from main force war in that the local units, if present, apparently absorb heavy casualties when caught up in main force combat. It is differentiated from guerrilla war, however, by the presence of the regular force buffer.

(U) The analysis also disclosed, however, that it is possible for high levels of conflict to exist without being identified as one of the major types of war. This situation occurs when the activity, although high, does not exhibit the patterns which were identified as one of the three categories. This was particularly manifested during the TET offensive of February, 1968. Simultaneous with the pre-established patterns of activity in categorized provinces, the TET and May, 1968 offensives and their aftermath inspired unusual distributions of resources and activities.

(U) The three types of war were essentially found to describe a pattern of activities which to varying degrees have existed from at least 1967. Even

(U) FIGURE III-1

QUANG TRI, TAY NINH, BA XUYEN 1970 PROFILES



(U) TABLE III-2.

WAR TYPE CHARACTERISTICS SUMMARY

	Main Force	Hybrid War	Guerrilla War
Total GVN deaths in friendly initiated actions	High	High	Medium
Total allied deaths	High	High	Low
Total war caused deaths (friendly and enemy)	High	High	Low
Enemy combat strength	High	Medium	Low
NVA/VC combat strength	High	Medium	Low
VCI total strength	Low	High	High
High level VCI strength	Low	High	High
% total deaths for RF/PF	Medium	Low	High
% RF/PF in small scale operations	Low	Low	High
RF personnel strength	Low	High	High
PF personnel strength	Medium	High	High

though the basic structure had not changed, the clarity of the patterns had steadily improved. Although no proof existed, the comparison between the conduct of the war and the patterns was found to be very striking. The clustering analysis raised some fundamental questions about the nature of revolutionary and counter-revolutionary efforts. It was suggested (but not proven), that the real conflict occurred not over what ground rules would be used, but whether they would be employed. The thesis presented was that once a set of implicit rules for accepted and prohibited behavior are established (whatever that may be), the guerrilla forces have suffered a loss. Conversely, if the counter-revolutionary forces cannot force some boundaries to the conflict, they may have no chance of winning. The reasons are that once the patterns are set, the government generally has at its disposal a wider base of resources, and it can succeed if it can only plan what it must succeed at. The data would indicate that this thesis might be true. As was noted earlier, however, it remains to be subjected to a formal test.

Approach

(U) Because of the inclusion of U.S. data in the clustering of provinces for this analysis, it was necessary to make changes in our original list of 27 variables. In addition, we were able to restructure several variables on the basis of information derived from a factor analysis carried out by this office of seventy-one variables reflecting the primary concepts of military resources and activity. From this study, a relatively small set of key indicators were identified which can reflect significant changes in the character of the war. Redundant measures of the same basic concept were identified, having implications for the simplification or reduction of data reporting systems.

(U) Examples of elimination of redundant measures in our list of variables include:

- Combining the RF strength and activity measures with PF strength and activity measures because both essentially describe friendly local unit and territorial force indicators.
- Eliminating high level VCI strength because it essentially measures the same thing as total VCI strength.
- Eliminating the ARVN/VNMC % of friendly large operations and the ARVN/VNMC % of total friendly operations in order to place emphasis on large operations versus small operations and regular unit operations versus territorial force operations, rather than on U.S. troop operations versus GVN troop operations.

(U) The new variable list became the following:

1. Total Friendly Deaths in Friendly Initiated Action
2. Total Friendly Deaths
3. War Deaths
4. Enemy Initiated Incidents
5. Enemy Personnel Strength (Combat)
6. Friendly Personnel Strength (Combat)
7. Total VCI Strength
8. Percent of Friendly Regular Unit Deaths on Large Unit Operations
9. Friendly Regular Unit Percent of Total Deaths
10. Percent of Total Enemy Attacks Targeting the Military
11. NVA Unit Strength
12. VC Percent of Enemy Combat Strength

13. Regular Force Percent of Total Friendly Military Strength
14. Total Friendly Large Unit Operations
15. Percent of Friendly Regular Unit Deaths on Small Unit Operations
16. Percent of Friendly Deaths on RF/PF Operations
17. Total Friendly Small Unit Operations with Contact
18. RF/PF Percent of Total Friendly Small Unit Operations
19. VC Local Unit Strength
20. RF/PF Strength
21. Percent of Total Enemy Incidents Targeting Civilians
22. RF/PF Percent of Total Deaths

(U) The same logic as described for our previous study was utilized to make the translation from these measures to a clustering of provinces analogous to that developed by our previous findings. The set of values for each province across the 22 variables defines a series of 44 province profiles. This analysis seeks simplification of the 44 profiles by grouping provinces according to the degree of similarity in their profiles.

SECTION IV

PROVINCE CLUSTER PROFILES

IV-1 Patterns of the Vietnam War

(U) With U.S. data three types of war have again been identified, main force war, hybrid (main force and guerrilla) war, and guerrilla war. It should be emphasized that the labels "main force and guerrilla" do not indicate that they are identical to the traditional meanings of these terms. Vietnam is an unconventional war and the traditional vocabulary is not as applicable as might be desired. It should be recalled that the analysis was to identify those distinct patterns of activity which have occurred in the Vietnam conflict. This is different than starting with traditional definitions of conventional and guerrilla war and subsequently attempting to find them in this conflict situation. The readers should interpret the results with the understanding that the patterns of activity which are presented describe the characteristics of the war as they have occurred in Vietnam independent of the patterns which may have been found elsewhere.

(U) In addition, the patterns of activity will be seen to change with the shifts in the war. For example, the patterns which have been labeled hybrid and guerrilla war changed character in the time period between October 1967 and October 1968. This resulted because of the February 1968 TET offensive. The distinctions between the hybrid war category and the guerrilla war category became blurred and very difficult to distinguish following TET. An examination of the war types in our last study showed that the only major difference between hybrid and guerrilla wars in the post-TET period was the ratio of NVA to VC: In hybrid war provinces, the VC outnumbered NVA by approximately 2 to 1 whereas in guerrilla war provinces, the forces were almost entirely VC.

(U) The limitations of our data set may partially explain the lack of contrast. However, it is also known that the TET offensive resulted in a wide-scale, albeit temporary, reorganization of both friendly and enemy effort. After the TET, the VC/NVA effort subsided as many of them retreated to Cambodian

and Laotian sanctuaries. The friendly forces, on the other hand, were engaging in extensive sweeping operations. Therefore, the observable patterned activity began to change.

(U) For readers familiar with our previous study it will be noticeable that in this analysis the U.S. data has caused some re-defining of the war type categories. The reason is that the inputs of the expanded data base have rearranged the boundaries of regularity in each of the war type categories. Thus, we have enlarged the existing known descriptors of each province. This broadened data perspective has produced a realignment of provinces by their profile similarities. These groupings, in turn, have appeared as patterns or factors delineating distinct new clusters of interrelated data.

(U) The clusters identified are defined by distinct characteristics of their profiles on different variables. Figure IV-1 summarizes the average cluster profiles for the 22 variables examined in this analysis by illustrating the differences between the countrywide averages and the averages for the three war types measured in standard deviation units. Referral to this figure in reading the pursuant passages will be helpful in visualizing the relationships between the three war types.

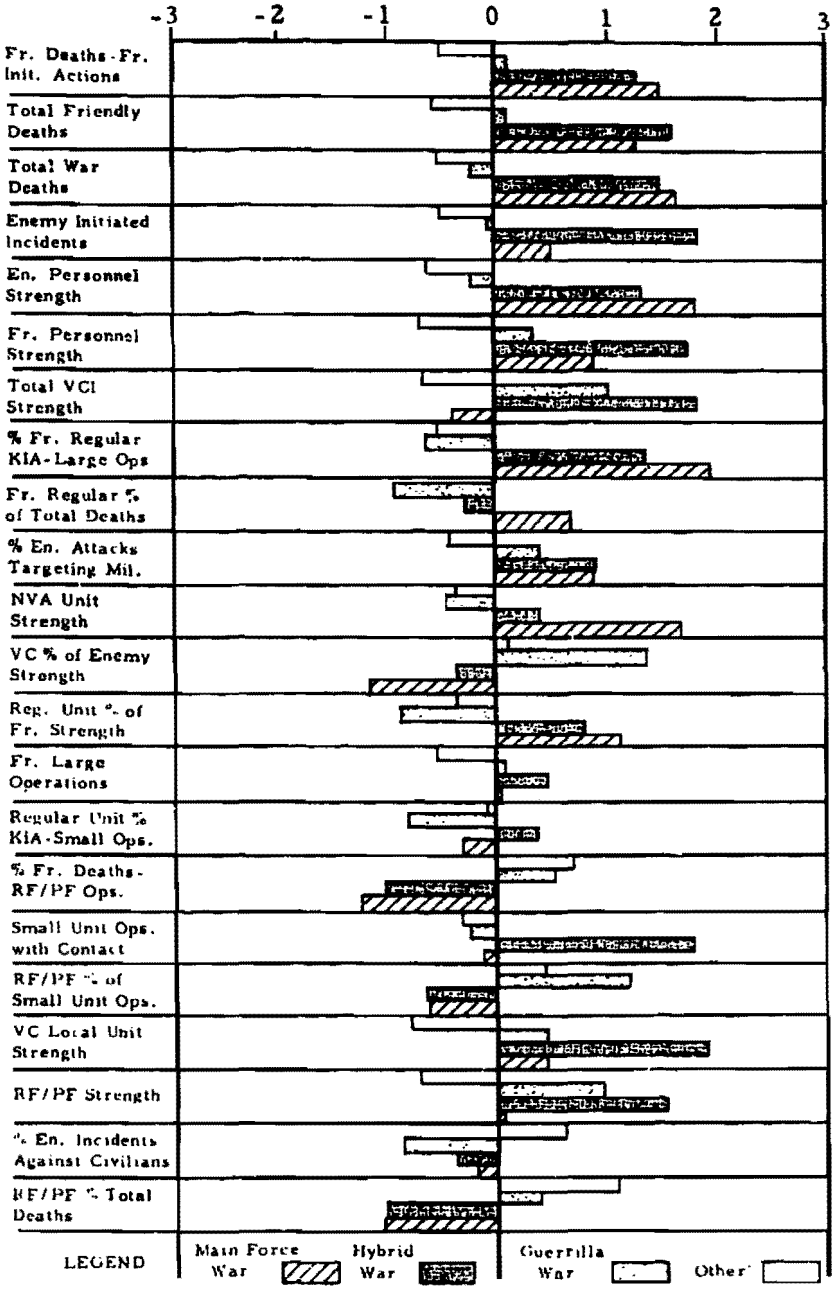
The Hybrid War Cluster

(U) The hybrid war cluster had higher means for more variables than any other war category in this study. Several provinces fell into the hybrid loading at some time during the nine time periods. However, five provinces became consistently illustrative of a hybrid war environment: Quang Nam, Quang Tin, Quang Ngai, Binh Dinh, and Dinh Tuong. Interestingly, each of these provinces classifies as fairly populous, all having 400,000 or above as a population total.

(U) If one views the GVN as extending its influence from the areas of prime advantage (e.g., cities and more densely populated adjacent areas) where the GVN has had a more prolonged administrative presence, hybrid war becomes a phenomenon involving the extension of such presence and influence. Hybrid war, in contrast to a main force environment, which occurs in sparsely populated regions, is a phenomenon involving more densely populated areas because of its high values for variables likely to be associated with large communities of people -- such as, VCI strength, VC local unit strength and VC percent enemy combat strength. Hybrid war also represents the areas which contain the largest masses of both regular and territorial troop strength, and ranks

(U) FIGURE IV-1. BSR 3334

AVERAGE CLUSTER PROFILES[7]



[7] The bars for each war type represent the difference between the country-wide averages for the 22 variables and the averages for the four war types measured in standard deviation units. Thus, the countrywide mean is the zero value on this display with the cluster profiles being unique characteristics in terms of their position above or below this zero level.

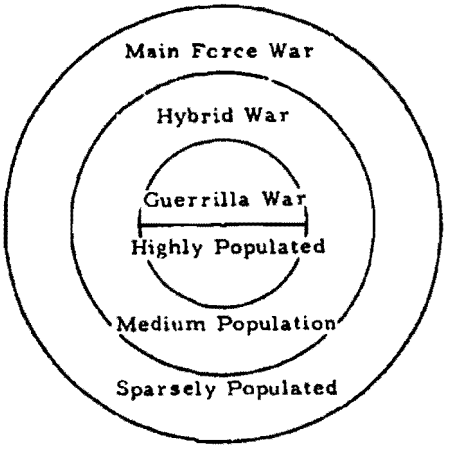
second to one other war type (main force) in terms of NVA units.[8] More deaths by friendly units results in the hybrid war areas than in any of the other war types. Unlike a guerrilla war situation which may be viewed as involving sustained low level confrontation of local (territorial) forces, hybrid war involves high magnitudes of death totals, enemy incidents, friendly combat strength and percentage of friendly KIA on regular small unit operations.

(U) Unlike both main force and guerrilla war, the hybrid war category has above average scores for total friendly combat strength and number of small unit operations, which along with low percentages of RF/PF casualties, suggest a particularly conspicuous role for the ARVN.

(U) It may be plausible to consider the hybrid category, therefore, as that type of war located in the "middle-ring" of GVN activities. Combat activities indicative of hybrid war may be initiated in order to pressure local VC forces and to respond to NVA infiltrations that have managed to pierce the "outer-ring" (main force war) of defenses, while protecting the population in the "inner-most ring" (in pacified cities and province areas) from NVA/VC incursions. Figure IV-2 illustrates this concept:

(U) Figure IV-2.

Inner, Middle and Outer-Most Ring of GVN Activity



[8] (U) It should be noted that the NVA/VC distinction is based on how the enemy order of battle is reported. Combat units with VC identification designators have steadily been becoming NVA units as their ranks have been replenished primarily by infiltration of NVA personnel rather than local recruitment.

(U) The hybrid war is characterized by heavy concentration of local force units, however, the percentages of RF/PF deaths is consistently found to be below average. The majority of casualties in the hybrid war are inflicted on those friendly regular force units which are in the area. It appears that the hybrid war is one in which regular maneuver battalions are assigned to engage the enemy (or defend against his main force attack) while the RF/PF units serve as a backup to protect the population either against overflow from the main force engagements or against local force attacks and harassments.

(U) It is interesting to note that when the hybrid war moves in either direction, toward main force or guerrilla war, the RF/PF begin to absorb much higher casualty levels. As the war moves in the main force direction, it becomes necessary for the RF/PF units to abandon their defensive role and become involved in the main force war types of activity. This is particularly true in I corps where US/RF cooperation is reportedly strong. With their changing role, local units absorb larger percentages of the casualties. As the hybrid war shifts toward a guerrilla war pattern, the RF/PF lose their main force buffer and of necessity absorb larger percentages of the casualties.

(U) Summarizing, the dominant characteristics of the hybrid war are shown below.

- High averages for friendly death-related variables.
- High levels of troop strength, both friendly and enemy, NVA combat strength being the only exception.
- Heavy deployment of local and guerrilla forces by both the friendly and the enemy, but relatively low levels of local force casualties.
- High levels of enemy incidents, but low percentages of incidents against civilians.
- High levels of VCI strength.
- High averages for both large and small unit operations.
- Low percentages of small operations by the RF/PF.

The Main Force War Cluster

(U) Main force war is a phenomenon uniquely high in terms of NVA strength. In this study, the main force characteristics were most consistently represented in five provinces: Quang Tri, Thua Thien, Kontum, Pleiku and Tay Ninh. A main force war distinction is found to occur only in sparsely populated areas. Of the five provinces listed above, only one (Thua Thien) has a population in excess of 400,000. "It is clear that the main force war is being fought in predominantly thinly populated or unpopulated areas. This association probably results from the mutual association of main force war and low population density with yet a third consideration, that being topographical conditions and geographic locations."[9]

(U) Unlike the hybrid or guerrilla war situations, main force war has low scores on such population variables as VCI strength, percentage VC combat strength and RF/PF percentage of operations and total deaths.

(U) As observed above, the main force war appears to be distinguished from other wars by its preponderance of NVA unit strength, percentage of friendly regular unit strength and deaths (U.S. and ARVN), as well as high total combat deaths (friendly and enemy). Main force combat, therefore, appears to typify confrontation between regular forces and involvement in combat in an "attrition" war.

(U) This interpretation supports the view of main force war characterized as an "outer-ring" of forces designated to kill and be killed by NVA units and to halt incursions. Main force regular units are concerned primarily with area in which to disperse and best maneuver to engage in combat under favorable conditions. It is likely that main force war is designed to halt large-scale NVA initiatives. As such, it takes place where conditions favor bases for the NVA, which best loan themselves to fairly sophisticated logistic support, and suitable friendly targets and approaches for such incursions. It appears to be a goal of the GVN and U.S. forces to prevent build-up of NVA and thereby halt NVA incursion from this area of the war into the more strategic, populous areas of the inner rings.

(U) In summary, the main force war can be described by the following characteristics:

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[9] (U) Adkins, John, War Type, Population and Security: Keeping the Basics in Mind; BSR 3300, ARPA Order No. 1770; Contract No. DAHC 15 71 C 0222; Bendix Corporation; January, 1972, p. 3-1.

- High percentages of NVA troop strength.
- High average regular unit percents of friendly combat strength and resultant deaths.
- High magnitudes of total war deaths.
- Low averages for local war/population-related variables, e.g., VCI strength, RF/PF KIA, etc.
- High total enemy initiated incidents.

The Guerrilla War Cluster

(U) Guerrilla war has only two variables for which it is dominantly above average: VC unit percent of enemy strength and percent small operations by RF/PF forces. These variables are indicative of the local (territorial) force character of the war in guerrilla war provinces.

(U) Nonetheless, the guerrilla war cluster is low in combat dynamic variables relative to hybrid and main force war. Guerrilla war provinces have low averages for all results data, for enemy strength -- particularly NVA -- and total friendly small operations. The friendly combat strength levels in these provinces are to a large extent made up of RF/PF forces.

(U) Of the provinces which load in the guerrilla war cluster at some time in this study, six became consistently representative of the guerrilla war environment: Kien Hoa, Vinh Binh, Vinh Long, Kien Giang, Phong Dinh and Ba Xuyen. All six of these provinces fall within Military Region IV and have populations ranging between 400,000 and 600,000. These population figures are higher than all main force war provinces (excepting Thua Thien) and on a par with most hybrid provinces.

(U) The guerrilla war is high, of course, on such population related variables as total VCI strength, and RF/PF percent of friendly deaths. The average profile variables for this war type clearly indicate the relatively population-oriented character of the provinces making up this cluster. As a low-level war of the "inner-most ring" of pacification, such war can and does change for any number of reasons. However, the fact that the level of combat has been at a relatively mild level indicates that these provinces may be areas where the GVN has created or enjoys relative advantages in its effort at pacification.

(U) There are additional indicators for which the guerrilla cluster scores higher than the main force typology but not the hybrid. They include the RF/PF strength levels, the percent friendly KIA on RF/PF operations, and the VCI levels.

(U) Interestingly, the number of friendly large operations in the guerrilla provinces is 20 per province month [10] while the hybrid provinces average 27, and the main force provinces only 19. But as remarked above, the casualty statistics overall are considerably lower in these provinces than in the main force or the hybrid cluster. The total war deaths variable has a country-wide mean of 266. In comparison, the guerrilla war provinces have a mean of 178, which is 33% lower than the average. This is particularly striking in comparison with main force casualty rates which average 771, and the hybrid war type provinces which have a mean of 748.

(U) In summary, the guerrilla war provinces are characterized by the following distinctions:

- High VC combat unit percent of enemy strength.
- High RF/PF personnel strength.
- High percentages of small operations by the RF/PF
- Low levels of enemy combat strength, particularly NVA units.
- High VCI levels.
- Low levels of casualties, but high RF/PF percentages of friendly deaths.

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10 (U) A province month is the basic partitioning of the data used in this analysis One might partition the war for analysis by using quarterly observations aggregated to the MR level, annual observations of country-wide aggregations, monthly observations of RVNAF unit data, etc. The studies reported here used monthly province data.

"Others"

(U) The most prominent characteristic of the "other" provinces has been found to be the appearance of more diversity within the group itself than between it and the three major war types. The anomaly presented by this remaining group of provinces is that they fail to fall into any of the three distinctive war types.

The provinces most representative of the group of "others" are:

Phu Bon	-	MR II	Hau Nghia	-	MR III
Ninh Thuan	-	MR II	Bien Hoa	-	MR III
Tuyen Duc	-	MR II	Phuoc Tuy	-	MR III
Lam Dong	-	MR II	Go Cong	-	MR IV
Binh Thuan	-	MR II	Kien Tuong	-	MR IV
Binh Tuy	-	MR III	Sa Dec	-	MR IV
Long Khanh	-	MR III			

These "other" provinces average a population of only 200,000 and for the most part are located along the interior of South Vietnam away from the coastal and border areas.

(U) They do have a distinctiveness, but their characterization lies in their overall lack of military strength, deployment and activity. The average enemy combat strength in these provinces is only 42% of the countrywide mean. Friendly combat strength, on the other hand, is 63%. The higher friendly troop strength levels, nonetheless, do not inidicate a large degree of pacification in these provinces. There is a diversity of pacification scores ranging from 38% (Hau Nghia) to 94% (Ninh Thuan).[11]

(U) The fact that the combat level of investments by both sides are relatively negligible suggests that strenuous combat effort may be either untimely or misplaced or that these areas are just so constituted that they do not draw priority investments from either side.

(U) Interestingly, the "other" provinces score highest percentile averages on three variables when compared to the three major war types on a countrywide basis: a 34% friendly KIA on RF/PF operations, 19% enemy incidents

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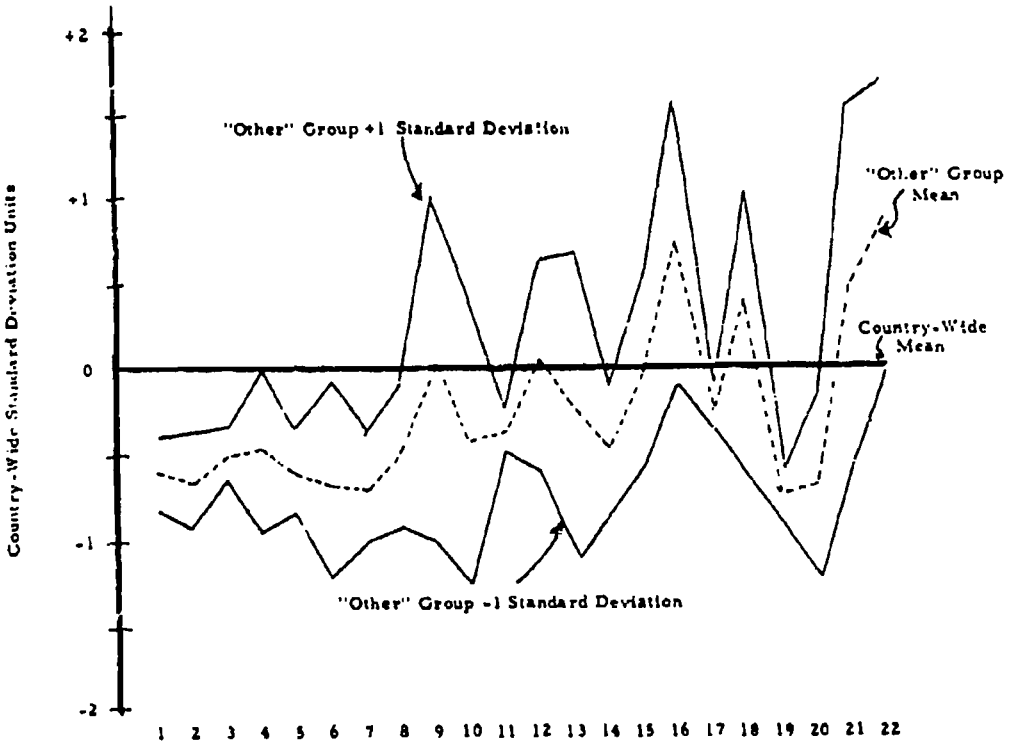
[11] (U) These pacification scores were recorded inthe Hamlet Evaluation System, December, 1970.

against civilian targets, and 16% RF/PF deaths of total friendly deaths. These figures must be viewed within the perspective of the fact that total friendly KIA in the "other" provinces is 44% of the total friendly casualties accounted for on a countrywide level; the total enemy incidents are 52% of the countrywide level; the RF/PF levels are 62% of the levels on a countrywide basis. However, the scores have significance to the extent that they allow further insight into the criteria which gives these provinces the "other" classification.

(U) Figure IV-3 demonstrates the diversity that makes up the relationship of the "other" provinces to one another. For 11 of the 22 variables the standard deviation is so broad that the group cannot effectively be distinguished from the rest of the country. For those variables in which some distinguishing characteristics can be identified, the means are below the countrywide average. These include all of the casualty data and the strength data. The diversity indicates that this low level activity is not only low level, but low level and unpatterned.

(U) FIGURE IV-3.

PROFILE OF "OTHER" GROUP



Summary

(U) As was shown in the foregoing discussions, the three different war types are defined by distinct characteristics of their profiles on different variables. These distinct profiles are summarized in Table IV-1.

(U) TABLE IV-1.

PROVINCE CLUSTER CHARACTERISTICS SUMMARY

Indicator	Main Force	Hybrid	Guerrilla
War Deaths	High	High	Low
Total Enemy Personnel Strength	High	High	Low
NVA Combat Unit Personnel Strength	High	Average	Low
VC Percent of Enemy Combat Unit Strength	Low	Average	High
VC Small Unit Local Strength	Average	High	Average
Total VCI Strength	Low	High	High
Total Friendly Personnel Strength	Average	High	Average
RF/PF Personnel Strength	Low	High	Average
Total Enemy Initiated Incidents	High	High	Low
Friendly Large Operations	Average	High	Average
Friendly Small Operations	Low	High	Low
RF/PF Percent of Friendly Deaths	Low	Low	High

(U) Reference to Table IV-1 indicates the degree to which the hybrid war cluster has dominated the magnitudes of the indicators of the war types. The only low rating for hybrid war in the summary table was the RF/PF percent

of friendly deaths variable. Main force and guerrilla war, on the other hand, show a great deal more diversity in comparison. Main force war is very high in the enemy NVA strength, enemy incidents, and total war death variables. This war type is the scene of a war of attrition, with particularly heavy fighting in lightly-populated areas. These indicators are also absorbed in the hybrid category. However, the hybrid war, in addition, assimilates characteristics of the guerrilla war which are of low consequence to the main force environment: high percentages of local troop strengths, lower levels of conflicts, and more highly populated surroundings.

(U) Our analysis with U.S. data has provided a more refined conception of the three types of war. The U.S. data input has particularly allocated the hybrid classification a strengthened designation as a war combining portions of both local and main force characteristics. In essence, the hybrid war most realistically denotes those areas where combat is heavy, casualties are high, all troop levels are utilized, and population is substantial.

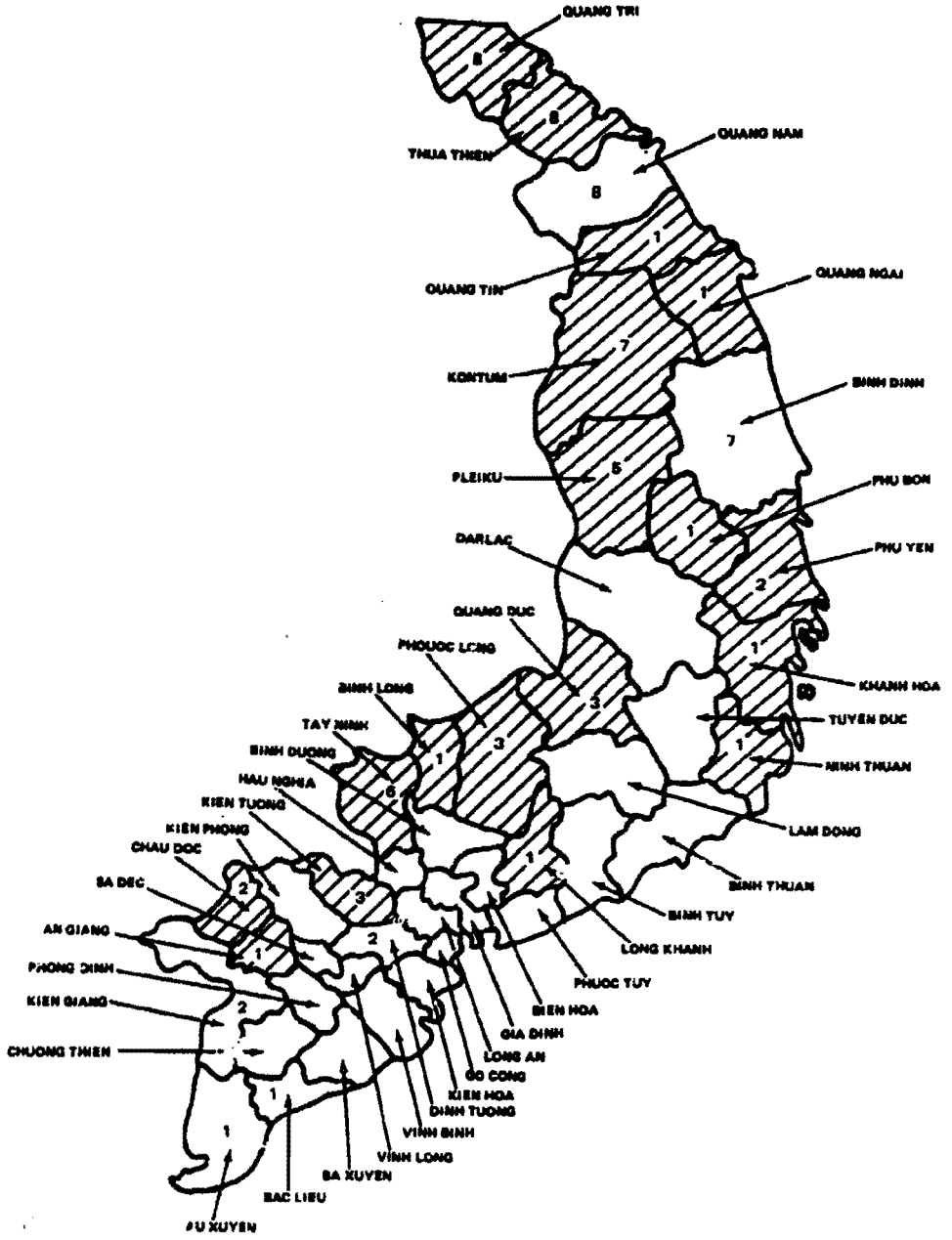
(U) These findings are summarized by the following maps which give the locations of provinces belonging to each of the three war types in one or more periods. The number in the center of each province indicates the number of times the province loaded in the war type portrayed. Numbers in provinces which are not shaded indicate the number of periods in which the province was associated with that war type but also had a stronger loading on another war type.

(U) The final map gives an indication of the strongest war type relationship of the provinces which loaded five times or more for the war type depicted. If the province had several loadings for two separate war types, the stronger loadings are the ones illustrated.

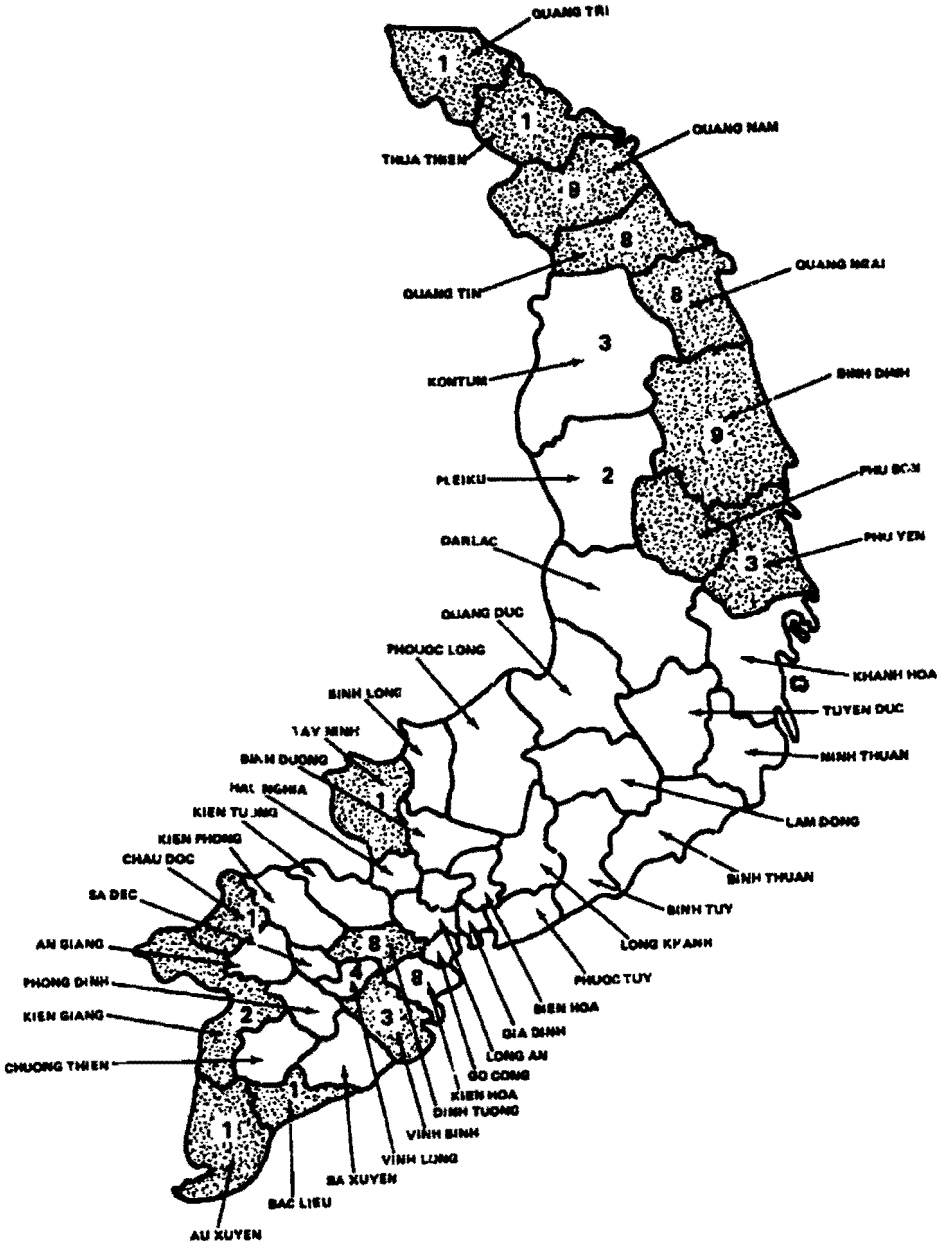
*For example, consider the loadings for Quang Tri, Thua Thien, and Quang Nam in the following table extracted from Table IV-2:

	April-Sept 1967			Oct 67-Mar 68			April-Sept 968			Oct 68-Mar 69			April-Sept 1969			Oct 69-Mar 70			April-Sept 1970			Oct 70-Mar 71			April-Sept 1971		
	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla
Quang Tri	.22	.15		.11			.19			.19	.10		.15	.19		.27	.22		.43	.21		.25	.15		.25	.23	
Thua Thien	.21	.24		.20	.23		.18	.18		.18	.10		.19	.19		.23	.22		.37	.23		.10			.13		
Quang Nam	.18	.24		.10	.21		.15	.17		.16	.23		.16	.16		.12	.12			.28		.15	.26		.21	.23	

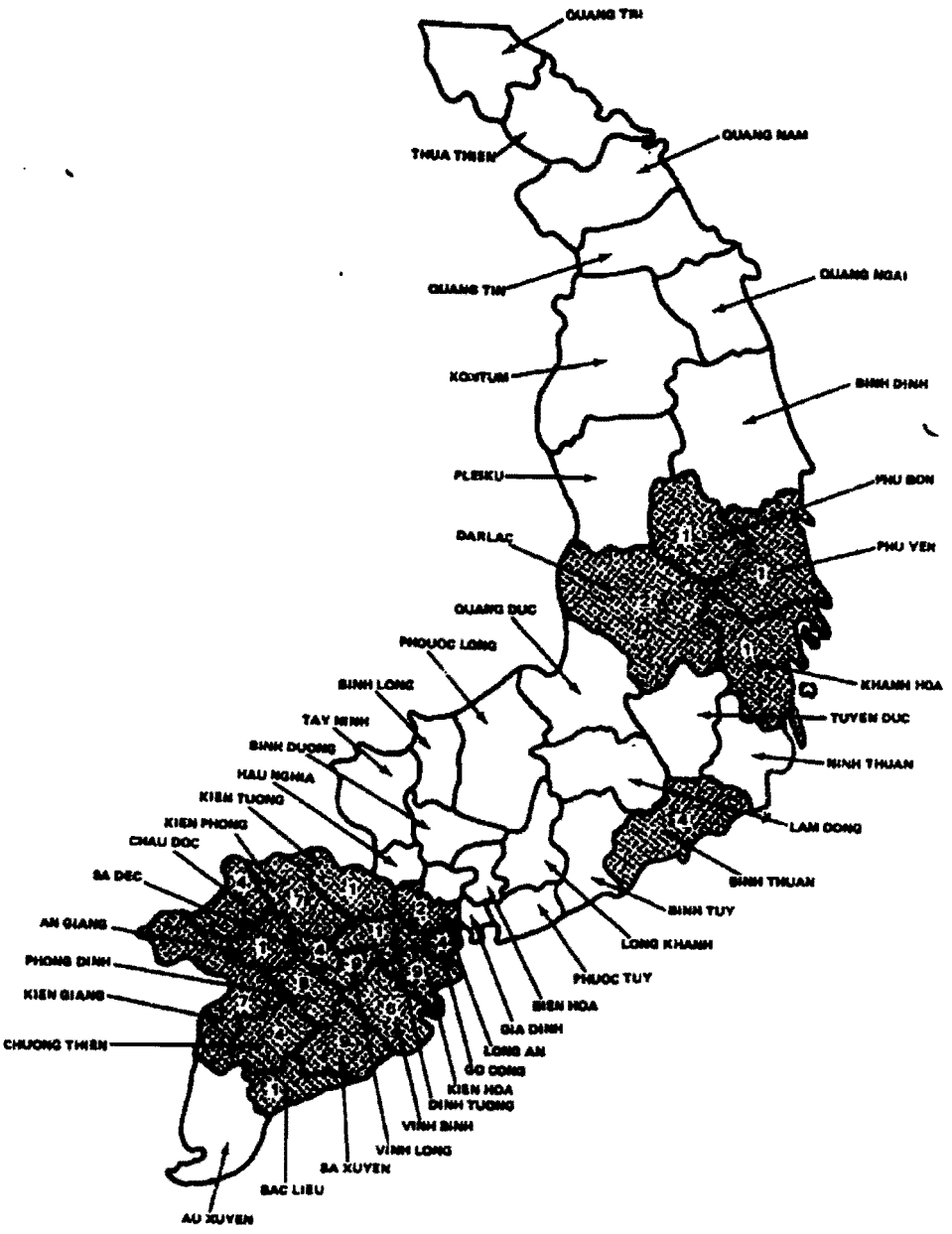
Both Quang Tri and Thua Thien have their strongest association (loading) with main force war in 8 of 9 periods and are therefore shown as shaded with an "8" on the main force maps. Quang Nam also has 8 of 9 periods showing on association with main force, but it also loaded higher on hybrids in each of these periods. Thus it is shaded on the hybrid map and not shaded on the main force map where only the "8" is shown.



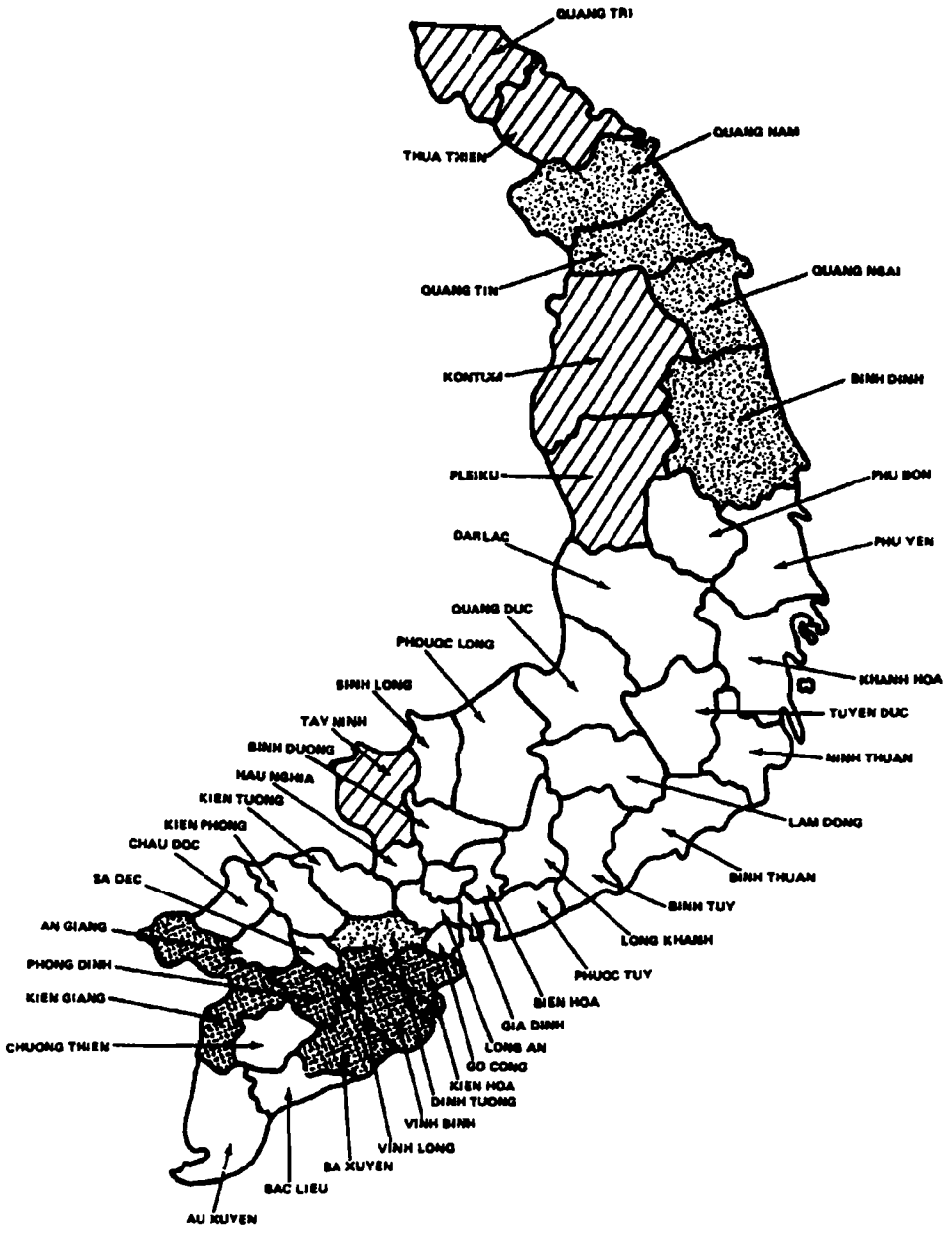
(U) Main Force War


QUANG TRI
THUA THIEN
QUANG NAM
QUANG TIN
QUANG NGAI
KONTUM
BINH DINH
PLEIKU
PHU BON
DARLAC
PHU YEN
QUANG DUC
PHUOC LONG
KHANH HOA
BINH LONG
TUYEN DUC
TAY NINH
BINH DUONG
NINH THUAN
HAU NGHIA
LAM DONG
KIEN TUONG
KIEN PHONG
BINH THUAN
CHAU DOC
SA DEC
BINH TUY
AN GIANG
LONG KHANH
PHUOC TUY
PHONG DINH
BIEN HOA
KIEN GIANG
GIA DINH
LONG AN
CHUONG THIEN
GO CONG
KIEN HOA
DINH TUONG
VINH BINH
VINH LONG
SA XUYEN
BAC LIEU
AU XUYEN

(U) Hybrid War



(U) Guerrilla War



(U) Provinces with Consistent War Type Associations, 1967-71

IV-2 Changing Patterns of the War

(U) The degree of association of each province with the three types of war is shown in Table IV-2. Immediately following is Table IV-3 which is a reproduction of the province clusters as analyzed in our prior study (without U.S. data). The tables consist of "loadings"[12] which identify the degree to which each province is linked with each of the war type clusters. Only those loadings which were .10 or above are represented in these tables. Those loadings which fall between .10 and .20 can be visually identified as having only weak linkages with the war categories under which they fall. A loading above .20, on the other hand, is a stronger classification, and indicates the province shares a large number of characteristics with the war type. The provinces with only weak loadings do have identifiable similarities with the war type, but they are not as numerous or as pronounced as is the case with a strong score.[13] The absence of a designator reflects the fact that the province does not show a pattern of characteristics which can be identified with any type of activity for that particular time period.

(U) For example, in Table IV-2 (the province clusters with U.S. data), Kontum has no designators in time periods 1 and 2. This gives it an "other war" province classification.. However, as mentioned in the "Patterns of the Vietnam War" section of this paper, it does not suggest that there is no war activity going on in Kontum, but rather that the activity does not evidence characteristics similar to those provinces which have clustered into the same war types. In time period 3 Kontum has a .14 loading in the main force war category indicating that this province is experiencing activities resembling those occurring in other main force provinces, such as Quang Tri (.19) and Thua Thien (.18). In time period 4, Kontum achieves a "strong" rating of .22 in the main force category which indicates that it is sharing a larger number of characteristics with other provinces in the main force war cluster. In time periods 4 through 9, Kontum remains an example of a "strong" main force war province; in addition, it has weak hybrid loadings for time periods 5, 7 and 9, evidencing some local war activity analogous to the hybrid war province cluster.

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[12](U) "Loadings" are measures of the strength of association between a province and a cluster. Mathematically speaking, they are the projection of the province (vector) on the axis (vector) which describes the cluster.

[13](U) It should be understood that oblique rather than orthogonal rotations were implemented for this factor analysis. This means that the square of the loadings does not equal the proportion of explained variance as in the case of orthogonal rotations. In addition, the type of oblique rotation used in this analysis lead to generally very low loadings throughout the time periods. Therefore, a loading of only .10 has some significance in showing the association of a province with a cluster. See Appendix B for further explanation.

(U) TABLE IV-2.

PATTERNS OF THE WAR BY PROVINCE CLUSTERS - WITH U.S. DATA

	Time Period	1			2			3			4			5			6			7			8			9		
		April-Sept 1967			Oct 67-Mar 68			April-Sept 1968			Oct 68-Mar 69			April-Sept 1969			Oct 69-Mar 70			April-Sept 1970			Oct 70-Mar 71			April-Sept 1971		
		Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla
Military Region I	Quang Tri	.22	.17			.11		.19			.19	.10		.19	.19		.27	.22		.43	.21		.25	.15		.25	.23	
	Thua Thien	.21	.26		.20	.20		.18	.18		.18	.10		.19	.15		.23	.22		.37	.23		.10			.19		
	Quang Nam	.18	.24		.16	.21		.15	.17		.18	.20		.16	.16		.12	.12			.28		.15	.26		.21	.23	
	Quang Tin	.24	.28		.20	.31			.23			.20		.18	.27		.21	.30		.29	.31		.21	.18		.12	.23	
	Quang Ngai	21	.26		.19	.33			.24		.20	.25		.21	.30		.20	.29		.19	.35		.25	.24		.16	.19	
Military Region II	Kontum							.14			.22			.21	.19		.20			.43	.13		.40			.24	.19	
	Binh Dinh		.18		.14	.29		.10	.26			.22		.21	.24		.19	.21		.20	.36		.13	.24		.15	.24	
	Pleiku	.12												.11			.19						.24	.16		.21	.16	
	Phu Bon										.13					.11												
	Phu Yen	.15	.14		.15	.20			.12			.12		.12	.11							.16						
	Darlac																		.10									.15
	Khanh Hoa															.12							.11					
	Ninh Thuan																									.10		
	Tuyen Duc																											
	Quang Duc										.10						.12			.10								
	Lam Dong																											
	Binh Thuan			.13			.15						.12									.14						
Military Region III	Binh Tuy																											
	Long Khanh										.12																	
	Phuoc Long				.11												.18			.12								
	Binh Long				.13																							
	Binh Duong																											

	Time Period	1			2			3			4			5			6			7			8			9		
		April-Sept 1967			Oct 67-Mar 68			April-Sept 1968			Oct 68-Mar 69			April-Sept 1969			Oct 69-Mar 70			April-Sept 1970			Oct 70-Mar 71			April-Sept 1971		
		Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla
Military Region III	Tay Ninh							.10			.22	.13		.13	.20		.22	.17		.17	.10		.19	.11		.22	.20	
	Hau Nghia																											
	Bien Hoa																											
	Phuoc Tuy																											
	Long An																					.24			.14			
	Gia Dinh																											
Military Region IV	Go Cong						.10						.10			.16									.12			
	Kien Tuong			.10							.15						.11			.11								
	Kien Phong			.13			.17		.12	.17						.18			.21						.14			.18
	Dinh Tuong		.23			.13	.11		.23	.13		.24	.16		.23	.13	.10	.17		.10	.19			.23	.17		.19	.20
	Kien Hoa		.13	.17		.12	.15		.12	.15		.18	.21		.13	.15		.11	.16			.21		.18	.20		.11	.22
	Vinh Binh			.15		.11	.19		.11	.19		.22	.16		.15	.15		.15	.14			.18			.19			.22
	Vinh Long			.15		.10	.18			.21		.19	.19		.12	.18		.11	.18			.33			.20			.24
	An Giang	.10								.11																		
	Kien Giang			.10			.15			.22			.22			.17			.12		.11	.14	.12	.18		.14	.26	
	Chuong Tien									.12						.10						.10						.12
	Phong Dinh			.17			.15						.15			.14			.19			.15			.19			.17
	Ba Xuyen			.17			.19			.12			.18			.21			.24			.34			.19			.22
	An Xuyen					.11				.15			.15						.10	.16	.22			.12		.18		
	Bac Lieu							.11	.12													.11						
	Chau Doc			.15			.14			.15			.18			.12	.23	.23		.11	.21		.12						
	Sa Dec						.12									.17			.16			.23						

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(U) TABLE IV-3.

PATTERNS OF THE WAR BY PROVINCE CLUSTERS - WITHOUT U.S. DATA

	April-Sept 1967			Oct. 1967-Mar. 1968			April-Sept. 1968			Oct. 1968-Mar. 1969			April-Sept. 1969			Oct. 1969-Mar. 1970			April-Sept. 1970		
	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla
Quang Tri	.30			.15			.13			.15	.11		.17	.15		.29	.16		.29	.18	
Thua Thien	.25	.21		.21	.10		.33				.11		.19	.19		.25	.21		.39	.25	
Quang Nam	.13	.19		.20	.14		.11	.11		.14	.19		.13	.19		.16	.22		.19	.25	
Quang Tin	.23	.17			.19	.13		.19	.13	.14	.21		.12	.26	.11	.15	.30	.16	.31	.27	
Quang Ngai	.18	.21			.25			.44	.12	.16	.18		.20	.27		.21	.29		.39	.39	
Binh Dinh	.27						.10			.15			.15	.30		.19			.37		
Phu Yen		.22	.14	.10	.32	.17		.32	.17		.23	.10	.15	.30	.11	.26	.38	.14	.16	.48	.27
Khanh Hoa	.19			.23												.12					
Phu Bon										.15											
Phu Yen		.18	.11		.19	.10		.16					.13	.20				.11			.20
Darlac													.11								
Khanh Hoa				.12									.16	.15			.18	.12			.19
Ninh Thuan													.12						.15		
Tuyen Duc																					
Quang Duc										.14						.13					
Lam Dong																					
Binh Thuan			.12			.25						.17			.14			.13			.20
Binh Tuy																					
Long Khanh																					
Phuoc Long				.11			.11			.11						.16			.15		
Binh Long	.10			.16			.11														
Binh Duong			.14																	.11	

	April-Sept. 1967			Oct. 1967-Mar. 1968			April-Sept. 1968			Oct. 1968-Mar. 1969			April-Sept. 1969			Oct. 1969-Mar. 1970			April-Sept. 1970		
	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla	Main Force	Hybrid	Guerrilla
Tay Ninh	.11																		.32		
Hau Nghia																					
Binh Hoa			.18										.31				.35			.19	
Phuoc Tuy																					
Long An																					
Go Duh		.16	.17		.12					.13	.14									.11	
Go Cong											.11			.10							
Kien Tuong																					
Kien Phong			.10			13			.17		.19			.13			.21				
Dinh Tuong		.24			.20	.12		.22	19		.16	.17		.21		.14				.25	.18
Kien Hoa		.12	.21		.14	.28		.21	.21		.15	.19		.14	.15		.16	.18		.15	.12
Vinh Binh		.10	.17		.12	.24		.10	.15		.15	.10		.14	.18		.16	.15			.16
Vinh Long			.19		.12	.23		.19	.25		.20	.16		.10	.17		.13	.26		.20	.41
An Giang									.14		12					.12					
Kien Giang						.14		.23	.23			.17			.16			.14			.0
Chuong Thien																					
Phong Dinh			.14									.17			.15			.20			
Ba Xuyen			.21		.14	.16			.13			.16			.23			.25			.5
An Xuyen																			.21		
Bac Lieu																					
Chau Doc			.18			.14			.13			.12			.11	.10	.21		.16	.21	
Sa Dec																		.12			

(U) Table IV-4 provides a more concise perspective of the degree to which each province identifies with a war type cluster by replacing the loadings with either an "S" to indicate a strong degree of association or a "W" to indicate a weak degree of association.[14] The greater number of strong designators (main force and hybrid) in the MR I provinces is indicative of the more defined, homogeneous composition of activities going on in this area of Vietnam. On the other hand, the number of provinces associated with a strong guerrilla war pattern can be seen to be gradually increasing (primarily in Military Region IV) over time, e.g. Kien Hoa, Vinh Long, Ba Xuyen.

(U) A preliminary comparison of the results of our factor analysis with U.S. data (Table IV-2) with the results of our previous analysis without U.S. data (Table IV-3) offers four immediate observations:

1. There is a greater number of province associations with the theoretical main force war pattern, and a fewer number with the guerrilla war patterns in the study with U.S. data;

2. All aspects of guerrilla war loadings have been excluded from MR I in using U.S. data;

3. There is a stronger indication of regional groupings according to war type in using U.S. data;

4. Loadings for all three war types by any one province (as sometimes occurred in our previous study) have been eliminated; e.g., Table IV-3 Quang Tin province, time periods 5 and 6.

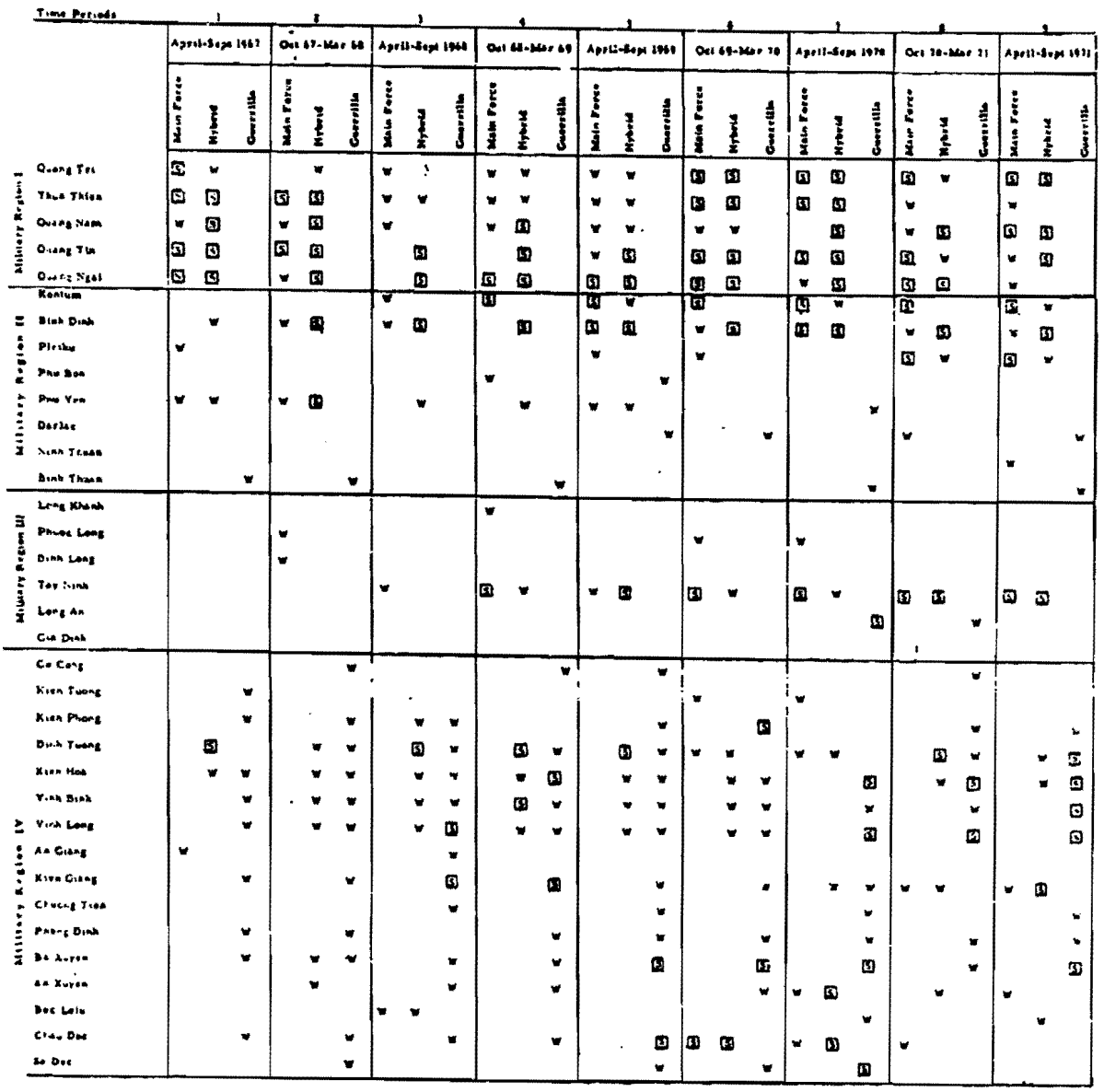
(U) The first observation is summed up in the following chart which compares the total number of provinces loading for each war type category in seven time periods for the first study with the current study.

	Province Loadings Greater than .10 (Without U.S. Data)								(With U.S. Data)							
Time Periods	1	2	3	4	5	6	7	Total	1	2	3	4	5	6	7	Total
Main Force	9	8	6	8	11	12	12	66	8	8	7	16	10	14	13	70
Hybrid	10	12	10	12	14	12	10	80	9	12	11	12	13	12	12	81
Guerrilla	13	12	12	13	13	14	13	90	10	12	11	11	14	10	12	80

[14] (U) Those provinces with no ties to any cluster during the entire time period were not included.

(U) TABLE IV-4.

"WEAK" AND "STRONG" SUMMARY OF PROVINCE CLUSTERS



(U) This chart indicates that the overall patterns of war have become more representative of main force war, but less of guerrilla war, while having little effect on the total number of hybrid loadings. That is, 70 provinces load main force with U.S. data as compared to only 66 provinces without U.S. data. In the guerrilla war category, only 80 provinces have a strong loading with U.S. data as compared to 90 provinces in the study without U.S. data. These findings are not unexpected in view of the major mission for U.S. forces being that of combat responsibility in the areas of major main force threat.

(U) The second observation follows from the first. The majority of U.S. troops were located in MR I throughout the war. Therefore, that the local war indicators were overwhelmed by the addition of main force designators in MR I is not surprising.

(U) The greater tendency for the war types to show a regional pattern is apparent from the following chart which indicates the number of provinces in each region which load .10 or above in the war types (including only the 7 time periods which are applicable):

Provinces Loading Greater than .10 by Military Region

	Without U.S. Data	With U.S. Data
MR I	66	64
MR II	55	42
MR III	22	15
MR IV	93	110

(U) The only military region which increased in the number of war type designators is MR IV, which is the southern, most populous area in Vietnam. However, if one took into account only the "strong" factor loadings, one would find that there are 13 more strong loadings in MR I, 9 fewer strong loadings in MR IV, and approximately the same number in MR II and III. The conclusion one can draw from these findings is that not only were the U.S. forces deployed according to presence of a main force threat as previously stated, but they also served to clarify the pattern of war for many provinces by the inclusion of U.S. data. Therefore, even the guerrilla war province cluster has been affected to the extent that it has become a more distinct entity. In our previous study, large numbers of either VC or NVA troops could have made up descriptors indicative of the main force war cluster. Now with U.S. data included, strong VC troop strength designates in most cases only a hybrid or guerrilla war fighting situation, thereby giving more definable structure to the guerrilla war pattern discoverable in the MR IV provinces.

(U) The final observation regards the elimination of loadings for all three war types, by any one province. This effect coincides in part to our second observation. The addition of U.S. forces to the data base has increased the formerly low score for level of friendly regular forces which is characteristic of guerrilla war provinces. Therefore, a province such as Binh Dinh has received numerical increases in regular forces to the effect of overwhelming the local war characteristics of this area.

(U) These observations plus the basic patterns of activity discussed in the "Patterns of War" section of this part of the study identify the most stable characteristics of the structure of the war across the five years analyzed. The rest of this section will describe the clusters as they were found in each of the six month time periods. Much of this examination will center around the province loadings as found in Table IV-2.

Spring/Summer 1967 (Time Period 1) April-September 1967

(U) Primary characteristics of time period 1 in the first province profile analysis paper were the following:

- The most intense war effort was being exerted in MR I, consisting of a combination of main force and hybrid war.
- There were large numbers of regular forces and above average RF/PF troops deployed in MR I.
- MR II reflects a situation of heavy troop co[illegible]tions but very little contact between friendly and enemy [illegible]s.
- In short, the Spr[illegible]g/Summer 1967 time perio[illegible]d the basic characteristics of each war type and the geogr[illegible]c distribution which became generally typical of all the six mo[illegible]ch periods in the four years under consideration.

Province Clusters with U.S. Data (Time Period 1)

(U) The inclusion of U.S. data effected a redistribution of all province loadings in this time period. Taken on a region by region basis, the overall results have been to strengthen the loadings in MR I and to weaken [illegible]ose from the other three regions. This follows logically from the fact that, although U.S. troop strength was still on the uprise, its greatest numerical presence was being felt in MR I.