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## Clarity on Two Key Terms

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As efforts accelerate to solve the agent orange/dioxin legacy of the Vietnam War, we recommend that advocates pay careful attention to the two key words, “agent orange” and “dioxin.” These have sometimes been used incorrectly, or interchangeably, in the past.

**Agent orange**—was one of a class of color-coded herbicides that US forces sprayed over the rural landscape in Vietnam to kill trees, shrubs and food crops over large areas. Agent orange was a 50/50 mixture of two individual herbicides, 2,4-D and 2,4,5-T. It remained toxic over a short period--a scale of days or weeks-- and then degraded. The production of agent orange was halted in the 1970s, existing stocks were destroyed and it is no longer used. The effects of agent orange do however persist in the form of ecologically degraded landscapes in parts of the hilly and mountainous areas of Vietnam. The pre-war forests that existed in most of these areas took hundreds of years to reach an ecologically-balanced mixture of large numbers of species of flora and fauna. Natural regeneration would take centuries to reproduce those landscapes. In addition, in some of the sprayed areas soil erosion and landslides have sharply lowered soil nutrient levels and altered the topographical features of the landscape. These changes have encouraged a few species of invasive grasses of low value. Active replanting with species of trees and shrubs which are ecologically viable and have economic value will require substantial and sustained long term investment.

**Dioxin**— is a member of the class of persistent organic pollutants which resulted from the deliberately accelerated production of 2,4,5-T, one of the components of agent orange. Dioxin can shorten the life of humans exposed to it and is associated with severe degradation of health in this and, potentially, future generations. Dioxin is toxic over a long period--a scale of many decades-- and does not degrade readily. Dioxin is not absorbed by plants nor is it water soluble. It can attach to fine soil particles or sediment, which are then carried by water downstream and settle in the bottoms of ponds and lakes. It continues to adversely affect people who eat dioxin-contaminated fish, molluscs and fowl produced around a handful of point sources of dioxin called dioxin "hot spots." Dioxin's continuing impact can be slowed or halted by genetic counselling, cutting the dioxin exposure pathways in the human food chain and by environmental remediation of contaminated sites. The adverse effects of dioxin on human health can be ameliorated in most cases if detected early, but they cannot be fully corrected in some cases by any amount of time or money. If dioxin permanently alters the intricate internal cellular and

chemical balances involved in maintaining good human health, there is serious risk of life-long health problems which may ultimately lead to mortality.

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