

# Agent Orange

## What is Agent Orange?

- It is a chemical compound of 2,4-D and 2,4,5-T that was used in highly concentrated doses to defoliate forests in Vietnam, Laos and Cambodia.
- It is sometimes used generically as a term for all the chemicals that the U.S. and our allies used during the war there, and in particular for the six chemicals that were used as defoliants and herbicides to destroy forests and food crops.
- Sometimes it is used as a synonym for dioxin, one of the most toxic substances known to science. TCDD dioxin was an unintentional by-product of the manufacturing process of 2,4,5-T, and was present in significant amounts in Agent Orange and three other defoliants.
- In addition, Agent Orange has been called a metaphor for all the lingering consequences of war, and for an awakening of public concern about the responsibility of science and government.
- The U.S. ambassador to Hanoi has called Agent Orange the “one significant ghost” remaining from the war; his Vietnamese counterpart called it chemical warfare
- Its use has been banned by the Geneva Convention on Chemical Weapons.

## What are its lingering effects today?

- ***For the land:*** Much of the land has re-grown or been reforested, though a tough, economically useless grass nicknamed “American grass” still covers some areas. As of 1990, nearly 2 ½ million acres still lay barren.
- ***Hot spots:*** A limited number of areas with high residual dioxin exist today, most notably around the perimeters of former bases where there was intensive and repeated close-range spraying, and at storage sites where spills occurred, such as the 7,500 gallon spill at the air-base in Bien Hoa. Urgent clean-up action is needed to prevent further human exposure.
- ***For American veterans:*** Ongoing studies by the U.S. Institutes of Medicine have formed the basis for compensation granted by the U.S. Department of Veterans affairs for the following diseases: soft-tissue sarcoma, Hodgkin’s disease, non-Hodgkin’s lymphoma, chloracne, and chronic lymphocytic leukemia, as well as respiratory and prostate cancers, multiply myeloma, peripheral neuropathy, type 2 diabetes, and spina bifida in children of all U.S. veterans, and 17 other birth defects in the children of women veterans.
- ***For Vietnamese veterans and civilians:*** Vietnamese scientists have linked veterans’ exposure to Agent Orange to high rates of digestive ailments, neural disease, skin diseases, and cancers. Women living in sprayed regions have experienced high rates of premature birth, spontaneous abortions, stillbirths, molar pregnancy, uterine cancer, and severe birth defects.
- ***Other lingering consequences of war:*** The Vietnamese population also continues to be exposed to CS tear gas left behind in barrels that are now

leaking their contents into the environment. Unexploded ordnance is another major problem: by 1998, UXO had killed 38,000 people and wounded 64,000 others since the *end* of the war; as of 2002, about 180 people per month continued to be wounded or killed. In addition to chemical exposure and physical injury, Vietnamese face serious problems from infectious disease, malnutrition, and other consequences of war.

**What is being done today to address these consequences? (see “Ways to Help” for specific projects to support)**

- In 2004, three representatives of the Agent Orange Victims Association in Vietnam brought suit in New York against the chemical companies. A petition supporting this suit has gathered nearly 700,000 signatures worldwide. See [www.PetitionOnline.com/AOVN/petition.html](http://www.PetitionOnline.com/AOVN/petition.html)
- The Vietnamese Red Cross set up the Agent Orange Victims Fund in 1998.
- U.S. veterans, other individuals, and NGO’s have started projects supporting individuals, families, and communities in Vietnam.
- In the 1980’s, U.S. veterans sued the companies that made Agent Orange and won what was at that time the largest out of court settlement ever awarded.
- Three large international scientific conferences have been held in Vietnam, with participants from roughly 20 countries in Europe and Asia. Conferences on both the scientific and the humanitarian aspects of Agent Orange were held in Stockholm and at Yale University, both in 2002, and in Paris in 2005.

**What is the history of Agent Orange?**

From 1961 to 1971 the U.S. and our allies sprayed 21 million gallons of chemical defoliants and herbicides over the southern portion of today’s Vietnam. The chemicals were sprayed by airplane, helicopter, riverboat, truck, and, around the perimeters of bases, by hand. Roughly two-thirds of these chemicals contained dioxin. While the record of destruction is still being compiled and corrected (see the work of Jeanne Stellman of Columbia), current sources give 12% as a rough figure for the total area devastated in the south, including 33% of the upland forests and 50% of the coastal mangroves. In some provinces 50% of the land was stripped bare. During the 1960’s Saigon papers carried stories of birth abnormalities in areas that were heavily sprayed. American and international scientists launched investigations and called for a stop to the use of chemicals.

**Why is it called “Agent Orange”?**

Agent Orange was a nickname derived from the orange identification stripe painted around the 55-gallon barrels in which it was stored.

**Ways to Help: Groups supporting rehabilitation and relief work (tax-deductible)**

War Legacies Project – <http://www.warlegacies.org> You can choose to direct your tax-deductible contributions to one of these groups:

- Vietnam Agent Orange Victims Association, engaged in both support for families, or legal action

- Agent Orange Victims Fund of the Vietnamese Red Cross
- The Chris Jenkins Fund, which supports the work of Dr. Nguyen Viet Nhan (see [www.ogcdc.org](http://www.ogcdc.org)), and families in a village near Hue
- The Thien Phuoc Charity House in Ho Chi Minh City, run by the Catholic church

Friendship Village rehabilitation center outside of Hanoi – visit [www.vietnamfriendship.org](http://www.vietnamfriendship.org) the website for the US committee for the Friendship Village

Fund to support victims of Agent Orange, started by Prof. Ken Hermann of State University of New York, Brockport  
[www.danangquangnamfund.org/ao/index.ao.html](http://www.danangquangnamfund.org/ao/index.ao.html)

### **Where can I learn more?**

Here is a start:

William A Buckingham Jr. *Operation Ranch Hand: The Air Force and Herbicides in Southeast*

*Asia 1961-1971*. Washington, D.C.: Office of Air Force History, USAF. 1982.

Diane Fox. “Speaking with Women in Vietnam on the Consequences of War: Writing Against Silence and Forgetting” in Taylor and Bosquet, *Le Vietnam au Feminin. Les Indes Savantes*, 2005.

“Chemical Politics and the Hazards of Modern Warfare: Agent Orange” in Casper, *Chemical*

*Politics and the Hazards of Modern Warfare*. Routledge 2003.

Philip Jones Griffiths. *Agent Orange: “Collateral Damage” in Vietnam*. Distributed Art Publishers, 2004.

Institute of Medicine *Veterans and Agent Orange: Updates*. Washington, D.C.: National Academy Press. Biennial updates starting in 1992.

Peter H.H. Schuck. *Agent Orange on Trial*. Harvard University Press. 1990.

Arnold Schecter, Le Cao Dai, Olaf Papke, Joelle Prange, John D. Constable, Muneaki Matsuda,

Vu Duc Thao, and Amanda Piskac. “Recent Dioxin Contamination From Agent Orange

in Residents of a Southern Vietnam City.” *Journal of Occupational Environmental*

*Medicine*, vol 43 no 5:435-443. May 2001.

Jeanne Mager Stellman et al, “The extent and patterns of usage of Agent Orange and other

herbicides in Vietnam”, in *Nature* 422:681-687. April 17, 2003

Vo Quy. “The Wounds of War: Vietnam struggles to erase the scars of 30 violent years.” *Ceres*

(*the FAO Review*). 24:13-16. 1992 (March/April)

Arthur Westing, ed. *Herbicides in War: the Long-term Ecological and Human Consequences*.

Taylor and Francis. 1984.  
Fred Wilcox. *Waiting for an Army to Die*. Seven Locks Press. 1989.  
Admiral Elmo Zumwalt Jr, Elmo Zumwalt III. *My Father, My Son*. MacMillan. 1986.

[www.hatfieldgroup.com](http://www.hatfieldgroup.com) -- current dioxin contamination (Wayne Dwernychuk et al at the Hatfield Consultants Group, Canada)

[ehp.niehs.nih.gov/members/2003/5755](http://ehp.niehs.nih.gov/members/2003/5755) – spray routes and exposure (Jeanne Stellman et al at

Columbia's school of public health)

[www.vietnamfriendship.org](http://www.vietnamfriendship.org) – Friendship Village rehabilitation work

[www.danangquangnamfund.org/ao/index.ao.html](http://www.danangquangnamfund.org/ao/index.ao.html) -- Fund to support victims of Agent Orange,

started by Prof. Ken Hermann of SUNY Brockport

### **Documentary Videos:**

*Last Ghost of War*: Gardner Documentary Group

*Where War Has Passed* – Vietnam Science Documentary Group – Available from War Legacies

Project

*Battle's Poison Cloud* – Tambuti Films <http://www.tambutifilms.co.uk>

*Story from the Corner of a Park* – Directed by Tran Van Thuy - Available from War Legacies

Project

*Friendship Village* – available at [www.vietnamfriendship.org](http://www.vietnamfriendship.org) –

*Agent Orange : A Personal Requiem* directed by Masuka Sakata email: [masako@ipjnet.com](mailto:masako@ipjnet.com)

*Da Cam* – Directed by Vu Tran - <http://www.dacam.org/index.html>

**Who we are:** The War Legacies Project focuses on the long-term environmental, health, and socio-economic impacts of war. We seek to develop a fuller accounting of the costs of war, increase public understanding of these costs, encourage policy makers to weigh these costs carefully in any decision to go to war, and connect people suffering the effects of war with people who can mitigate that suffering.

We encourage your comments and questions to help us prepare materials useful for teachers and other groups, and welcome inquiries about ways for you to contribute to remediation and rehabilitation work. Contact us at [shammond@warlegacies.org](mailto:shammond@warlegacies.org)

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