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The LIBRARY OF CONGRESS  
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Washington, D.C., May 21, 1971.

Hon. J. William Fulbright,  
Chairman,  
U.S. Senate,  
Washington, D.C.

IMPACT OF THE VIETNAM WAR

Dear Senator Fulbright: The enclosed report is forwarded in response to your recent request for a study of the impact of the Vietnam war. In accordance with your instructions, the report contains various studies of the impact of the war on the United States.

PREPARED FOR THE USE OF

COMMITTEE ON FOREIGN RELATIONS

UNITED STATES SENATE

BY THE

FOREIGN AFFAIRS DIVISION

CONGRESSIONAL RESEARCH SERVICE

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(iii)



JUNE 30, 1971

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## IMPACT OF THE VIETNAM WAR

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JUNE 30, 1971

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## INTRODUCTION

This survey by the Library of Congress collects a broad range of information detailing the economic costs—both human and material resources—of the Vietnam War. The compilation of this information is the result of a project of the Library of Congress, which was initiated in 1967 to study the economic impact of the Vietnam War on the United States and the world. The project was directed by the Library of Congress, and the survey was conducted by the Library of Congress, Washington, D.C., May 21, 1971.

## LETTER OF TRANSMITTAL

THE LIBRARY OF CONGRESS,  
 CONGRESSIONAL RESEARCH SERVICE,  
 Washington, D.C., May 21, 1971.

HON. J. WILLIAM FULBRIGHT,  
*Chairman, Senate Foreign Relations Committee,*  
 U.S. Senate,  
 Washington, D.C.

DEAR SENATOR FULBRIGHT: The enclosed report is forwarded in response to your recent request for a study of the impact of the Vietnam war. In accordance with your instructions, the report contains various statistics and data on human and material costs of the conflict, as these have affected not only the United States but also the Indochinese states of South Vietnam, Cambodia, and Laos. We have sought to present the information in a factual form that is relatively easy for the general reader to understand.

The report, entitled "Impact of the Vietnam War," was prepared by a group of analysts in the Foreign Affairs Division.

Sincerely,

LESTER S. JAYSON, *Director.*

(III)

## INTRODUCTION

This survey by the Library of Congress collects a broad range of information detailing the enormous costs—in human and material resources—incurred as a result of the war in Indochina. The compilation of this information will, I hope, serve to bring into perspective and to clarify the stark implications of United States policy toward this region. The casualty and refugee figures are sadly familiar from the daily newspapers. However, many of the other items also illustrate the profound effect of the war and may not have received the attention they deserve. For example, it is estimated that chemical herbicides have been applied to nearly one-seventh of South Vietnam (6 pounds per person), thereby destroying enough food for 600,000 people for 1 year and enough timber to meet the needs of the country, based on current demand, for 31 years. In South Vietnam agricultural productivity has been lowered; inflation is rampant (Saigon's retail prices having increased by over 700 percent since 1965); and last year the balance, if it can be called that, of trade showed approximately \$600 million of imports versus exports of only \$12 million.

Nevertheless, although this report documents many of the measurable consequences of the war, it cannot reveal the intangible costs which in the long run may be of far greater significance. The survey spells out the casualty figures—827,000 U.S., South Vietnamese, and allied military personnel, over a million civilian casualties in South Vietnam, and countless thousands in Laos and Cambodia, and it is estimated that a third of the population of South Vietnam have become refugees in the course of the past 7 years. But those figures merely hint at the vast destruction of the social fabric and economies of Indochina wrought as a consequence of this tragic war. There is no way of measuring the true cost of a shattered social structure, lost opportunities for development, persistent inflation, black marketeering, corruption, and prostitution.

The survey recalls our attention to the 296,000 wounded Americans, but it cannot document the psychological effects of war on the two million who have returned physically intact. Nor can it quantify the effects of this experience on U.S. society—not only the direct economic costs realized through our own inflation, high interest rates and balance-of-payments deficits, but also the intangible costs in terms of erosion of respect for the law, further disruption of the constitutional system of checks and balances, increased distrust of Government, and the growing use of violence as a political tool. These indirect and intangible consequences of the war will have an enduring effect on our future.

It is ironic that the war which started, ostensibly, as one to defend freedom and democracy in South Vietnam may have the effect instead of seriously undermining democracy in the United States. In retrospect it is tragically clear that the almost \$200 billion estimated by this study to be the cost of the war accrued so far would have been better devoted to solving the problems of our own society, rather than in pursuit of a futile military adventure which has served only to exacerbate them.

J. W. FULBRIGHT, *Chairman.*

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(VII)

## IMPACT OF THE VIETNAM WAR

### INTRODUCTION

The purpose of the following report is to present major statistics and salient facts pertinent to the effects of the Vietnam war on life in the United States and in the Indochinese states of South Vietnam, Cambodia, and Laos. While this compilation of data does not include many of the more intangible ways in which the conflict has had an impact on U.S. citizens and on the people of the combatant nations, there are certain concrete results which can be recorded, for example, casualties, monetary costs and property damage. In many cases, reliable statistics and other data are not available and often it has been necessary to include estimates and assessments from a variety of published sources. On some subjects, where pertinent data did not appear in published sources, it was possible to obtain information by direct contact with U.S. Government agencies.

### I. COST OF THE VIETNAM WAR

In principle, a figure for the total cost of the Vietnam war should encompass not only direct military spending on the war, but also indirect costs, such as wartime economic assistance and postwar reconstruction aid. Other expenditures which may be considered a war cost include benefits to American veterans, which will continue long after the war is ended. An additional factor in Vietnam war spending is the inflationary impact of the war on the U.S. economy, an effect which is difficult to assess in terms of numerical measurements. Obviously, final figures for some of the indirect costs are not yet available. But it can be stated that direct military costs of the Vietnam war to date make it the second most expensive war in American history.<sup>1</sup>

U.S. Government defense spending on the Vietnam war can be measured in two ways. The first involves budgetary costs, which cover "the military personnel (deployed and backup) added for Southeast Asia since 1965 and the costs of equipping and supporting forces in Southeast Asia." The second includes incremental costs, which represent "the net difference between [these] wartime and [normal] peacetime needs."<sup>2</sup>

<sup>1</sup> World War II was the most expensive.

<sup>2</sup> U.S. Congress, House, Committee on Appropriations, Department of Defense Appropriations for 1970 pt. VII, Hearings, Washington, U.S. Government Printing Office, 1970, p. 395.



The full budgetary cost of the war from fiscal year 1965 through fiscal year 1970 was \$104.4 billion. Using this total, the cost per capita figures out to a total of over \$500, based on a U.S. population of 200 million. If the estimate for fiscal year 1971 is included, total cost would be about \$120 billion, or about \$600 per capita. Cost per capita in fiscal year 1969 was approximately \$140, while it was about \$115 in fiscal year 1970. On the basis of incremental costs from fiscal year 1965 through fiscal year 1970, total costs per capita were approximately \$425. If an estimate for fiscal year 1971 is added, the final figure for incremental costs is approximately \$490 per capita for the total time period.

The following tables provide a complete list of figures on both budgetary and incremental costs for the period fiscal years 1965-71. (Since March 1966, U.S. military assistance to South Vietnam has been included in the Department of Defense budget. The total value of U.S. military aid to Vietnam during the fiscal year 1965-71 period equals approximately \$8 billion).<sup>3</sup>

TABLE 1.—Budgeted war costs<sup>1</sup>

Fiscal year:	Million
1965	\$100
1966	5,800
1967	20,100
1968	26,500
1969	28,800
1970	23,050
1971 (estimate)	15,300
Total	119,650

<sup>1</sup> Figures for fiscal years 1965-69 were obtained from Committee print cited in previous footnote, p. 6970. Figures for fiscal years 1970-71 were obtained by phone from Office of the Assistant Secretary of Defense, Comptroller.

TABLE 2.—Incremental war costs<sup>1</sup>

Fiscal year:	Million
1965	\$100
1966	6,000
1967	18,000
1968	23,000
1969	22,000
1970	17,000
1971 (estimate)	12,000
Total	98,100

<sup>1</sup> Charles L. Schultze, with Edward K. Hamilton and Allen Schick. *Setting National Priorities: The 1971 Budget*. Washington, Brookings Institution, 1970. Table 2-14, p. 50. Fiscal year 1971 figure (rounded) was obtained by phone from the Department of Defense, Office of the Comptroller.

As noted above, neither the budgetary nor the incremental figures give a complete picture of the total cost of the Vietnam war. Additional expenditures, such as the large-scale foreign aid program in Southeast Asia can also be viewed, at least to some extent, as part of the cost of the Vietnam war. (See table below.)

<sup>3</sup> Figures for fiscal years 1965-69 were obtained from: U.S. Congress. House. Committee on Armed Services. *Hearings on Military Posture. Part 1. 1970*. Washington: U.S. Government Printing Office, 1970, p. 7696. Figures for fiscal years 1970-71 were obtained by phone from Department of Defense, Office of the Assistant Secretary of Defense, Comptroller.

TABLE 3.—U.S. Economic assistance to South Vietnam, Cambodia, and Laos<sup>1</sup>

Fiscal year:	Million
1965	\$309.9
1966	781.8
1967	595.3
1968	502.9
1969	398.5
1970	417.8
1971 (estimate)	511.9
Total	3,518.1

<sup>1</sup> Agency for International Development, Bureau for Program and Policy Coordination. Office of Statistics and Reports. U.S. Overseas Loans and Grants and Assistance from International Organizations. Obligations and Loan Authorizations, July 1, 1945-June 30, 1969. Special report prepared for the House Foreign Affairs Committee, April 24, 1970. Washington, 1970, pp. 63, 66, and 72. Additional information obtained by phone from Agency for International Development, Office of Congressional Liaison.

Of this total figure of approximately \$3.5 billion, over \$3 billion was for South Vietnam.

Total U.S. assistance to these countries in the five years before the expansion of the war in 1965 totaled over \$1.1 billion. While it is probable that some type of foreign aid program would have been provided if the war had not taken place, the economic dislocation caused by the war has increased the amount of aid which is necessary for these nations. Moreover, the United States has indicated it will assist in post-war reconstruction and rehabilitation in Southeast Asia. Thus, it can be expected that the United States will continue to supply large amounts of aid after the war is over.

Another major source of the war cost can be attributed to funds for veterans' benefits. According to the Veterans Administration, statistical evidence is not yet available to measure the cost of benefits paid thus far to veterans who have served in Vietnam. The total number of American servicemen who have served in Vietnam between January 1, 1965 and the end of 1970 is 2.4 million.<sup>4</sup> Using past wars as a guide, one economist has estimated that the budgeted military cost of the Vietnam war will be increased by at least 50 percent as veterans' benefits are paid out over the next 100 years.<sup>5</sup> However, a new cost element may have entered the picture of veterans' care that apparently has not been previously computed in long-range cost estimates. The new element is drug addiction. It has been estimated that between 10 and 15 percent of the American troops now serving in South Vietnam "use heroin in one form or another."<sup>6</sup> To what extent the cost of the care and rehabilitation of these drug users might become a public charge is not now clear.

In addition to the direct costs to the U.S. Government's budget, the Vietnam war has had a significant impact on the domestic economy.

<sup>4</sup> Information obtained by phone from Department of Defense, Office of the Assistant Secretary of Defense (Public Affairs).

<sup>5</sup> James L. Clayton. *On the Ultimate Cost of the Vietnam Conflict*. Congressional Record v. 115, no. 109, July 1, 1969: S7424-S7427. The same economist stated that this payment conceivably could increase the cost by as much as 300 percent.

<sup>6</sup> U.S. Congress. House. *The World Heroin Problem. Report of Special Study Mission Composed of Morgan F. Murphy and Robert H. Steele*. Washington, U.S. Government Printing Office, May 27, 1971, p. 13. See also *The New York Times*, April 2, May 16, and 18, 1971. For a discussion of Veterans' Administration treatment programs see U.S. Congress. House. Committee on Armed Services. *Special Subcommittee. Alleged Drug Abuse in the Armed Services. Hearings . . . 1970 . . . 1971*. Washington, U.S. Government Printing Office, 1971, pp. 1603-1632.

When President Lyndon Johnson inaugurated his "both guns and butter" policy in 1965, the American economy was operating at almost full capacity and full employment. In retrospect, it can be seen that the added fiscal stimulus of rising Vietnam war costs and the absence of compensating reductions in non-defense spending by the Federal Government placed a burden upon the economy that it could ill afford at that time.<sup>6</sup> Consequently, by early 1966, the economy was reflecting a pressure from the war which combined with other factors to produce serious economic problems. These included the worst period of inflation experienced since that immediately following the end of World War II.<sup>7</sup> Additional problems were spiraling interest rates, severe money shortages, a collapse in the housing industry, a general slowdown in overall economic activity after 9 years of rapid and sustained economic expansion, and severe distortions in the nation's financial markets.<sup>8</sup> Attempts to eliminate these economic distortions and a tapering off of the war led to difficulties such as a continuation of the interest-rate spiral, the first serious rise in unemployment since the early 1960's and adjustment problems in many key industries and communities whose activities were directly or indirectly affected by the war effort.

## II. MILITARY CASUALTIES AND LOSSES

### A. CASUALTIES

By the beginning of March 1971, total U.S. military casualties in Indochina were just under 350,000, which is more than the U.S. sustained in World War I and more than twice the number of casualties during the Korean conflict.<sup>9</sup> However, the Indochina casualties are still only about one-third as great as the total of American dead and wounded in World War II. The figure is also less than that for the South Vietnamese forces (approximately 470,000).<sup>10</sup> Figures for total casualties of the North Vietnamese/Vietcong forces are not available, but the Department of Defense does maintain statistics on enemy forces killed in action. For this category, the Defense Department total is approximately 715,000. If noncombat deaths and wounded could be added, North Vietnamese/Vietcong casualties would exceed U.S. and South Vietnamese casualties by an even greater margin. The following table provides the most complete official summary of total casualties in Southeast Asia:

<sup>6</sup> See U.S. Congress, Joint Economic Committee, 1970 Joint Economic Report, Report . . . on the January 1970 Economic Report of the President, March 25, 1970, Washington, U.S. Government Printing Office, 1970. (House Report No. 91-972), and U.S. Congress, Joint Economic Committee, 1969, Joint Economic Report, Report . . . on the January 1969 Economic Report of the President, April 1, 1969, Washington, U.S. Government Printing Office, 1969. (House Report No. 91-142.)

<sup>7</sup> From 1965 through 1970 prices rose by an average annual rate of 4.3 percent. This was in marked contrast to the relative non-inflationary rise in prices from 1958 to 1965 in which prices rose by an average annual rate of only 1.3 percent. (Based on Consumer Price Index, U.S. Department of Labor.)

<sup>8</sup> These distortions in the financial markets had a particularly adverse effect upon the finances of small business firms and the fiscal soundness of State and local governments.

<sup>9</sup> The term "casualties" encompasses all deaths, both from combat and other causes, and all wounded, whether or not hospitalization was required.

<sup>10</sup> This total is not entirely comparable since no figures are available for South Vietnamese noncombat deaths and "nonserious" wounded.

TABLE 4.—SOUTHEAST ASIA MILITARY CASUALTIES SUMMARY—FRIENDLY AND ENEMY<sup>1</sup>

Period	Deaths					Nonfatal wounds				
	United States	South Vietnam	3d nation <sup>2</sup>	Enemy	United States hospital care					
					Required	Not required	South Vietnam <sup>3</sup>	3d nation <sup>2</sup>	Enemy <sup>4</sup>	
1960 total		2,223		5,669				2,788		
1961 total	11	4,004		12,133	2	1		5,449		
1962 total	31	4,457		21,158	41	37		7,195		
1963 total	78	5,665		20,575	218	193		11,488		
1964 total	147	7,457	1	16,785	522	517		17,017		
1965:										
1st quarter	72	2,535		5,789	229	213		5,411		
2d quarter	144	2,851		6,092	297	273		5,713		
3d quarter	261	2,723		10,089	802	637		5,260		
4th quarter	892	3,234		13,466	1,980	1,683		6,734		
Total	1,369	11,243	31	35,436	3,308	2,806		23,118	139	
1966:										
1st quarter	1,224	3,407	191	13,060	3,791	3,111		5,613	541	
2d quarter	1,287	3,091	90	11,872	4,436	3,695		4,776	235	
3d quarter	1,250	2,723	106	15,616	4,134	3,315		4,684	304	
4th quarter	1,247	2,732	179	14,976	4,165	3,446		5,902	511	
Total	5,008	11,953	566	55,524	16,526	13,567		20,975	1,591	
1967:										
1st quarter	2,126	3,096	226	22,756	7,155	6,468		6,946	550	
2d quarter	2,773	3,222	242	23,389	9,545	8,745		7,438	552	
3d quarter	2,091	2,834	341	20,087	8,316	8,668		6,632	679	
4th quarter	2,388	3,564	296	21,872	7,355	5,773		8,432	537	
Total	9,378	12,716	1,105	88,104	32,371	29,654		29,448	2,318	
1968:										
1st quarter	4,869	10,500	346	72,455	14,550	14,011		24,330	673	
2d quarter	4,725	7,363	262	46,620	16,378	14,921		18,343	589	
3d quarter	2,946	5,966	196	34,674	10,025	8,963		15,854	418	
4th quarter	2,052	4,086	175	27,400	5,846	8,126		12,169	317	
Total	14,592	27,915	979	181,149	46,799	46,021		70,696	1,997	
1969:										
1st quarter	3,184	5,922	251	44,846	8,338	11,101		18,102	513	
2d quarter	3,156	5,828	219	48,807	12,281	12,711		17,863	680	
3d quarter	1,910	4,623	198	32,979	8,120	8,626		13,655	627	
4th quarter	1,164	5,460	198	30,322	4,201	4,838		15,656	398	
Total	9,414	21,833	866	156,954	32,940	37,276		65,276	2,218	
1970:										
January	343	1,768	69	9,187	1,552	1,597		5,599	126	
February	386	1,417	36	8,828	1,210	1,138		4,423	180	
March	449	1,674	75	10,335	1,581	1,731		5,495	229	
1st quarter	1,178	4,859	180	28,350	4,343	4,466		15,517	535	
April	526	2,642	79	13,063	1,967	1,865		7,866	179	
May	754	2,851	58	17,256	2,100	2,191		8,080	234	
June	418	2,873	63	7,861	1,489	1,483		10,020	139	
2d quarter	1,698	8,366	200	38,180	5,556	5,539		25,966	552	
July	332	1,711	71	7,183	1,196	1,489		4,766	159	
August	319	1,720	63	6,446	1,226	1,279		5,321	158	
September	219	1,734	46	6,138	886	736		5,252	165	
3d quarter	870	5,165	180	19,767	3,308	3,504		15,339	482	
October	170	1,491	57	5,549	900	1,040		5,090	105	
November	167	1,619	48	5,607	522	424		4,480	92	
December	138	1,846	39	6,185	582	459		5,190	64	
4th quarter	475	4,956	144	17,341	2,004	1,923		14,760	261	
Total	4,221	23,346	704	103,638	15,211	15,432		71,852	1,830	

See footnotes at end of table.



TABLE 4.—SOUTHEAST ASIA MILITARY CASUALTIES SUMMARY—FRIENDLY AND ENEMY<sup>1</sup>—Continued

Period	Deaths				Nonfatal wounds				
	United States	South Vietnam	3d nation <sup>2</sup>	Enemy	United States hospital care		South Vietnam <sup>3</sup>	3d nation <sup>2</sup>	Enemy <sup>4</sup>
					Required	Not required			
1971:									
January.....	140	1,471	30	6,155	572	400	4,481	118	.....
February.....	221	1,687	48	11,704	644	448	6,260	156	.....
Cumulative total.....	44,610	135,970	4,330	714,984	149,154	146,352	336,043	10,367	.....

<sup>1</sup> Department of Defense, Office of the Assistant Secretary of Defense (Comptroller), Directorate for Information Operations, Mar. 18, 1971.

<sup>2</sup> Monthly data for 3d nation casualties not available prior to 1966.

<sup>3</sup> The South Vietnamese report only the seriously wounded—while the United States reports all wounds, including the minor, that receive attention by medical personnel.

<sup>4</sup> Data are not available. A factor of 1.5 x enemy KIA is sometimes used.

<sup>5</sup> Preliminary data.

Note: South Vietnam data, beginning with 1968, include casualties incurred by the paramilitary forces, as reported by MACV.

For the period January 1961 through February 1971, the U.S. killed and wounded total of 349,421 represents about 0.17 percent of the 1970 U.S. population of 204 million.<sup>11</sup> By comparison, total U.S. military casualties during World War I amounted to 320,518 or 0.3 percent of the 1920 population (105,710,620).<sup>12</sup> Military casualties sustained as a result of the Korean conflict were considerably lower: 157,530 or 0.1 percent of the 1950 population (150,697,361).<sup>13</sup> During the 3½ years of World War II, extending from Europe to the Pacific, 1,076,245 military casualties were recorded, or just over 0.8 percent of the 1940 population (131,669,275).<sup>14</sup>

The figure for total military casualties since 1960 for South Vietnam and North Vietnam is higher than that for the United States. The accompanying table shows the number of casualties for the forces of the Government of South Vietnam from the beginning of 1960 through February 1971. The cumulative figure of 472,013 killed and seriously wounded represents 2.6 percent of the population (17,867,000).<sup>15</sup> If the South Vietnamese Government could provide the number of military killed in noncombat situations, the ratio of South Vietnamese casualties to total population would be even higher.

In regard to enemy military casualties, the Department of Defense issues figures only for those killed in action, when they can be verified by actual body count.<sup>16</sup> On this basis, the Department of Defense maintains that 714,984 North Vietnamese and Vietcong have been killed in action in the period from 1960 to the end of February 1971 (see table 4, above), or about 3.45 percent of the population of North

<sup>11</sup> See Table 4 for the breakdown of U.S. casualties into combat deaths and wounded (combining those requiring hospital care and those who did not). The calculation noted above also includes a total of 9,305 killed in nonhostile action.

<sup>12</sup> World War I casualties are listed as 53,402 killed in action, 63,114 killed in nonhostile action, and 204,002 wounded. Directorate for Statistical Services, Office of the Secretary of Defense, Selected Manpower Statistics, Apr. 15, 1968, especially Table P28.2, Principal Wars in Which the U.S. Participated: U.S. Military Personnel Serving and Casualties, p. 53.

<sup>13</sup> Korean casualties: 33,629 killed in action, 20,617 killed in nonhostile action, and 103,284 wounded. *Ibid.*

<sup>14</sup> World War II casualties: 291,557 killed in action, 113,842 killed in nonhostile action, and 670,846 wounded. *Ibid.*

<sup>15</sup> This population figure is a 1969 United Nations estimate. South Vietnamese casualties, as shown in table 4, include 135,970 killed in action and 336,043 seriously wounded. No data are available on other wounded.

<sup>16</sup> The accuracy of such methods has been questioned in a number of unofficial sources.

Vietnam (20,700,000).<sup>17</sup> This high ratio may be attributed to the fact that the total includes forces in both North and South Vietnam. The Department of Defense has no separate estimate for the number of North Vietnamese killed in action, nor are estimates available for North Vietnamese/Vietcong killed in noncombat situations or wounded. One method employed to approximate the number of enemy wounded is to apply a factor of 1.5 to the total killed in action.

Regarding casualties of "third nation" friendly forces, Department of Defense statistics combine all countries under a general heading of "Free World Military Assistance Forces," which includes those of South Korea, Thailand, Australia, New Zealand, the Philippines, and to a minor degree, those of the Republic of China and Spain. Records kept since the beginning of 1966 show that 14,697 casualties have been sustained by the group as a whole.<sup>18</sup>

#### B. LOSSES IN AIRCRAFT

As of March 16, 1971, the Department of Defense recorded 7,602 aircraft losses for the Indochina war, of which 4,318 were classed as rotary wing—that is, helicopters—and 3,284 as fixed wing.

The following table shows U.S. aircraft losses in Indochina by category, type of action, and location as of March 16, 1971:

TABLE 5:

Type of action	Location	Fixed wing	Rotary wing
(a) Hostile.....	North Vietnam.....	928	10
	South Vietnam.....	429	1,886
	Laos.....	57	71
Subtotal.....		1,414	1,967
(b) Nonhostile.....		1,870	2,351
Total.....		3,284	4,318

<sup>1</sup> Statistics furnished by Department of Defense, Office of the Assistant Secretary of Defense (Comptroller), Directorate for Information Operations.

In terms of monetary value, the Department of Defense estimates that losses in Indochina for all types of helicopters have amounted to \$1.3 billion (based on a total of 4,271 lost through February 28, 1971). The total value of the 3,277 fixed wing aircraft lost as of that date is estimated at \$4.4 billion. Thus, total aircraft losses through February amounted to approximately \$5.7 billion.<sup>19</sup>

Comparable costs for Korea and World War II are not available, but some comparison is possible for numbers of fixed wing aircraft lost.<sup>20</sup> In World War II, 45,806 aircraft were lost,<sup>21</sup> while the figure

<sup>17</sup> The population figure for North Vietnam is a 1968 United Nations estimate. See Luman H. Long, ed. *The World Almanac and Book of Facts*. Newspaper Enterprise Association, Inc., 1971, pp. 573-574.

<sup>18</sup> 4,330 killed as a result of hostile action and 10,367 seriously wounded through Feb. 1971. See Table 4.

<sup>19</sup> These rough cost estimates were obtained by phone from the Department of Defense, Office of the Assistant Secretary of Defense (Comptroller), Directorate for Information Operations.

<sup>20</sup> Because considerably fewer helicopters were used in the Korean Conflict, the number lost was only 20. There were no known helicopter losses in World War II.

<sup>21</sup> Of this total, 41,575 aircraft were lost by the Army Air Forces in overseas theaters. The figure covers 35,933 first-line losses, that is, major combat operations and accidents associated with them, plus 5,642 second-line losses, such as logistical support movements. It does not include 21,583 craft lost in the continental U.S. or 2,006 lost en route to theaters of operations overseas. See Army Air Forces Statistical Digest, World War II (Unpublished study prepared by the Office of Statistical Control, AAF, December 1945), pp. 184-186. Navy and Marine aircraft losses, both carrier and land-based, amounted to 4,231, of which 2,886 were due to hostile and 1,345 to non-hostile action. See Howard Mingos, ed. *The Aircraft Yearbook*, an official publication of Aircraft Industries Association of America. New York, Lancer Publishers, Inc., 1946, pp. 486-488 and OP-23-V Letter to OP-519 of 7 February 1946, Department of the Navy.



for Korea stands at 3,314.<sup>22</sup> Thus, while losses in Indochina have not approached those of World War II, the destruction of 7,602 aircraft represents more than twice the number lost in Korea.

### C. MUNITIONS EXPENDED

According to the Department of Defense, the United States had expended a total of 11,444,533 tons of air, ground, and sea munitions in the Indochina war as of the end of 1970.<sup>23</sup> Although these totals have not been broken down in terms of respective expenditures in Vietnam, Laos, and Cambodia, it can be stated that by far the greatest portion of munitions was used in North and South Vietnam.

The following table provides a breakdown by year since 1965, when the United States first sent combat troops to Vietnam. The designations "air," "ground," and "sea" indicate actual means of delivery regardless of armed service. Thus, "air munitions" are all those delivered by air whether by the Air Force, Army, Navy, or Marine Corps.

TABLE 6.—MUNITIONS EXPENDED IN INDOCHINA WAR (IN TONS)

Year	Air	Ground	Sea
1965	315,000		
1966	512,000	576,800	5,000
1967	932,763	1,176,400	30,000
1968	1,431,654	1,451,000	50,500
1969	1,387,237	1,374,200	30,000
1970	977,446	1,181,533	13,000
Total	5,556,100	5,759,933	128,500

Records of munitions expended by the various services during the Korean conflict and World War II were not compiled as thoroughly and systematically as for the Vietnam war. Available statistics permit only a very rough comparison of munitions expended during the three wars. Thus, the information in the following paragraphs can serve only to highlight in general terms the extent to which this war has exceeded earlier ones. Complete data, which would allow a valid statistical comparison of the three wars, are not available. Even units of analysis which are apparently similar—for example, tons of bombs—reflect totally dissimilar situations, rendering statistical comparison difficult. The total time involved in these different wars, the state-of-the-art in military technology, and great variances in the circumstances of combat bring about these dissimilarities. The expenditure of ground munitions during the relatively brief Korean conflict is not, for example, strictly comparable with such expenditures during the protracted guerrilla-type war in Indochina. Nor could the M-1 rifles in use in Korea possibly have expended ammunition at the rate of the M-16's in use in Vietnam. In comparing the strategic bombing of Germany and Japan, the U.S. Strategic Bombing Survey estimated that damage to Japan was "roughly equivalent to that in Germany,

<sup>22</sup> Of this total, the Air Force recorded 1,447 hostile and 620 non-hostile aircraft losses, a total of 2,067. See Statistical Digest. (Unpublished study prepared by Directorate of Statistical Services, Far East Air Force, July 31, 1963), pp. 2-3. Combined Navy and Marine losses were 564 hostile and 683 non-hostile, or a total of 1,247. See Rudolf Modley and Thomas J. Cawley, eds. *Aviation Facts and Figures*. An official publication of Aircraft Industries Association of America. Washington, Lincoln Press, Inc., 1963, p. 112.

<sup>23</sup> By phone from Department of Defense, Office of Assistant Secretary of Defense (Public Affairs).

although some 1,360,000 tons were dropped on that country, about nine times the weight used by the B-29's against Japan . . . the attacks [on Japan] were more concentrated in time and space, the targets more vulnerable, defense methods less effective, repair and reconstruction less rapid."<sup>24</sup> The list of dissimilar variables could be extended at length.

Of the 11.4 million tons of munitions used in Indochina, 5,556,100 tons, or almost half, were aviation munitions, that is, bombs, rockets, and shells for aerial cannon and machine guns. By comparison, air munitions expended during the Korean conflict—exclusive of rockets, cannon, and machine gun shells expended by the Navy and Marines—were on the order of 1 million tons.<sup>25</sup> Thus, the tonnage of air munitions used in Indochina is about five times greater than the available figures, known to be incomplete, indicate for Korea. But, as noted above, the conditions in each war were dissimilar.

The total figure of 2,160,110 tons of air munitions for World War II represents a combination of Air Force, Navy, and Marine statistics, but here, too, there are no data on munitions other than bombs.<sup>26</sup> It is clear, of course, that even allowing for the missing data on World War II, the use of air munitions by U.S. forces in Indochina is more than twice as great as it was in all of World War II. The totals provided by the Air Force (then part of the Army) are further divided by theater of operations and by country. Thus the U.S. Army Air Force dropped some 1,360,000 tons of bombs on Germany, but only 154,000 on the home islands of Japan. Yet, the resulting damage was rated as about equal by the U.S. Strategic Bombing Survey.<sup>27</sup>

The total of ground munitions expended in Indochina—a figure of 5,759,933 tons, representing mines, mortar, artillery, and small arms ammunition—surpassed the air munitions total by almost a quarter of a million tons.

Some comparisons can be made with previous wars. For example, expenditure of ground munitions in Korea amounted to 2,111,116 tons—less than half of the analogous figure for Indochina. During World War II, 3,942,756 tons of ground munitions were expended, or a ratio of roughly 2 to 3 when compared to Indochina.<sup>28</sup> However, the Army did not break down the World War II figures in terms of theaters, and separate totals for expenditures against the Germans and the Japanese cannot be determined.

The total of sea munitions—naval gunfire—expended during the Indochina war amounts to 128,500 tons. Comparable statistics regarding sea munitions in previous wars are not available.

<sup>24</sup> Wesley Frank Craven and James L. Cate, eds. *The Army Air Forces in World War II*, v. 5—The Pacific. Matherborn to Nagasaki, June 1944 to August 1945. Chicago, University of Chicago Press, 1953, p. 751.

<sup>25</sup> The Air Force lists tonnage of munitions at 787,791, broken down as 386,037 tons of bombs, 313,600 tons of rockets, 55,797 tons of smoke rockets, and 32,357 tons of napalm. See Robert F. Futrell. *The United States Air Force in Korea; 1950-1953*. New York, Duell, Sloan, and Pearce, 1961, p. 645. Reported air munitions for the combined Navy and Marines included 178,369 tons of bombs. See Malcolm W. Cagle and Frank A. Manson. *The Sea War in Korea*. Annapolis, Md., U.S. Naval Institute, 1957, p. 532. Air Force and Navy aerial ammunition as well as Navy surface artillery were not considered in these totals because of the difficulty of converting rounds for various types of guns into tons.

<sup>26</sup> Again, tonnages for rockets and machine gun ammunition were excluded. Of the total, Air Force bombs expended amounted to 2,057,244 tons. See table 38 in the *Army Almanac, A Book of Facts Concerning the Army of the United States*. Washington, U.S. Government Printing Office, 1950, p. 243. Aerial bombing for the Navy and Marines totaled 102,866 tons. See OP-23-V letter to OP-519 of Feb. 7, 1946, Department of the Navy.

<sup>27</sup> Craven and Cate, op. cit., pp. 749-751.

<sup>28</sup> Ground munitions totals for the Korean conflict and World War II were relayed by phone from the Office of the Chief of Military History, Department of the Army.

## III. MILITARY USE OF HERBICIDES

## A. EXTENT OF USE

In the early 1960's U.S. Armed Forces began to use herbicides in South Vietnam. In 1962, the earliest year for which statistics are available, aerial spraying of herbicides covered about 5,681 acres or 23 square kilometers of land. As table 7 indicates, in successive years, the use of herbicides increased rapidly in rough proportion to the overall U.S. military buildup in Vietnam, reaching a peak in 1967, when approximately 7,000 square kilometers (1.7 million acres) of forest and cropland were treated.

Several governmental and nongovernmental studies of the ecological effects of the herbicide program were carried out in South Vietnam between 1967 and 1969. However, all were limited in scope. In order to obtain more detailed and accurate information on the short- and long-term effects of herbicides on the ecology and on human welfare in that country, the American Association for the Advancement of Science (AAAS) established a special Herbicide Assessment Commission in January 1970 to develop a detailed operational plan for such a study. The Commission's unpublished preliminary report, delivered at the annual AAAS convention in Chicago on December 29, 1970, was based on a review of pertinent literature, consultations with more than 200 American and foreign experts, and onsite inspections in South Vietnam in August and September 1970. In its report, the Commission made the following estimates with regard to the area treated each year from 1962 through 1969 (statistics for 1970 and 1971 were provided by the Defense Department):

TABLE 7.—ESTIMATED AREA TREATED WITH HERBICIDES IN SOUTH VIETNAM<sup>1</sup>

Year	Acres			Square kilometers (1 km <sup>2</sup> =247 acres)		
	Forest land	Crop land	Total	Forest land	Crop land	Total
1962	4,940	741	5,681	20	3	23
1963	24,700	247	24,947	100	1	101
1964	83,486	10,374	93,860	338	42	380
1965	155,610	65,949	221,559	630	267	897
1966	741,247	101,517	842,764	3,001	421	3,422
1967	1,486,446	221,312	1,707,758	6,018	896	6,914
1968	1,267,110	63,726	1,330,836	5,130	258	5,388
1969	1,221,415	65,700	1,287,115	4,945	266	5,211
1970	220,400	32,600	253,000	892	132	1,024
1971	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Total	5,205,354	562,166	5,767,410	21,074	2,286	* 23,360

<sup>1</sup> Herbicide Assessment Commission for the American Association for the Advancement of Science. Background Material Relevant to Presentations at the 1970 Annual Meeting of the AAAS, Chicago, Ill., Dec. 29, 1970, p. 14.

<sup>2</sup> By phone from Department of Defense, Directorate of Defense Information, Apr. 2, 1971.

<sup>3</sup> Unknown.

<sup>4</sup> Nil.

<sup>5</sup> By phone from Department of Defense, Directorate of Defense Information, Apr. 2, 1971.

<sup>6</sup> The total land area of South Vietnam is approximately 42,000,000 acres or 173,800 square kilometers.

The AAAS Herbicide Assessment Commission arrived at these estimates in the following manner:

The number of acres treated is calculated by multiplying the gallons of herbicides used by one-third. This procedure is based on the fact that the average spraying rate is taken to be approximately 3 gallons per acre of defoliated swath produced. The quantity of herbicides used is known rather accurately but the estimation of the average area of the spray swath could be somewhat in error.

For example, records of actual spray flights suggest that at least under some conditions approximately 1.4 acres of swath are produced for each 3 gallons of herbicide sprayed. The total area estimates given here are subject to at least two additional corrections. However, neither is very great. First, the calculated areas should be increased to take account of spraying by helicopters and by ground equipment. This is not included in the estimates given in the table, which refer only to spraying done by C-123 fixed-wing aircraft. Judging from the reported total amount of herbicide used by all types of equipment in 1968 and 1969, it appears that no more than 20 percent was applied by means other than C-123 aircraft. Second, the calculated areas should be reduced by a factor estimated as at least 16 percent, because of the fact that some areas have been treated more than once. As these two corrections tend to cancel each other, and as neither is very great, they are not taken into account in the table.<sup>29</sup>

Between 1962 and 1970, the most recent year for which full data are available, approximately 23,360 square kilometers (5,767,410 acres), or nearly one-seventh of the total land area of South Vietnam was treated with chemical herbicides in order to reduce vegetation and to destroy crops.<sup>30</sup> To accomplish this task, it is estimated that more than 100-million pounds of herbicide, or about 6 pounds for every inhabitant, were sprayed on Vietnam.<sup>31</sup>

1. Defoliation of forests<sup>32</sup>

The greatest use of herbicides in South Vietnam has been on fairly mature tropical hardwood forests, which comprise about nine-tenths of the forested land in the country. Of these forests, covering about 100,000 square kilometers, some 20,000 square kilometers are estimated to have been sprayed, including many of the most valuable forests. One-quarter to one-third of these have been sprayed more than once. Some estimates indicate that one out of every eight or 10 trees is killed by a single spraying and that 50 to 80 percent are killed in areas where more than one spraying has occurred.<sup>33</sup> Arthur H. Westing, forestry specialist and Director of the AAAS Commission, believes that about 35 percent of South Vietnam's 14 million acres of dense forest have been sprayed one or more times, resulting in the destruction of 6.2 billion board feet of merchantable timber. He contends that this figure represents the country's entire domestic timber needs, based on current demand, for the next 31 years. Moreover, the lost timber represents about \$500 million in taxes that would otherwise have accrued to the South Vietnamese Government.<sup>34</sup>

To the southwest of Saigon and along much of the coast of the Delta are dense mangrove forests covering about 3,000 square kilometers. About half of this type of forest has been sprayed, resulting in the total destruction of approximately 1,400 square kilometers of forest. In sum, about 20 percent of South Vietnam's forested area has been sprayed with herbicides and a substantial portion of this was destroyed.

## 2. Crop destruction

While the bulk of the spraying has been directed against the forests and brush, a significant proportion has been used on croplands,

<sup>29</sup> Herbicide Assessment Commission, op. cit., pp. 14-15.

<sup>30</sup> This is an area about the size of Massachusetts.

<sup>31</sup> Testimony by Senator Gaylord Nelson on March 18, 1971, before the Senate Foreign Relations Committee. In Congressional Record, March 24, 1971: S3797.

<sup>32</sup> Unless otherwise noted, the discussion in the following paragraphs was digested from the Herbicide Assessment Commission's unpublished preliminary report cited above.

<sup>33</sup> Herbicide Commission Reports Extensive Damage. Nature, January 22, 1971: 224.

<sup>34</sup> Philip M. Boffey, Herbicides in Vietnam: AAAS Study Finds Widespread Devastation. Science, January 8, 1971: 46.



especially in the food-scarce mountainous Central Highlands, an area populated by about 1 million Montagnards and other tribal peoples. About 2,200 square kilometers of cropland have been sprayed since the program began in 1962, representing about 6 percent of the country's 37,000 square kilometers of cropland. The AAAS estimated that the spraying caused the destruction of enough food to feed approximately 600,000 persons for a year.

### B. PHASEOUT OF PROGRAM

One of the principal chemical compounds used in the herbicide program is known as agent Orange, which contains a substantial proportion of a chemical substance known as 2, 4, 5-T. However, certain discoveries regarding the effects of this element of agent Orange led to a reassessment in 1970 of the U.S. herbicide program.

A study conducted for the National Cancer Institute by the Biogenetics Research Laboratories during the period 1965-66 on the teratogenic (fetus-damaging) effects of selected pesticides and industrial chemicals showed that a large dose of 2, 4, 5-T administered orally to specific strains of mice during the central portion of the gestation period produced abnormal fetuses.

These findings led the U.S. Office of Science and Technology to impose, late in 1969, a series of restrictions on the use of 2, 4, 5-T within the United States. At the same time, it was announced that the Defense Department would restrict the use of agent Orange, which contains 2, 4, 5-T, to remote areas in Vietnam. In April 1970, when further laboratory evidence indicated that 2, 4, 5-T caused birth defects in mice, the domestic use of this herbicide was severely restricted. Shortly thereafter, the Defense Department ordered a halt to the use of compound Orange. This agent had been used mainly for forest clearing and to a lesser extent in anticrop operations. Although other herbicides were used by the military in Vietnam, the halt to the employment of compound Orange caused a sharp cutback in the herbicide program. By August 1970, the program had been reduced to a quarter of its peak size. The Defense Department recently announced that "estimated herbicide coverage for 1970 through September is 75 percent less than that for the same period in 1969."<sup>35</sup>

At present, the program is in the process of being ended as a result of a December 1970 decision by the President, who ordered the Defense Department to implement "an orderly, yet rapid phaseout of the herbicide operations" in Vietnam.<sup>36</sup> During the phaseout period, according to a White House spokesman, the use of herbicides would be restricted to the perimeter of U.S. bases and to "remote, unpopulated areas."<sup>37</sup> On February 20, 1971, General Abrams and Ambassador Bunker announced that while spraying by fixed-wing aircraft had ceased altogether, limited herbicide operations would continue on the ground and from light helicopters around U.S. and allied bases and in remote, unpopulated areas. According to the Defense Department, the use of herbicides for crop destruction had been terminated

<sup>35</sup> DOD Lags in Vietnam Herbicide Phaseout, *Biomedical News*, March 1971:6.

<sup>36</sup> Boffey, op. cit., p. 44.

<sup>37</sup> *Ibid.*

by January 1971.<sup>38</sup> Although the Defense Department has not projected a specific timetable for ending the remaining defoliation program, Defense Secretary Melvin Laird said in December 1970 that "an orderly phaseout of the herbicide operations will be completed by spring."<sup>39</sup>

### C. FINDINGS OF THE HERBICIDE ASSESSMENT COMMISSION

The principal findings of the Herbicide Assessment Commission were as follows:

1. "Our observations in Vietnam lead us to believe that precautions to avoid destroying the crops of indigenous civilian populations have been a failure and that nearly all of the food destroyed would actually have been consumed by such populations."<sup>39a</sup> Although the food destroyed amounted to less than 2 percent of the national crop in any one year, anticrop spraying was largely confined to the food-scarce Central Highlands where a significant fraction of farmland appears to have been sprayed, having a "profound impact" on the Montagnards.

2. Mangrove species have proved to be particularly sensitive to herbicides. Essentially all vegetation in the treated forests was killed by a single spraying, and little or no recolonization by these species has occurred after 3 or more years. Although the ecological impact of the permanent loss of the mangrove forests has not yet been determined, they once provided cover and food for various forms of wildlife. In addition, they were formerly a major source of fuel wood and charcoal and may well have acted to stabilize the shoreline.

3. It may take many decades for most of the damaged hardwood forests to recover due to the growth of bamboo and to the leaching by heavy tropical rains of large amounts of nutrient minerals previously tied up in forest vegetation.

4. According to preliminary calculations, it is not impossible that significant amounts of dioxin, an exceedingly toxic impurity in herbicide Orange, may remain quite stable in the environment, and thus could be entering the Vietnamese diet. However, the results of other independent experiments show that dioxin does not accumulate in the soil and is picked up only in small amounts by plants. Although there is no definite link between the use of herbicides and any adverse health effects, further study is required to assess more precisely the extent of food chain contamination attributable to the use of chemicals. More extensive investigation may reveal some connection between the spraying and incidents such as a high rate of stillbirths in one heavily sprayed province (Tay Ninh) during the period 1968-69 and for the disproportionate rise in two types of birth defects at the Saigon Children's Hospital in 1967 and 1968.

In sum, the military use of herbicides in South Vietnam has caused extensive and perhaps lasting damage to vegetation, but its effects, if any, on human health are not yet known.

<sup>38</sup> Orville Schell, Jr. *Silent Vietnam: How We Invented Eocide and Killed a Country*. Look, April 6, 1971:57. By phone from Department of Defense, Directorate of Defense Information, April 2, 1971, and May 6, 1971.

<sup>39</sup> *Biomedical News*, op. cit., p. 1.

<sup>39a</sup> Summary of Presentations by the Herbicide Assessment Commission of the AAAS, Chicago, Ill. Dec. 29, 1970. p. 8.



## IV. EFFECTS OF THE VIETNAM WAR ON CIVILIANS

## A. CASUALTIES

Data on the number of civilian casualties in Indochina is generally based on rough estimates or incomplete information. As with figures relating to refugees, there are two general sources of such data: Government sources and independent estimates. Among the most notable of the latter are those of the Subcommittee to Investigate Problems Connected with Refugees and Escapees of the Senate Committee on the Judiciary (hereafter referred to as the Refugee Subcommittee).

In Vietnam, official government estimates of civilian casualties are compiled by both the South Vietnamese and American Governments, on the basis of civilian war casualties admitted to Vietnamese Ministry of Health hospitals and U.S. military hospitals respectively. The latter are tabulated by the Agency for International Development (AID). However, AID has never maintained statistics on the number of war deaths.<sup>40</sup> Figures for those killed as a result of Vietcong terrorism and assassination are maintained by the Military Assistance Command—Vietnam (MACV) on a monthly basis and released by the Department of Defense Public Affairs Office. The Department of Defense said in April that it had never attempted to study the number of civilians wounded or killed by American bombing.<sup>41</sup>

Figures for civilian casualties in Laos and Cambodia are far more sparse and less reliable. The Agency for International Development maintained statistics on Laotian civilian war casualties admitted for treatment to AID-supported hospitals and dispensaries. The Department of State said that the Laotian Government, "has never been able to develop an operating reporting system."<sup>42</sup> The Department of Defense has released figures on bombing accidents in Laos between January 1, 1967, and May 1970 (see below). There are no official figures for civilian casualties in Cambodia, as the Cambodian Government has released no comprehensive figures on civilian casualties during the war, nor has the American Government been able to compile such statistics for that country.

Independent sources, including journalists, employees of voluntary agencies, and Members of Congress or their staffs have made estimates on the basis of field studies, spot checks, hearings and conversations with concerned individuals. Some independent observers have contended that official figures are too low and that they ignore those casualties not treated as inpatients, not treated in government facilities and not treated at all. Comprehensive figures for civilian injuries and war deaths in Indochina were published in the staff report of the Refugee Subcommittee<sup>43</sup> in September 1970, and supplemented by a report

<sup>40</sup> Correspondence from Agency for International Development, Vietnam Bureau to Foreign Affairs Division, Congressional Research Service, Library of Congress, Mar. 31, 1971.

<sup>41</sup> Washington Post, Apr. 6, 1971. However, at the request of the Refugee Subcommittee, the Department of Defense made a study of the danger to civilians of American bombings. Its report was published in late April. See below.

<sup>42</sup> Response by the Department of State to questions of the Refugee Subcommittee, April 14, 1970. Published in U.S. Congress, Senate Committee on the Judiciary, Subcommittee to Investigate Problems Connected with Refugees and Escapees, Refugee and Civilian War Casualty Problems in Indochina: A Staff Report, Sept. 28, 1970, Washington, U.S. Government Printing Office, 1970, p. 75. Hereafter cited as Refugee Subcommittee staff report.

<sup>43</sup> Ibid.

done for the subcommittee by the General Accounting Office in December. The staff report's estimates, which are over four times as large as official estimates, are very approximate; the method used to determine the totals is explained in table 8.

TABLE 8.1—STAFF MEMORANDUM ON VIETNAMESE CIVILIAN WAR-RELATED CASUALTIES, DECEMBER 1969

Year	Official U.S. Government estimates	Subcommittee estimates
1965		100,000
1966		150,000
1967	48,734	175,000
1968 (Tet)	88,116	300,000
1969 (10 months)	58,698	200,000

<sup>1</sup> Ibid., p. 69.

1. Official estimates are based exclusively on inpatient admissions to GVN and U.S. military hospitals.

2. Subcommittee estimates are based on the following:

- (a) Official estimates of inpatients.
- (b) Understated reports by GVN provincial hospitals—in 1967, for example, an average of some 10 percent of the hospitals were not making regular monthly reports—those that were reporting were often understating the number of civilian war casualty admissions by some 10 percent to 50 percent—in 1967, this factor added nearly 20,000 civilian war casualties to official estimates, increasing the actual number of civilian war casualty inpatients by nearly 40 percent.
- (c) Civilian war casualty inpatients at private hospitals and others not on the GVN reporting list—in 1967, this accounted for at least 3,000 civilian war casualties per year.
- (d) Civilian war casualty outpatients at GVN provincial hospitals, which in 1967 was close to 50,000.
- (e) Civilian war casualties treated at village and hamlet dispensaries, which in 1967 was at least 50,000.
- (f) Civilian war casualties treated at special forces hospitals, which in 1967 were running at some 100 per month.
- (g) Civilian war casualties treated in Vietcong hospitals and dispensaries.
- (h) Civilian war casualties who may survive, but are never treated.
- (i) Civilian war casualties who are killed outright or die before reaching treatment facilities—the figure here probably accounts for at least 25 percent of the cumulative estimated total of civilian war casualties.

## 1. South Vietnam

## (a) Casualties due to war operations

Vietnam has borne the greatest burden of civilian casualties, both from military action and from terrorism, although the annual totals had begun to decline by the end of 1970. The Senate Refugee Subcommittee estimated that there has been 1,050,000 civilian casualties in Vietnam between early 1965 and early 1971, including about 325,000 killed.<sup>44</sup> In 1970 alone, the subcommittee estimated that there had been 125,000–150,000 civilian casualties from military action by both sides in South Vietnam; 25,000–35,000 of these were deaths.<sup>45</sup> The South Vietnamese Embassy accepted the figure of 325,000 civilian deaths since the beginning of the war, and estimated that 30 percent of them were children under 13 years old.<sup>46</sup>

<sup>44</sup> Washington Post, Apr. 6, 1971.

<sup>45</sup> New York Times, Mar. 15, 1971.

<sup>46</sup> Boston Sunday Globe, Mar. 28, 1971.

TABLE 9.—VIETNAMESE CIVILIAN WAR-RELATED CASUALTIES<sup>1</sup>

Month	All causes <sup>2</sup>					War casualties					U.S. military hospitals					Beds occupied by VN civilians—monthly average	
	GVN hospital admissions <sup>2</sup>					War casualties					War casualties admissions						
	1967	1968	1969	1970	1971	1967	1968	1969	1970	1971	1967	1968	1969	1970	1971		1968
January	37,814	34,523	40,550	44,008	44,713	4,154	5,609	4,338	3,923	2,777	642	749	487	487	162	287	847
February	34,053	34,767	36,757	39,910	46,515	3,920	12,139	5,450	3,631	3,631	694	899	482	482	524	524	966
March	41,142	35,870	36,771	46,515	4,468	8,645	5,932	4,132	5,447	5,312	764	1,141	431	431	389	389	1,062
April	36,366	35,971	43,768	46,534	3,836	5,867	5,447	5,312	5,094	131	616	795	423	423	421	421	1,078
May	40,117	39,826	45,104	46,865	3,811	8,256	5,678	5,094	5,094	93	688	878	552	552	400	400	583
June	41,827	37,886	45,750	48,723	3,238	6,647	5,682	4,545	4,545	136	553	735	459	459	461	461	583
July	40,101	39,539	49,050	50,853	2,900	5,071	4,742	3,768	3,768	158	559	481	279	279	503	503	274
August	43,962	39,465	47,626	51,036	3,696	5,589	5,009	3,652	3,652	258	830	850	371	371	575	575	590
September	42,250	42,130	45,682	51,645	4,262	5,695	4,949	3,676	3,676	263	640	518	483	483	675	675	480
October	39,765	38,739	44,560	48,427	3,690	4,294	3,982	2,974	2,974	317	588	481	289	289	571	571	480
November	38,204	37,456	45,765	48,897	4,332	4,333	3,892	2,511	2,511	281	537	547	211	211	571	571	480
December	37,539	40,800	44,379	51,401	4,476	4,557	4,122	3,029	3,029	314	679	470	168	168	571	571	480
Total	473,140	456,972	525,772	574,814	44,713	46,783	76,702	59,223	46,247	2,777	1,951	7,790	8,544	4,635	162	287	847

<sup>1</sup> Agency for International Development, Vietnam Bureau.<sup>2</sup> Compiled by U.S.A. AID from medical assistance team reports and records, and records of Vietnamese Ministry of Health.<sup>3</sup> Includes only MOH hospitals with war casualty admissions. Does not reflect total MOH hospitals admissions.

Official figures compiled by the Agency for International Development showed a total of 50,882 civilian war casualties admitted to Ministry of Health and U.S. military hospitals in 1970, a drop of 25 percent from the 67,767 total in 1969, although a slight increase over the 1967 figure (see tables 8 and 9). According to its figures an average of 5,000 civilians was admitted to hospitals each month of 1970 in Vietnam for treatment of war wounds. AID figures showed a cumulative total through December 1970, of 251,875 civilian casualties admitted to hospitals in South Vietnam since 1967, when record-keeping began.

The Senate Refugee Subcommittee staff report agreed with AID reports that the total civilian casualties in Vietnam in 1970 showed a sharp decline from the 1969 totals. The report estimated that the total killed in 1970 was probably half that of 1969 because of the shift of American bombing to Cambodia and Laos from Vietnam.

The Refugee Subcommittee staff report estimated that a substantial proportion of the total civilian casualties were caused by American bombing and shelling. However, in testimony before the Senate Foreign Relations Committee in 1970, Ambassador William Colby, head of the Civil Operations and Rural Development Support (CORDS) program in Vietnam, said that "statistics are not available which would permit an estimate to be made of civilian casualties" due to American action.<sup>47</sup> Ambassador Colby submitted a table showing the causes of civilian casualties in Vietnam to the Refugee Subcommittee on April 21, 1971, however, which indicated that in 1970, 8,607 casualties were "friendly inflicted" (shelling and bombing), 22,049 were "enemy inflicted" (mines and mortars), and 7,650 inflicted by "either side" (grenades and gunfire). (See table 10).<sup>48</sup> In response to a request by the Refugee Subcommittee, the Defense Department studied the danger to the civilian population in Vietnam and concluded that in January 1971, 0.9 percent of the population had lived within 1 kilometer of an air strike, and 5.6 percent had lived within three.<sup>49</sup> Ambassador Colby told the Refugee Subcommittee that military directives had restricted "the use of firepower to protect the population."<sup>50</sup>

The U.S. Government customarily has made solatium payments to the families or victims of bombing or artillery accidents. The amounts paid in each case were determined in consultation with village officials and were presented directly to the injured party by local American commanders. The solatium payments were made as a gesture of solace and were not intended to put a monetary value on the injury involved. By accepting solatium payments, injured individuals or families did not relinquish their rights to file damage claims with their government. The Department of Defense reported that individual solatium payments generally amounted to 3,000 to 4,000 piasters (U.S. \$25.42 to \$33.90). In fiscal year 1970, the United States

<sup>47</sup> U.S. Congress, Senate, Committee on Foreign Relations, Vietnam: Policy and Prospects, 1970. Hearings on Civil Operations and Rural Development Support Program, February and March 1970. Washington, U.S. Government Printing Office, 1970.

<sup>48</sup> Testimony by Ambassador William E. Colby, Deputy to COMUSMACV for Civil Operations and Rural Development Support before the Subcommittee to Investigate Problems Connected with Refugees and Escapees of the Committee on the Judiciary, U.S. Senate, Apr. 21, 1971. Published record of hearings not yet printed. (Hereafter cited as 1971 Refugee Subcommittee hearings.)

<sup>49</sup> Washington Star, Apr. 25, 1971. The study compared the 1971 figures against those for January 1969, when five percent of the population were found to have lived within 1 kilometer of the bombing and 23.1 percent within 3, concluding that there was substantially less danger to civilians from air strikes in 1971 than in 1969.

<sup>50</sup> Ambassador William E. Colby, 1971 Refugee Subcommittee hearings, op. cit.



paid a total of \$112,000 in solatium payments.<sup>51</sup> In 1969, the total payments made amounted to 114,713,440 piasters or \$972,000. There was no record kept of the individual number of payments that had been made.<sup>52</sup>

TABLE 10.—CIVILIAN CASUALTIES, BY METHOD<sup>1</sup>

Year	Mine and mortar	Gun/grenade	Shelling and bombing	Total
1967	15,253	9,785	18,811	43,843
1968	31,244	15,107	28,052	74,409
1969	24,648	11,814	16,183	52,645
1970	22,049	7,650	8,607	38,306

<sup>1</sup> Ambassador William E. Colby, 1971 Refugee Subcommittee hearings, op.cit. Figures are taken from Vietnamese Ministry of Health statistics on the origin of wounds.

### (b) Casualties due to Vietcong terrorism

A total of 25,098 civilians were killed from 1965 through 1970 by Vietcong terrorism, and 39,105 were kidnaped. The 6-year figure does not include those killed in the 1968 Tet offensive; the Government of Vietnam claims that 7,400 civilians were killed by the Communists during Tet in 1968. In 1970, 5,947 South Vietnamese civilians were assassinated by Communist forces, and 6,931 were kidnaped, and it is assumed that many of these were killed at a later time. Of those killed in 1970, a total of 1,376 were government officials (village or hamlet chiefs, national policemen, revolutionary development cadre, or members of the Popular Self-Defense Forces). Since the beginning of 1968, over 3,300 government officials have been assassinated by Communist terrorists.<sup>53</sup>

## 2. Laos and Cambodia

In April 1970, the Department of State described the situation in Laos with regard to civilian casualties as "serious and getting worse."<sup>54</sup> Although the number of civilian casualties was unknown, the Department said that the total number of cases given hospital and dispensary treatment "would amount to many more thousands of treatment and admissions" than those treated in AID-supported facilities.<sup>55</sup>

The AID mission to Laos has compiled figures of civilian casualties treated in the dispensaries and hospitals assisted by AID. These figures are considered low, since they do not include patients treated in hospitals not receiving American aid, untreated casualties, and those injured in enemy-controlled areas. Furthermore, the totals do not reflect the widespread illness and mortality in the civilian population "resulting from displacement and compaction of people fleeing the contested areas."<sup>56</sup> The totals provided by AID are: 1967, 5,500;

<sup>51</sup> By phone from the Department of Defense, Office of Public Affairs.

<sup>52</sup> Ambassador William E. Colby in testimony before the Senate Foreign Relations Committee, Feb. 18, 1970. Vietnam: Policy and Prospects, 1970, op. cit., p. 126. See also section on "War Victims," and table 19, below. As noted, there is no precise information available on the number of payments made. However, if the average payment in 1969 was approximately 3,000 piasters, using a total of 114,713,440 piasters, then the number of payments in 1969 could be about 38,000.

<sup>53</sup> Tables supplied by Department of Defense, Directorate of Information Operations. Some 1970 figures were obtained by phone from the Department of Defense, Office of Public Affairs.

<sup>54</sup> Response submitted by the Department of State to questions from the Refugee Subcommittee, Apr. 14, 1970. In Refugee Subcommittee Staff Report, op. cit., p. 75.

<sup>55</sup> Ibid.

<sup>56</sup> Ibid.

1968, 2,658; 1969, 3,764.<sup>57</sup> The total population of Laos is generally estimated at 2 to 3 million.

The Senate Refugee Subcommittee, which attempted to place a total figure on the number of civilians injured in Laos, believed that the total was much higher. The staff report concluded that the increase in military activity after 1968 had produced a sharp increase in civilian injuries. The report said that it was "conceivable" that 30,000 civilians had been injured from early 1969 to mid-1970, including perhaps 10,000 killed. Some estimates are higher. For example, a Boston Sunday Globe article of March 28, 1971, used a figure of 50,000 to 100,000 wounded, with 25,000 to 50,000 dead. The United States reported only 97 known cases of civilians killed and 54 wounded, as a result of accidental bombings in Laos between January 1967 and May 1970.<sup>58</sup> Despite charges that American bombing had produced a "bloodbath" in Laos, Defense Department officials said that the rules of engagement were designed to prevent pilots from causing death or injury to villagers in Laos. Targets were said to be carefully regulated to prevent firing against an "active village," and that in the past 2 years there had been only four reported instances of violations by pilots involving civilian targets.<sup>59</sup> There were no figures for those civilians injured in the Laotian incursions early in 1971, but some anticipated that another increase in the number of civilian casualties could be expected.

The war in Laos has resulted in heavy casualties to the Meo people, whose traditional geographical home was caught in the crossfire of the war. The 1971 Refugee Subcommittee hearings produced the estimate that by mid-1970, out of a population of about 400,000 (1960 figure), roughly 40 to 50 percent of the men of the tribe and 25 percent of the women and children had been killed due to the war. About 95,000 of the remainder were refugees.

There is virtually no information about civilian casualties in Cambodia available from U.S. sources. The Refugee Subcommittee staff report estimated that there had been "thousands" of civilian casualties in Cambodia since the spread of the war to that country in mid-1970, but said it had no unclassified data on the subject. The Cambodian Government does not keep statistics on civilian casualties separate from figures on military casualties, and available figures are considered incomplete.

## B. SOCIAL IMPACT OF THE WAR

### 1. Refugees

All accounts agree that the impact of the Vietnam war on civilians has been enormous. Although the majority of the war's refugees have been South Vietnamese, a sizable proportion of the populations of Cambodia and Laos can be counted as refugees. The term "refugee" may be said to include any person who has left his home to escape from military action, terrorism, or bombing, or who is evacuated from

<sup>57</sup> By phone from Agency for International Development, Laos Desk. See also: Testimony of Hon. Roderic L. O'Connor, Assistant Administrator for East Asia, Agency for International Development. In U.S. Congress, Senate, Committee on the Judiciary, Subcommittee To Investigate Problems Connected With Refugees and Escapees, Hearings, May 7, 1970. Washington, U.S. Government Printing Office, 1970. Hereafter cited as 1970 Refugee Subcommittee hearings.

<sup>58</sup> Refugee Subcommittee staff report, op. cit., p. 77.

<sup>59</sup> Washington Star, Apr. 25, 1971. See also, testimony of Hon. William H. Sullivan, Deputy Assistant Secretary of State for East Asian and Pacific Affairs, Department of State, 1970 Refugee Subcommittee hearings, op. cit.



combat areas—in contrast to persons who leave home for a very brief period of time and are soon able to return, or those “war victims” who suffer damages to their property or personal injury. The major reason for refugees in the past, according to officials of the Agency for International Development, has been the entry of enemy forces into an area, “or the reaction of Vietnamese or allied forces against the presence of enemy units with the concomitant movement of the local population away from the scene of the conflict.”<sup>60</sup> Congressional critics, on the other hand, including Senator Edward Kennedy and Representative Paul McCloskey, have charged on several occasions that there is a direct relationship between the growth of the numbers of refugees and the increasing intensity of American bombing.

Statistics on the number of refugees in Indochina are rough at best. Prior to the mid-1960's, no comprehensive records were kept, although there are earlier estimates for Laos. The Government of Vietnam began its refugee program in 1967 with the assistance of AID.<sup>61</sup> Subsequent to 1967, AID has compiled statistics on those aided under refugee assistance programs in Vietnam. In 1966, AID also began keeping detailed records for the number of refugees in Laos. There are virtually no figures available for the number of refugees in Cambodia. Ambassador Colby has pointed out the limitations in the statistics:

It is important to recognize the function and frailty of the statistics used in this program. The statistics were designed as management tools, identifying numbers of individuals to whom payments were due \* \* \*. These statistics have been a source of considerable misunderstanding on the whole refugee problem over the years.<sup>62</sup>

Official AID figures do not include those refugees who are sheltered by relatives or friends in the traditional way, who move to the cities or sparsely populated rural areas, or who otherwise become resettled without obtaining Government assistance.

Since 1965, the Senate Refugee Subcommittee has attempted to compile independent statistics on the numbers of refugees in Indochina and has tabulated estimates based on field studies, hearings, and consultations with those knowledgeable about civilian programs. A recent report done by the General Accounting Office at the subcommittee's request charged that official statistics on refugees have been misleading and significantly understated as to the true number of people in need of assistance. The report further charged that the refugee rolls in Vietnam have been improperly reduced by the removal of those who have received government allowances regardless of the condition or living arrangements.<sup>63</sup>

<sup>60</sup> Ambassador William E. Colby. 1971 Refugee Subcommittee hearings, op. cit.

<sup>61</sup> Refugee programs in Vietnam were part of the “pacification and development program,” which was called the “community defense and local development program” beginning in 1971.

<sup>62</sup> Ambassador William E. Colby. 1971 Refugee Subcommittee hearings, op. cit.

<sup>63</sup> U.S. General Accounting Office. *Refugee and Civilian War Casualty Problems in Vietnam*. A report prepared for the Subcommittee to Investigate Problems Connected With Refugees and Escapees of the Committee on the Judiciary, U.S. Senate, Dec. 14, 1970. Washington, U.S. Government Printing Office, 1971.

#### (a) South Vietnam

(1) *Number of refugees.*— The nature of the war in Vietnam has created a very large number of refugees. Ambassador Colby said:

A variety of statistical evidence has been offered, none sufficiently precise or reliable, but all of which indicate that something on the order of 25–30 percent of the 17,500,000 population of South Vietnam have at one time or another been in refugee status or directly hurt by the war during the past 7 years.<sup>64</sup>

In early 1971, AID estimated that approximately 4 million persons have been registered as refugees since late 1966.<sup>65</sup> Some sources have used considerably higher estimates, depending on the categories included.<sup>66</sup> The Refugee Subcommittee estimated that “Over a third of South Vietnam's estimated population of 18 million have become refugees since 1964, with the vast majority still crowded into urban areas or into refugee centers near provincial and district towns.”<sup>67</sup>

Henry Kamm in the *New York Times* of April 21, 1971, estimated that: “\* \* \* in South Vietnam \* \* \* a conservative estimate is 5 million displaced persons in a population of 17 million.”

Nevertheless, as a result of the increased security of the countryside after 1968, the number of refugees appears to have declined. Ambassador Colby told the Refugee Subcommittee that the overall reduction in new refugees generated was a real fact.<sup>68</sup> AID figures showed 135,000 new refugees during 1970—excluding Cambodian repatriates—see below—and 70,400 new refugees for the first quarter of 1971. Ambassador Colby noted however, that the AID figures (table 11) for 1970 may be lower than the actual numbers of refugees, due to problems of local registration.<sup>69</sup> Moreover, Senator Edward Kennedy said that: “The problems of the Vietnamese people remain as overwhelming today as they have in the past.”<sup>70</sup>

The Refugee Subcommittee staff report estimated that 50,000 new refugees had been created in South Vietnam during the first half of 1970, far exceeding the AID totals. Also critical of the AID figures, the General Accounting Office report for the Refugee Subcommittee said that many thousands of people who had been relocated had been crossed off the refugee rolls. It was also reported that the number of refugees had risen from a monthly average of about 4,500 new refugees in October 1970 to 27,000 monthly between November 1970 and the end of February 1971.<sup>71</sup> According to this report, the number of refugees in South Vietnam rose by 150,000 after the beginning of new American and South Vietnamese offensives in late 1970.<sup>72</sup>

<sup>64</sup> Ambassador William E. Colby. 1971 Refugee Subcommittee hearings, op. cit.

<sup>65</sup> Correspondence from the Agency for International Development, Vietnam Bureau to Foreign Affairs Division, Congressional Research Service, Library of Congress, Mar. 31, 1971.

<sup>66</sup> In addition to the officially registered refugees, for instance, some sources have included the over 1 million persons who were temporarily displaced by the 1968 Tet and May offensives, but not registered as refugees. Others include the estimated 1 million persons who in recent years migrated from the rural areas into urban centers and who were also not registered as refugees. In addition, it is estimated that 1 million persons fled to the South when Vietnam was partitioned in 1954. *New York Times*, Apr. 21, 1971.

<sup>67</sup> Refugee Subcommittee staff report, op. cit.

<sup>68</sup> 1971 Refugee Subcommittee hearings, op. cit.

<sup>69</sup> *Ibid.* Ambassador Colby said that the problem, which had arisen due to the misinterpretation by local officials of a statement by President Thieu to the effect that he did not want to see any more refugees in South Vietnam, had been corrected by means of special registration procedures.

<sup>70</sup> *Refugee and Civilian War Casualty Problems in Vietnam*, op. cit.

<sup>71</sup> *New York Times*, Mar. 13, 1971.

<sup>72</sup> *Ibid.*

TABLE 11.—REFUGEE/REPATRIATES<sup>1</sup>

	Refugees generated	Cambodian repatriates	Casualty and damage claimants	Total
1964-66.....	2,400,000			2,400,000
During 1967.....	435,000			435,000
During 1968.....	340,000		1,070,300	1,410,300
1969.....	115,000		290,000	405,000
1970.....	135,000	210,000	200,000	545,000
1st quarter 1971.....	70,400		45,000	115,000
<b>Total.....</b>	<b>3,495,400</b>	<b>210,000</b>	<b>1,605,300</b>	<b>5,310,300</b>

<sup>1</sup> Ambassador William E. Colby, 1971 Refugee Subcommittee hearings, op. cit. Some figures in table 11 are different from those in table 12 because of more recent revisions by AID.

<sup>2</sup> Estimated.

<sup>3</sup> Revised.

<sup>4</sup> Includes approximately 1,000,000 temporarily displaced during Tet and May 1968 offensives.

TABLE 12<sup>1</sup>

## VIETNAM-REFUGEE STATISTICS 1968

Month	Current temporary refugees (active caseload)			Refugees paid all benefits		
	In camp (1)	Outside camp (2)	Total (3)	For resettlement (4)	Return to village (5)	New refugees (6)
January <sup>2</sup> .....	(3)	(3)	(3)			14,137
February.....	(3)	(3)	(3)			9,249
March.....	(3)	(3)	914,542	42,690	26,189	2,258
April.....	500,610	518,038	1,018,648			50,120
May.....	531,549	523,191	1,054,740			37,685
June.....	566,440	526,653	1,092,493	8,057	241	43,888
July.....	608,411	514,547	1,122,958	50,925	23,900	31,183
August.....	650,788	530,113	1,180,491	6,725	5,142	32,480
September.....	594,700	581,333	1,176,033	5,670	6,922	6,181
October.....	670,521	507,277	1,177,798	53,891	4,674	18,499
November.....	762,281	526,942	1,229,233	54,598	21,167	50,027
December.....	735,014	593,503	1,328,517	12,487	3,084	14,750
<b>Total.....</b>				<b>235,043</b>	<b>90,719</b>	<b>311,057</b>

## VIETNAM-REFUGEE STATISTICS 1969

January.....	699,645	618,651	1,318,296	9,343	9,319	21,131
February.....	719,447	730,189	1,449,636	22,290	2,920	2,513
March.....	711,691	734,939	1,446,630	7,932	15,770	8,076
April.....	694,872	630,440	1,325,312	22,162	18,765	11,256
May.....	612,101	600,105	1,212,206	21,922	47,683	10,307
June.....	607,069	590,074	1,197,143	48,241	28,836	6,927
July.....	598,629	494,450	1,093,079	32,126	36,751	8,955
August.....	483,973	477,644	961,617	34,188	34,006	1,687
September.....	416,174	373,952	790,126	81,649	78,678	1,953
October.....	364,233	172,594	536,827	67,178	123,353	13,786
November.....	319,174	97,340	416,514	112,465	73,255	11,181
December.....	216,534	51,718	268,252	126,892	18,884	16,272
<b>Total.....</b>				<b>586,388</b>	<b>488,220</b>	<b>114,044</b>

See footnotes at end of table.

TABLE 12—Continued  
VIETNAM-REFUGEE STATISTICS 1970

Month	Refugees receiving benefits (active caseload)				Refugees paid all benefits			
	In temporary status (1)	In resettlement process (2)	In return to village process (3)	Total (4)	For resettlement (5)	For return to village (6)	New refugees (7)	New war victims (8)
January.....	201,740	47,568	(3)	249,398	9,423	19,578	7,370	
February.....	229,262	29,306	(3)	258,568	3,142	9,717	22,029	
March.....	271,942	42,418	(3)	314,361	7,737	17,509	13,655	
April.....	282,235	62,989	239,570	584,794	24,121	16,075		100,195
May.....	274,217	57,799	270,008	602,024	14,494	22,672		
June.....	228,185	59,568	282,672	570,425	24,120	16,076	31,300	
July.....	209,991	91,749	262,087	563,827	17,163	65,446		39,090
August.....	212,838	86,046	249,521	548,805	4,944	27,653		11,362
September.....	184,861	104,533	203,000	492,394	30,751	52,660		9,602
October.....	182,110	96,832	194,091	473,033	20,604	32,925	4,564	5,757
November.....	125,252	100,762	236,607	462,621	50,869	33,693	26,223	17,846
December.....	136,955	76,724	214,770	428,449	20,382	73,999	24,097	14,429
<b>Total.....</b>					<b>227,750</b>	<b>388,003</b>	<b>129,238</b>	<b>198,281</b>

<sup>1</sup> Agency for International Development, Vietnam Bureau.

<sup>2</sup> Monthly reporting was interrupted by the Tet offensive and its aftermath. It was resumed partially in March and fully in June.

<sup>3</sup> Not available.

<sup>4</sup> Estimated.

## NOTES

(1) Early in 1970 the CORDS Reporting System (ADP) was replaced by a joint CORDS-Ministry of Social Welfare Reporting System (ARS). Refugees who had received all benefits to which they are entitled were gradually eliminated from the "Active caseload." This accounts for the sharp drop in the numbers of "Current temporary refugees."

(2) "Current temporary refugees" includes those registered refugees who are receiving temporary benefits and those who are entitled to or in the process of receiving resettlement or return to village benefits.

(3) Refugees who cannot return to their own villages receive resettlement benefits. Most of them remain in former refugee sites which have been converted into regular hamlets (resettled in place); others are resettled on Government-owned land.

(4) War victims are persons who have not been displaced from their hamlets (become refugees), but are entitled to certain Government benefits for having suffered war-related personal injuries or property damage.

(5) Figures on this table do not include the approximately 200,000 ethnic Vietnamese who fled from Cambodia to South Vietnam in the summer of 1970 and received extensive assistance from the GVN.

(2) *Benefits and caseloads.*—The refugee program in Vietnam is administered by the Ministry of Social Welfare of the Government of Vietnam with the assistance of the Agency for International Development. Refugees are entered onto the refugee rolls when they apply for benefits. All refugees are entitled to three types of assistance (see table 13), according to the immediacy of their need. Once the final resettlement benefit, which consists of cash and commodities totaling about \$180 per family, has been paid the refugees are presumed to have been satisfactorily resettled and are no longer carried on the active rolls.<sup>73</sup> The active caseload, therefore, consists of those refugees who have applied for benefits but have not yet received all to which they are entitled. Ambassador Colby reported that as of March 20, 1971, the active caseload of the Ministry of Social Welfare totaled 524,443.<sup>74</sup>

<sup>73</sup> This system of tabulating refugees was instituted in early 1970. Prior to that, some refugees who had received benefits but were not satisfactorily resettled were also carried in the active caseload lists.

<sup>74</sup> Ambassador William E. Colby, 1971 Refugee Subcommittee hearings, op. cit.



For statistics dating back to 1968 and explanation of the categories of refugees, see table 12. AID officials pointed out that most of the refugees listed under the category "resettled" had not actually been resettled, but had remained in the refugee sites. The majority of these sites had become "normalized," however, or converted to regular hamlets with their own administration.<sup>75</sup> In addition, the Government of Vietnam and other international agencies continued to support various kinds of welfare programs for such local communities. Total cost of the refugee and social welfare program is outlined in table 14.

TABLE 13.—REFUGEE RELIEF, RESETTLEMENT, AND RETURN-TO-VILLAGE BENEFITS<sup>1</sup>

	Rice allowances	Commodities	House construction allowance	Duration of benefits
Immediate relief assistance.	500 grams of rice per person per day.	3 cans condensed milk per family of at least 5 members; 20 grams of salt per person per day.	-----	7-day limit.
Temporary assistance.	Either VN\$20 <sup>2</sup> or 500 grams rice per person per day.	-----	Temporary shelter is provided for incamp refugees.	2 months.
Resettlement or return-to-village assistance.	VN\$3,600 food allowance per person for 6-month period.	Montagnards receive 20 grams of salt per person per day for 6 months.	VN\$7,500 and 10 sheets of roofing per family.	6 months.

<sup>1</sup> Ambassador William E. Colby. 1971 Refugee Subcommittee hearings, op. cit.  
<sup>2</sup> For an explanation of the piaster-dollar exchange rate, see footnote to table 20.

TABLE 14.<sup>1</sup>—REFUGEE AND SOCIAL WELFARE BUDGET SUPPORT  
 [From all sources—in millions of U.S. dollars]

	Fiscal year—			
	1968 actual	1969 actual	1970 actual	1971 estimate
1. AID budget.....	17.9	9.5	5.9	6.3
2. Counterpart funds.....	20.0	28.4	32.1	31.3
3. Public Law 480, title II (Food for Peace) (as programmed).....	32.3	33.9	24.2	17.0
4. Ministry of Social Welfare (GVN Budget).....	4.3	3.6	7.6	8.7
5. Voluntary agencies.....	22.4	25.9	22.4	22.4
6. Free World assistance.....	3.1	3.1	3.1	3.1
7. Civic action.....	.2	.2	.2	.2
Total.....	100.2	104.6	95.5	89.0

<sup>1</sup> Ambassador William E. Colby. 1971 Refugee Subcommittee hearings, op. cit.  
 Note: Items 1, 2, 3, and 7 are paid with funds from the U.S. Government.

### (b) Laos

The first American refugee office in Laos was established in 1959 to aid in the settlement of the 40,000 refugees who remained after the signing of the Geneva Accords. Another 125,000 refugees were created by the territorial arrangements made under the 1962 Geneva Accords.<sup>76</sup> Until 1968, the number of refugees remained roughly constant at about 30,000, varying somewhat according to the seasons.<sup>77</sup>

<sup>75</sup> Correspondence from the Agency for International Development, Vietnam Bureau to the Foreign Affairs Division, Congressional Research Service, Library of Congress, March 31, 1971.

<sup>76</sup> Refugee subcommittee staff report, op. cit.

<sup>77</sup> H. G. Torbert, Jr., Acting Assistant Secretary of State for Congressional Relations. Responses to Ten Questions on Civilian Victims of the War in Laos, April 13, 1970. In 1970 Refugee Subcommittee hearings, op. cit.

Territory controlled by the Royal Laotian Government (RLG) and the Pathet Lao shifted hands in see-saw fashion, with the refugees usually being able to return to their fields during the rainy season. (See Table 15<sup>78</sup>). In Laos, refugees were defined as those who had not been able to harvest a rice crop in 2 years.<sup>79</sup> The escalation of the war in Laos beginning with stepped-up bombings in 1968 was accompanied by an increase in the number of Laotian refugees. By the end of 1970, the prospects for the return of refugees to their own villages was considered dim.

Some interviews with refugees in Laos, conducted during 1970, reportedly supported the view that the people had left their homes primarily out of fear of the American bombing and in despair over the damage done to their fields and livestock by bombing.<sup>80</sup> A confidential report made by the U.S. Information Service in June and July 1970 and released by Representative Paul McCloskey in April 1971, concluded that "the bombing is clearly the most compelling reason for moving."<sup>81</sup> It has been charged that the American Government generated refugees deliberately in order to deny the Pathet Lao the resources of the local population, while enlarging the population under the control of the RLG.<sup>82</sup> The Refugee Subcommittee staff report further charged that the wet season-dry season offensive balance was upset by the increased American bombing after 1968, leading to a dramatic increase in the number of refugees. However, a Defense Department spokesman said that it was the increase in North Vietnamese activity in Laos rather than American bombings, which had created the additional refugees:

Most refugees come from areas where the ground war is intense, while the large majority of our air operations, both in support of Royal Lao Forces and in the interdiction campaign in the (Ho Chi Minh) Trail areas, are \* \* \* in sparsely populated areas \* \* \*.<sup>83</sup>

In the same hearings, AID officials pointed out that refugees also fled in order to avoid impression into portage service by Communist forces.

AID sources have stated that there were over 290,000 refugees in Laos as of November 1970, 50 percent of whom had been generated since February 1, 1970.<sup>84</sup> Other sources put the total at nearly twice that high.<sup>85</sup> The Senate Refugee Subcommittee staff report put the total as of September 1970, at "approaching 300,000." Of the total, roughly 95,000 were the families of the paramilitary forces supported by the United States. According to official testimony in 1971, about 20,000 refugees had been generated by the 1970 enemy offensives in the Plain of Jars, with another 70,000 fleeing from Communist pressure on surrounding areas.<sup>86</sup>

<sup>78</sup> See testimony in 1970 Refugee Subcommittee hearings and Refugee Subcommittee staff report.

<sup>79</sup> Testimony by William Sullivan, 1970 Refugee Subcommittee hearings, op. cit.

<sup>80</sup> Fred Branfman. "The Victims." Far Eastern Economic Review, Feb. 27, 1971.

<sup>81</sup> Washington Post, Apr. 22, 1971.

<sup>82</sup> Refugee Subcommittee staff report, op. cit., p. 24.

<sup>83</sup> Mr. Dennis Doolin, Deputy Assistant Secretary of State for East Asian and Pacific Affairs. 1970 Refugee Subcommittee hearings, op. cit. This view was also expressed by former Ambassador William Sullivan in testimony before the Refugee Subcommittee on Apr. 22, 1971.

<sup>84</sup> By phone from Agency for International Development, Laos Desk.

<sup>85</sup> Boston Sunday Globe, Mar. 28, 1971.

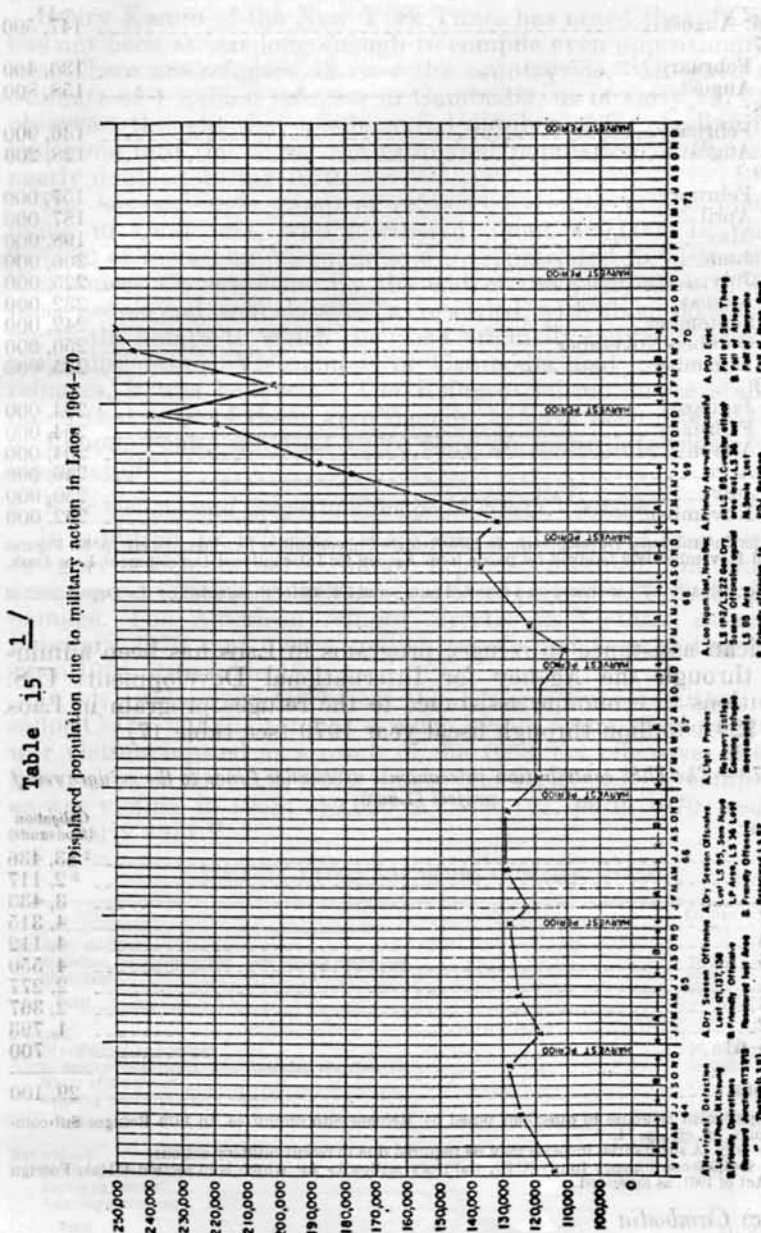
<sup>86</sup> Testimony by Hon. William H. Sullivan, Deputy Assistant Secretary of State for East Asian and Pacific Affairs, Apr. 22, 1971. 1971 Refugee Subcommittee hearings, op. cit.



Official testimony before the Senate Refugee Subcommittee indicated that the cumulative total of refugees in Laos, since 1960, had amounted to between 700,000 and 800,000, out of a population of less than 3 million.<sup>87</sup> (See tables 15 and 16). Henry Kamm of the New York Times agreed with this estimate, saying "of the 3 million people thought to live in Laos, the number of those displaced at least once is put at 750,000."<sup>88</sup> The ethnic composition of Laotian refugees has been about 40 percent Meo, 30 percent Lao Theung (both highland tribes), 20 percent Lao, and 10 percent others.

<sup>87</sup> Testimony of Hon. Roderic L. O'Connor, Assistant Administrator for East Asia, Agency for International Development, 1970 Refugee Subcommittee hearings, op. cit.  
<sup>88</sup> New York Times, Apr. 21, 1971.

Table 15  
 Displaced population due to military action in Laos 1964-70



Agency for International Development, Vietnam Bureau. In Refugee Subcommittee Staff Report, op. cit., p. 20.

TABLE 16.<sup>1</sup>—Number of refugees—LAOS

Date:	
1966: August	147, 500
1967:	
February	130, 400
August	158, 800
1968:	
February	136, 900
August	128, 200
1969: <sup>2</sup>	
February	157, 000
April	187, 000
May	198, 000
June	206, 000
July	225, 000
August	232, 000
September	242, 000
October-November	250, 000
December	235, 000
1970:	
January	204, 000
February	204, 000
March	204, 000
April	246, 000
July	250, 000
November	292, 000

<sup>1</sup> Agency for International Development. In 1970 Refugee Subcommittee hearings, op. cit., p. 63. Figures for July and November 1970 received by phone from Agency for International Development Laos Desk, April 1971.

<sup>2</sup> Figures for 1969 and 1970, are based on a rounded number of 100,000 for those aided by the Department of Defense.

American assistance to refugee programs in Laos has been administered through the Agency for International Development. U.S. contributions in economic assistance to the refugee program in Laos totaled \$29.1 million through fiscal year 1970 (see table 17).

TABLE 17.<sup>1</sup>—The U.S. contribution in economic assistance funds to the refugee relief project (Laos)

Fiscal year	Obligation (thousands)
1970	<sup>2</sup> \$3, 436
1969	<sup>3</sup> 2, 117
1968	3, 433
1967	4, 315
1966	4, 112
1965	4, 550
1964	2, 277
1963	2, 367
1962	1, 793
1955-61	700
Total	29, 100

<sup>1</sup> State Department response to questions posed by Refugee Subcommittee. In 1970 Refugee Subcommittee hearings, op. cit., p. 74.

<sup>2</sup> Estimate only. A substantial increase may be required due to recent military actions.

<sup>3</sup> Includes \$545,000 contingency funds (CF), statutory authority for which is in section 451(a), Foreign Assistance Act of 1961, as amended.

### (c) Cambodia

Cambodia was not actively involved in the combat in Indochina until 1970, and there are no comprehensive official estimates of the number of displaced persons in Cambodia. The Refugee Subcommittee staff report estimated that about 1.4 million persons out of a population of 7 million had been displaced from the time of the overthrow of Prince Sihanouk in March until the end of 1970. The report anticipated that the refugee problem in Cambodia would become more

severe due to the lack of government planning for massive refugee relief.

Henry Kamm of the New York Times has noted that: "Cambodia has not been at war long enough to compile even approximate statistics. There are refugees all over the countryside." He gave a rough estimate of 1 million refugees in Cambodia, as of early 1971.<sup>89</sup> Most observers thought that a substantial number of Cambodian refugees had gone into the cities; the estimated population of Phnom Penh nearly doubled during 1970.

The largest single group of refugees were the ethnic Vietnamese living in Cambodia, who numbered about 400,000. In mid-1970, 210,000 of the ethnic Vietnamese were repatriated to Vietnam by the Vietnamese Government. By the end of the year, about 150,000 of these people had been classified as resettled, with about 60,000 remaining in the camps to which they had originally moved.<sup>90</sup> Most of the remaining ethnic Vietnamese in Cambodia had probably become refugees, it was believed.<sup>91</sup> The Refugee Subcommittee staff report noted that most of them were thought to have been interned outside of Phnom Penh, and that there were no immediate plans for their repatriation.

### 2. War victims and property damage in South Vietnam

In addition to refugees, there are a number of war victims, a category which includes widows, orphans, disabled, and those who were forced to leave their homes for brief periods or suffered property damage. The American refugee director in Vietnam estimated in February 1970 that over 1 million people had been in this category since 1964. (See table 18.)

In his 1971 testimony before the Refugee Subcommittee, Ambassador Colby put the total at a much higher figure by including those war victims injured as a result of the 1968 Tet offensive. His breakdown showed that 1,070,200 people had registered for compensation as war victims in 1968; 289,900 in 1969; 198,100 in 1970; and 47,095 as of early 1971.<sup>92</sup>

TABLE 18.—VIETNAM WAR VICTIMS AS OF FEBRUARY 1970

	Civilian	Military
Physically disabled:		
Amputees, paraplegics, and other serious limitations	79, 600	44, 400
Blind/deaf	25, 600	6, 600
Total	156, 200	
Orphans:		
In registered orphanages	20, 000	
In nonregistered orphanages (pagodas, churches, etc.)	85, 000	
Wards of the nation		108, 000
Awaiting processing		45, 000
Total	258, 000	
War widows:		
Civilian (estimate)	50, 000	
Receiving benefits		61, 000
Awaiting processing		20, 000
Total	131, 000	
Total war victim caseload	545, 200	

<sup>1</sup> War Victims Directorate CORDS, Saigon, 1970. In Vietnam: Policy and Prospects, 1970, op. cit.

<sup>89</sup> New York Times, Apr. 21, 1971.

<sup>90</sup> Ambassador William E. Colby. 1971 Refugee Subcommittee hearings, op. cit.

<sup>91</sup> Refugee Subcommittee staff report, op. cit.

<sup>92</sup> 1971 Refugee Subcommittee hearings, op. cit.



The Department of Defense has stated that there are—"no \* \* \* estimates currently available on the total number of homes and factories destroyed due to the conflict" in Indochina. The South Vietnamese Embassy estimates that the cost to Vietnam has been \$50 billion in lost production alone, with total damage to capital assets estimated at \$304 million. The later figure is broken down as follows: \$110 million damage to highways, \$60 million to railroad facilities, \$23 million to inland waterways, \$11 million to communications and power facilities, and \$100 million to housing.<sup>93</sup>

Compensation for war victims and claims against damage to property is paid by the Government of Vietnam. AID estimates that the Vietnam Government has paid "about \$4 million, its equivalent or a little more" each year from 1967 through 1969 for "war damage claims."<sup>94</sup> Officials at the Department of Defense state that the United States does not take part in the payment of war damage claims in Vietnam.<sup>95</sup> Payment to individuals varied according to the damage. (See table 19.)

TABLE 19.—WAR VICTIM BENEFITS

	Rice allowance	Commodities	House construction allowance	Solatium
To families whose house was damaged 20 percent.	500 grams per person per day for 15 days. (Note: Money may be paid in lieu of rice at the rate of VN\$40 per kilogram.) <sup>1</sup>	2 meters cloth per person, 1 blanket and 1 mosquito net per family of 2 to 4 persons; 2 blankets and 2 mosquito nets for each family with 5 or more members. (Note: If money is paid in lieu of commodities the rates are: VN\$50 per meter of cloth; VN\$400 per blanket; VN\$400 per mosquito net.)	VN\$3,000.	
To families whose house was damaged over 50 percent.	500 grams per person per day for 30 days (or piaster equivalent). <sup>2</sup>		VN\$7,500 and 10 sheets of roofing.	
For death.				VN\$4,000 if deceased was 15 years old or more; VN\$2,000 if deceased was less than 15 years.
For injuries requiring medical treatment for at least 7 days.				VN\$2,000.

<sup>1</sup> Agency for International Development, Community Operation and Rural Development Support. Ambassador William E. Colby, 1971 Refugee Subcommittee hearings, op. cit.

<sup>2</sup> For an explanation of the piaster-dollar rate, see the footnote to table 20.

Note: VN\$=piaster.

### 3. Relocation and population movements

Mass evacuations of population have been conducted with American assistance in both Laos and South Vietnam on a number of occasions. In Cambodia, the only planned population movement has been the repatriation of ethnic Vietnamese, mentioned above. Debate over the need for massive population movement has centered over the perceived degree of need for such movement. Critics of American policy have charged that mass evacuations have been encouraged by the United

<sup>93</sup> Boston Sunday Globe, Mar. 28, 1971.

<sup>94</sup> Ambassador William E. Colby, Vietnam Policy and Prospects, 1970, op. cit.

<sup>95</sup> By phone from the Department of Defense, Office of Public Affairs.

States, particularly in Laos.<sup>96</sup> American officials have replied that U.S. assistance in evacuations is given solely at the request of the governments involved,<sup>97</sup> and that the United States prefers to avoid such movement whenever possible.<sup>98</sup>

Despite criticism of the American bombing targets, State Department spokesmen stated on numerous occasions that targets in Laos were carefully approved in order to avoid populated areas, and that most of the bombing occurred in the area of the Ho Chi Minh Trail where few people lived.<sup>99</sup> However, in May 1971 State Department officials acknowledged that bombing by B-52's, which employ saturation target patterns, had been going on in northern Laos for a "couple of years." Evacuation of refugee populations has usually consisted of resettling existing refugees, rather than creating new ones by moving people directly from their homes.

Ambassador Colby testified that decisions on relocation of the population within South Vietnam were made by the Government of Vietnam, and that the United States supports such relocations only when they are accomplished "where necessary" and when "they are done with prior planning and sensitivity." He said that between October 1970 and March 1971, 44,000 people had been relocated in the northern part of South Vietnam. He also stated that press reports of other long-range relocations of Vietnamese were "erroneous."<sup>100</sup>

In Laos, the most significant population movements have been due to mass evacuations of existing refugees. They included one movement which may have totaled 80,000 people from the Plain of Jars in early 1970, after the beginning of the Pathet Lao offensive in that area. Earlier, in January and February 1970, two groups totaling about 32,000 also had been evacuated from the Plain of Jars.<sup>101</sup>

A second major form of movement prompted by the war has been the independent movement of population into urban areas. The rapid growth of urban populations, primarily in South Vietnam and Cambodia, has been accelerated by pressure from refugees. In Vietnam, it has been estimated by AID that in recent years, roughly 1 million persons have moved voluntarily from rural areas to the cities—presumably seeking security—particularly to Saigon and Danang.<sup>102</sup> In March 1971 U.S. officials estimated that migration and refugee pressure had swelled the populations of Saigon and Danang together by about 1 million persons in 5 years.<sup>103</sup> Population of other urban areas in South Vietnam was estimated to have grown from 15 to 30 percent. According to the General Accounting Office report of Decem-

<sup>96</sup> See Refugee Subcommittee staff report, op. cit., and testimony by Representative Paul McCloskey 1971 Refugee Subcommittee hearings, op. cit.

<sup>97</sup> State Department responses to questions submitted by Refugees subcommittee. In Refugee Subcommittee Staff Report, op. cit., p. 72.

<sup>98</sup> Ambassador William E. Colby, 1971 Refugee Subcommittee hearings, op. cit.

<sup>99</sup> See 1970 Refugee Subcommittee hearings, for example.

<sup>100</sup> Washington Post, May 4, 1971.

<sup>101</sup> Ambassador William E. Colby, 1971 Refugee Subcommittee hearings, op. cit. Press reports had said that 60,000-80,000 people from northern South Vietnam were to be resettled in the south. The New York Times reported on Apr. 21, 1971, that: "Over strong objection by CO RDS, relocation of montagnard hamlets was resumed last summer under orders of Maj. Gen. Ngo Dzu, commander of Military Region II. 51,000 had been moved by last month, with 30,000 more due to be uprooted."

<sup>102</sup> Department of State response to questions by Refugee Subcommittee. In Refugee Subcommittee Staff Report, op. cit., pp. 69-76.

<sup>103</sup> Correspondence from Agency for International Development, Vietnam Bureau, to Foreign Affairs Division, Congressional Research Service, Library of Congress, Mar. 31, 1971.

<sup>104</sup> Ibid. Populations of Saigon and Danang were about 1,650,000 and 265,000 in 1970, according to the New York Times Almanac.



ber 1970, AID estimated that about 1 million of those in the urban areas of Vietnam were refugees; 600,000 of them depended for their livelihood on the presence of American forces. With regard to Cambodia, the Refugee Subcommittee Staff Report said that provincial capitals in that country were bulging. Between May and September, the population of Phnom Penh had jumped from 700,000 to more than 1 million, an increase which was said to reflect flights from the battle areas.<sup>6</sup>

## EFFECTS OF THE VIETNAM WAR UPON THE ECONOMIES OF THE NATIONS OF INDOCHINA

### A. SOUTH VIETNAM

The Vietnam war has had two major effects on the economy of South Vietnam. First, the economy has been seriously distorted by the burden of military spending, rampant inflation, physical destruction, and population dislocation. On the other hand, many sectors of the economy have been modernized as a result of wartime activities.

The weight of military spending (see table 20) has placed a serious strain upon the South Vietnamese economy. As shown in table 20, which covers the years 1966-70, the Government of Vietnam's own financial resources have been insufficient to meet the combined demand of its civil and military budgets. Consequently, its budget deficits have been partially underwritten by U.S. aid and by the inflationary practice of increasing the money supply (see tables 20, 21, and 22). A little over 50 percent of the Vietnamese national budget is derived directly or indirectly from U.S. assistance. Essentially there are five sources of financing for the South Vietnamese budget: (1) local currency proceeds from the import of U.S. Public Law 480 commodities (counterpart funds), (2) customs duties on commercial imports financed by the United States, (3) customs duties on South Vietnamese imports financed with their treasury's dollars, (4) tax revenues, and (5) deficit financing.<sup>7</sup>

TABLE 20.—GOVERNMENT OF SOUTH VIETNAM (GVN) EXPENDITURES AND REVENUES<sup>1</sup>

	[In billions of piasters]				
	1966	1967	1968	1969	1970 (preliminary)
Total GVN expenditures.....	61.65	95.47	114.6	142.8	199.8
Military budget (expenditure basis).....	32.71	50.24	68.25	87.20	123.7
Revenue (GVN's own sources).....	40.0	53.2	54.2	86.1	121.8
Local currency available to GVN from U.S. sources.....	23.3	29.8	24.2	24.3	28.5
Total revenue.....	63.3	83.0	78.4	110.4	150.3

<sup>1</sup> Agency for International Development, Office of Economic Policy, Bureau for Vietnam. Summary of monthly economic data for Vietnam, January 1971. South Vietnam's official rate of exchange is 118 piasters to the dollar. However, in October 1970 a parallel rate of 275 to \$1 was established for exports, for foreign investments, for sales of foreign exchange to foreign civilian and military personnel, and for some imports. The 118 rate still applies to other imports, to all government transfers and to U.S. economic assistance. The black market rate is approximately 400 piasters to the dollar.

<sup>6</sup> See also: New York Times, Apr. 21, 1971.

<sup>7</sup> Testimony of Donald G. MacDonald, Director, USAID, Vietnam. See Vietnam: Policy and Prospects, 1970, op. cit., p. 548 ff.

TABLE 21.—MONEY SUPPLY (IN DECEMBER OF EACH YEAR)<sup>1</sup>

	[In billions of piasters]
1966.....	65.4
1967.....	82.2
1968.....	124.1
1969.....	140.7
1970.....	162.9

<sup>1</sup> Ibid.

TABLE 22.—GROSS NATIONAL PRODUCT<sup>1</sup>

	[In billions of piasters]			
	1966	1967	1968	1969
Current prices.....	236.2	344.3	414.0	532.0
Constant prices (1960 base year).....	109.2	113.3	111.8	122.4

<sup>1</sup> Ibid.

### 1. Impact of inflation

Inflation has been one of the most serious economic problems facing the Saigon Government. Table 23 illustrates the inflationary impact of the war on retail prices in Saigon. It shows that these prices are now seven times what they were in 1965.

TABLE 23.—SAIGON RETAIL PRICE INDEX ALL ITEMS AS OF JANUARY OF EACH YEAR, 1965-71<sup>1</sup>

	[January 1965=100]
1965.....	100
1966.....	181
1967.....	254
1968.....	326
1969.....	402
1970.....	554
1971.....	718

<sup>1</sup> Ibid.

Because of the increase in the South Vietnamese population in the cities, and the resulting rise in the number of people within the monetized economy, a larger segment of the people has been affected by inflation. One method by which the Government of South Vietnam has tried to curb inflation has been by devaluing the piaster.

### 2. Impact upon agriculture

The war has had a significant impact upon the agricultural sector of the economy. Sixty-five percent of the South Vietnamese labor force depends upon agriculture for its livelihood. Destruction of cropland through bombing, ground warfare, and herbicides, and the disruption of the rural population by the war have diminished agricultural productivity since 1965.

Moreover, lowered agricultural productivity has had a detrimental effect on South Vietnam's balance of trade. Once a leading exporter of rice, South Vietnam has not exported any since 1964, and in recent years has become a net importer of rice. (See Table 24.)

TABLE 24.—SOUTH VIETNAM'S RICE IMPORTS BY CALENDAR YEAR<sup>1</sup>

	[In thousands of tons]
1965.....	1.29
1966.....	434
1967.....	750
1968.....	679
1969.....	341
1970.....	559

<sup>1</sup> By phone from the Agency for International Development, Bureau for Vietnam, Office of Commodity Management.

Nonetheless, a concentrated agricultural aid program and the use of improved strains of rice have recently resulted in an increase in rice production. However, the prospects that South Vietnam again will become an exporter of rice are dimmed by the fact that local production in key markets such as Malaysia, Indonesia, Japan, and the Philippines has been increased by the use of the new, more prolific rice seed. To offset this development, South Vietnam has made some progress in agricultural diversification.

### 3. Impact upon balance of trade

Wartime conditions and inflation have also distorted South Vietnam's import/export balance. In order to reduce the magnitude of the severe inflation caused by the increase in purchasing power and the shortage of available goods, the Saigon Government encouraged a vast increase in imports, particularly consumer goods. South Vietnam, as a result, continues to have a huge trade deficit. The United States has tried to help correct this imbalance by subsidizing South Vietnamese imports through various assistance programs.

TABLE 25.—BALANCE OF TRADE<sup>1</sup>  
[In U.S. millions of dollars]

	Calendar year—				
	1966	1967	1968	1969	1970
Exports (based on customs data).....	25	16	12	12	12
Imports (based on licensing data—actual shipments may be as much as 10 percent less).....	560.4	531.5	628.8	740.1	641.0
GVN licensing.....	(245.8)	(291.7)	(379.8)	(425.2)	(302.4)
C.I.P. licensing.....	(321.2)	(79.3)	(138.9)	(198.2)	(222.5)
Public Law 480 licensing.....	(93.4)	(160.2)	(106.3)	(116.7)	(116.1)

<sup>1</sup> Imports are from the summary of monthly economic data, op. cit. Exports, by phone from Agency for International Development, Vietnam Bureau.

### 4. Impact of winding down the war

The increasing modernization of some sectors of the South Vietnamese economy as a result of the war has been a mixed blessing. Modernization has been accompanied by an erosion of the social fabric, extensive black marketeering and prostitution, and increased corruption. Yet, the changes in the South Vietnamese economy have brought about fuller employment in South Vietnam, increased industrial production, produced a sizable skilled and semiskilled labor force and have increased both peasant income and the rural demand for consumer goods. In addition, the construction of modern ports and airfields has strengthened the infrastructure of the South Vietnamese economy.

An important consideration, however, is that these changes have created a climate of rising expectations. As the war winds down, it can be expected that consumers will continue to want to live in the style to which wartime imports have accustomed them. In such a climate, the postwar austerity measures necessary to finance reconstruction and to correct economic distortions may be politically difficult to achieve, thereby increasing the possibility that South Vietnam's dependence on outside economic support may continue indefinitely. This

situation indicates a probable need for continued American support of the South Vietnamese economy in the postwar period if South Vietnam is to stave off economic collapse.

### B. LAOS

Economically, Laos is almost completely dependent on outside aid for its survival. Due to the pressures of the war, the Laotian Government devotes 65 percent of its national budget to defense. Economic development is at a standstill. Budgetary deficits and foreign exchange shortages created by a chronic trade imbalance are subsidized by American and other foreign assistance.

The following tables provide a summary of available statistics regarding the Laotian budget and balance of trade.

TABLE 26.—BUDGET  
[In millions of kips]<sup>1</sup>

	Fiscal year—				
	1965	1966	1967	1968	1969
Expenditure.....	10,721	14,072	15,944	16,085	15,965
Revenue.....	6,290	4,570	6,333	7,401	7,431
Deficit.....	4,431	9,502	9,611	8,684	8,534

<sup>1</sup> Far Eastern Economic Review Yearbook, 1971, p. 216. Kip exchange rates for Government transfers are 240 to the dollar, but are 500 to the dollar on the free market and for imports.

TABLE 27.—BALANCE OF TRADE  
[In millions of kips]<sup>1</sup>

	Fiscal year—				
	1965	1966	1967	1968	1969
Imports.....	7,893.0	10,017.0	11,796.0	12,878.0	14,150.0
Exports.....	240.1	357.7	1,064.7	1,448.1	1,087.9
Deficit.....	7,652.9	9,659.3	10,731.3	11,430.0	13,062.1

<sup>1</sup> Ibid., p. 217.

Tin mining and rice farming are the main economic activities. The mass movement of farmers to refugee camps has created food shortages, which are met by AID-financed purchase of Thai produce.

### C. CAMBODIA

The expansion of the war into Cambodia has dislocated the monetized sector of the economy and created serious economic distortions. Lowered productivity, increased military spending, and increase in monetary supply threaten the economy with strong inflationary pressures. The Cambodian budgetary deficit was \$24 million in calendar year 1969, \$132 million in 1970, and is projected at \$108 million for 1971.

Rice and rubber production normally accounts for 80 percent of Cambodia's export earnings. Rice production is down and the export of a small rice surplus is hindered by transportation difficulties. Rubber output and export have been almost eliminated; four of the country's five major rubber estates were inside the military operation zones. The collapse of the tourist industry has also deprived Cambodia of a major source of foreign exchange. Foreign exchange earnings are expected to fall from about \$90 million in fiscal year 1970 to \$14 million in fiscal year 1971. Refugees crowding into Phnom Penh have doubled its population and inflated food prices.

TABLE IV - BALANCE OF TRADE

	1969	1970	1971
Exports	14,015	12,000	12,000
Imports	12,000	12,000	12,000
Balance	2,015	0	0

The balance of trade for Cambodia in 1970 was a surplus of \$2,015 million. This was due to a decrease in imports from \$12,000 million in 1969 to \$12,000 million in 1970, while exports remained at \$14,015 million. The balance of trade for Cambodia in 1971 was also a surplus of \$2,015 million, with exports at \$12,000 million and imports at \$10,000 million.

TABLE V - BALANCE OF TRADE

	1969	1970	1971
Exports	14,015	12,000	12,000
Imports	12,000	12,000	12,000
Balance	2,015	0	0

The balance of trade for Cambodia in 1970 was a surplus of \$2,015 million. This was due to a decrease in imports from \$12,000 million in 1969 to \$12,000 million in 1970, while exports remained at \$14,015 million. The balance of trade for Cambodia in 1971 was also a surplus of \$2,015 million, with exports at \$12,000 million and imports at \$10,000 million.

The expansion of the war into Cambodia has disrupted the industrial sector of the economy and created serious economic difficulties. Lowered productivity, increased military spending, and military supply threaten the economy with strong inflationary pressures. The Cambodian budgetary deficit was \$2.2 billion in 1970 and is projected at \$2.02 billion in 1971.