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Wounds That May Last A Century

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The American use of chemical herbicides in the Vietnamese war caused wounds to the ecology of South Vietnam that may take at least a century to heal, the National Academy of Sciences has concluded.

The herbicides, according to an academy study, caused "serious and extensive damage" to the inland tropical forests and destroyed 36 per cent of the mangrove forests along the South Vietnamese coast.

In addition, the report said that there were indications that the herbicides, when used for the destruction of crops, caused deaths among children of the Montagnard tribes in the hills of western South Vietnam.

These conclusions were contained in an academy report to the Defense Department that is to be submitted to Congress soon.

The report is scheduled to be made public next week by the Senate Armed Services Committee. However, the contents of the voluminous study were summarized for the New York Times by members of the academy, a prestigious scientific group that often serves as an arbiter for the government in matters of scientific controversy.

The study was ordered by Congress in 1970 at a time of controversy over the ecological impact of the extensive use of herbicides in the Vietnamese war. At that time, the military was defending the use of herbicides — the first time that such chemical agents had been used so extensively in warfare — against rising complaints from the scientific community that this new form of chemical warfare was causing long-term destruction to the ecology of South Viet-

nam.

Between 1961 and 1971, the U.S. dropped more than 100 million pounds of herbicides — or about six pounds for every inhabitant — on South Vietnam. More than 5.7 million acres — or about one seventh of South Vietnam's total land mass — was sprayed with the chemical agents, which generally were far more potent than the herbicides commonly used for agricultural purposes.

The herbicides were used, in large measure, to strip away tree foliage in areas that provided a natural source of concealment for North Vietnamese or Viet Cong troops. However, the herbicides were also used for the destruction of crops, particularly in the highland area of western South Vietnam.

Aside from the ecological impact, the study concluded that the use of the herbicides had an adverse psychological effect in turning Vietnamese opinion against the U.S. Symbolically, the report said, the herbicides came to be regarded as "an American assault on the Vietnamese land and people."

The academy's mandate from Congress was to study the environmental impact of the use of herbicides in Vietnam. The study was carried out by a 17-man panel of scientists from the U.S., Sweden, Great Britain and South Vietnam, headed by Dr. Anton Lang, a plant pathologist at Michigan State University and director of the Atomic Energy Commission's plant research laboratory there.

One of the unexpected findings of the study was that the herbicides apparently caused deaths among Montagnard children. The military consistently has maintained that the herbicides had only a transitory effect on plant life and were used in such a way that they would not endanger human life.

This finding was based on interviews by Dr. Gerald C. Hickey, an anthropologist at Cornell University with wide experience in South Vietnam, with Montagnard refugees from 12 villages in Pleiku and Kontum provinces.

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