broad-leaved plants and is used mainly to destroy rice crops.[5] Cacodylic acid, a major component of Blue, is 54 percent arsenic.[3] Because arsenic poisoning of humans can occur by gradual accumulation of small doses until lethal levels are reached, the use of Blue may pose a long-term danger.

Defoliation often affects non-target areas. For example, the U.S. Defense Department claims it has not deliberately defoliated rubber plantations,[2] yet herbicides have severely injured the rubber industry. This and other effects of the war have caused a 25 percent decrease in the per-acre yield of rubber in Vietnam between 1960 and 1967, while in nearby Malaysia the per-acre yield increased 33 percent.[2] The total yield of rubber in Vietnam has dropped by over 45 percent and many small plantations have been forced to close.[2] Cambodian plantations and farms have also been defoliated, some by deliberate overflights of U.S. spraying aircraft (initially denied by the Defense Department but later admitted by the Department of State).[3] About one-third of all rubber trees in production in Cambodia were damaged by defoliation in April and May of 1969, and between May and November of 1969, rubber production in these areas fell by 35 to 40 percent.[6] An international group of scientists studying the spraying damage estimated losses at $12.2 million.[6]

The U.S. Army admits to having sprayed over 500,000 acres of South Vietnamese crops through 1969.[3] This represents seven percent of the total acreage under intensive cultivation. However, a 1967 report of the Agronomy section of the Japan Science Council claimed that "...anti-crop attacks have ruined 3,800,000 acres of arable land in South Vietnam. . . ."[7] Because of official U.S. secrecy, the true figures are not known.

The U.S. policies of direct crop destruction, forced relocation of peasant farmers to refugee camps, bombing and burning of farmland, destruction of food caches, and large Vietnamese military draft all contribute to the severely reduced agricultural production. In 1959, South Vietnam—the "Rice Bowl" of Asia—exported 246,000 tons of rice. In 1968, 850,000 tons had to be imported, over 90 percent of it from the U.S.[8] Other food crops have suffered as severely.[3,9,10] The pineapple crop was reduced by 40 percent between 1963 and 1968, a period which coincides with the early years of intensive spray operations.[8] Sugar cane, manioc, tomato, beans, papaya, coconut, sweet potato, figs, cassava, and mango are all sensitive to the herbicides and the various yields have decreased from ten to 40 percent.[9] Overall agricultural production has decreased by about 30 percent.[8,9] The crop spraying has continued since 1968 and agricultural production is still low, although reliable figures are not available.

In addition to decreased agricultural production at present, we can reasonably expect, as discussed below, long-term damage to crop and forest land due to the presence of dangerous herbicide residues in the soil; destruction of soil microorganisms necessary for fertility; death or migration of animals responsible for pollination and seed transport; overgrowth of bamboo and other pest species; and greatly increased soil destruction by laterization.

Starvation as a weapon of war

The U.S. Army justifies agricultural and ecological destruction in Vietnam for three major tactical reasons: to deny food to civilians and soldiers in "Viet Cong-held areas" under the "resource denial" program; to prevent ambushes along heavily forested roads and waterways; and to aid in visual reconnaissance of NLF base camps and supply routes by eliminating the forest canopy which hides them.

The rationale behind the "resource denial" program is that the resulting starvation will sufficiently demoralize the NLF troops so that they will surrender. However, previous wars have shown that when food is in short supply, fighting troops are the first to be fed; what is left is then rationed to civilians. Among these, the most severely affected are children, the elderly, and pregnant and lactating women. During the siege of Leningrad, for example, soldiers received 800 grams or more of bread per day while civilians starved on 200 grams per day.[11] The NLF remains an effective fighting force, but the incidence of civilian starvation and starvation-related diseases is rising in the central highlands of Vietnam where extensive crop destruction has occurred.[12] This policy of deliberate starvation contravenes, in the view of many, the Nuremberg Principles which the United States helped establish and has formally accepted (see Appendix II).

The "resource denial" program also wages war against unborn Vietnamese. As a result of two years of malnutrition and starvation experienced by the Biafran people, four out of every ten children born were deformed—with small brain size as well as severe muscular and skeletal malformation.[13] The South Vietnamese public health ministry refuses to provide any statistics on normal and abnormal births,[17] so evidence indicating the extent of birth defects in Vietnamese children is