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**(Ho Chi Minh City, Viet Nam)**  
**10h00 a.m May 15, 2008 Hearing**  
**House Committee on Foreign Affairs, Subcommittee on Asia, the Pacific,**  
**and the Global Environment**

Dear Mr. Chairman,

I am pleased to accept your invitation to testify today about the consequences of Agent Orange/dioxin in Viet Nam War and activities for overcoming.

*Scope of the a Agent Orange/dioxin war in Viet Nam*

According to various materials (publications), during the Ranch Hand and Pacer Ivy operations, the US military sprayed about 80 million litres of herbicides in Southern Viet Nam the main one being Agent Orange that contained dioxin [1-5].

The total amount of dioxin found in the above herbicides was at least 366 kg[3] . Scientists are of the opinion that due to production technology 2,4,5 T during the 1960s and the need to increase the quantity of the herbicides. However, the US chemical companies in increasing the output of the herbicides also increased the quantity of dioxin to approx 600 - 680 kg [6, 7]. It should be noted that in tests on animals, just one billionth of a gram of dioxin caused cancer, reproduction problems, and birth defects. [8].



US aircrafts sprayed herbicides over forest and crop fields in South Viet Nam (US.DOD)

Scientists worldwide have confirmed in their studies that dioxin is the most dangerous poison yet known and is a cause of reproduction problems, birth defects, cancer and some other diseases [3, 8-14].

From 1962 to 1971, the US military conducted 19,905 spraying missions of agent orange/dioxin over an area of 2,631,297 ha (86% of which was sprayed more than twice; 11% of which was sprayed more than 10 times. 25,585 hamlets were also sprayed with herbicides) [3].

Due to rain, winds and floods, the area of land and forests affected by Agent Oranges/dioxin became larger than the actual area sprayed [8, 15].

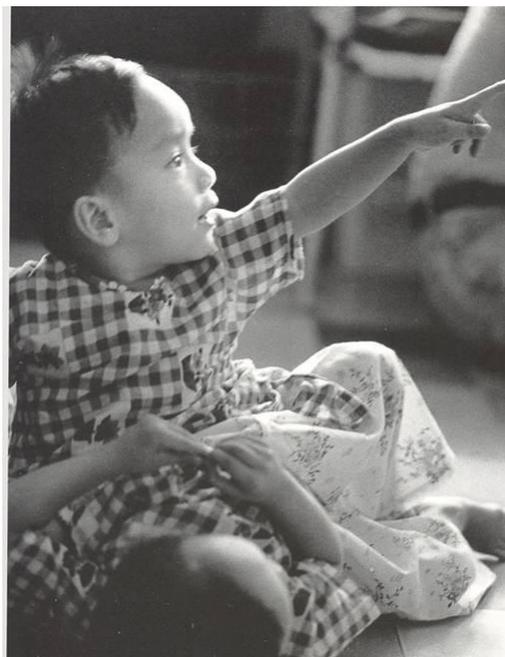
*Human consequences of Agent Orange/dioxin*

There have been many scientific researches by Vietnamese scientists in coordination with scientists from Japan, Germany, Russia, Canada and the US claiming that: The concentration of dioxin in blood, fat and milk of those with exposed to Agent Orange/dioxin is high and very high, particularly in some people living close to the places with a high concentration of dioxin.

2,3,7,8 TCDD and 1,2,3,7,8 PeCDD represent a high and very high percentage of dioxin components, confirming that dioxin in those people originates from herbicides used by the US during the war in Viet Nam [20, 21, 25].

Vietnamese and Japanese scientists have conducted epidemiology researches that included research on 47,000 veterans with and without exposure to Agent Orange/dioxin. Results have shown that dioxin caused diseases observed in victims in Viet Nam are the same as those recognized by Medical Academy of the US. In addition, the percentage of reproduction problems, birth defects and some other diseases is higher in the Agent Orange/dioxin victims than in those without exposure. The IQ index of children from 6 to 9 years old is much lower in areas contaminated by dioxin than in other places [26].

Structure, percentage and extent of diseases are much higher among Agent Orange/dioxin victims in Vietnam than Agent Orange/dioxin victims from the US, New Zealand, South Korea etc because the victims in Viet Nam have been more exposed to Agent Orange/dioxin for a longer time (for many years) in a difficult living conditions due to the war [8, 15, 26, 27].



The co-joined twins Viet-Duc born in 1982 at Sa Thay, Kontum, where Agent Orange/dioxin was sprayed. Their mother still has high level of dioxin in her body. Photo by Goro Nakamura

No	Research content	With exposure (people)	Without exposure (people)
1	Total veteran families under the research	28,817	19,076
2	Number (percentage) of families with birth defect children	1,604 (5.69%)	356 (1.87%)
3	Total number of children	77,816	61,043
4	Number (percentage) of birth defect children	2,296 (2.95%)	452 (0.74%)

Vietnamese scientists have studied and discovered biological changes in people with exposed to Agent Orange/dioxin, especially signs of immunodeficiency, change in chromosome and gene including gene causing cancer [28, 29].

#### *Consequences of Agent Orange/dioxin on natural resources and the environment*

According to the Forest Inventory and Planning Institute, the area of forests sprayed by herbicides and the quantity of timber lost due to presence of Agent Orange/dioxin are 2,954,000ha (95.2%), approximately 90,330,000m<sup>3</sup> for inland forests, and 150,000ha (48%), approximately 22,500,000m<sup>3</sup> for mangroves [16, 17].

The function of water retaining and flood control of forests has been reduced; the soil of the areas sprayed with herbicides have become poor in nutrient, and the socio-economic conditions adversely affected [17-19].

In addition the species of seafood has been reduced, biodiversity has deteriorated and thus become poor. Some rare faunal and floral species have become extinct while the number of rodents has increased and areas of wild grasses have developed [17-19].

At present, in some areas where Agent Orange/dioxin was stored, and loaded into planes etc at Bien Hoa, Phu Cat and Da Nang airports, the concentration of dioxin is still at a very high level, hundreds of times higher than the permissible level for non-agricultural soil of the US Environmental Protection Agency (USEPA) being 1000 ppt [20, 21]. The concentration of dioxin in mud and some aquatic faunal species in some lakes near these areas is about 5 – 20 times higher than the permissible level [13, 20].



A kid and mangrove at Ca Mau after spraying. Photo by Goro Nakamura, 1976

The scope and level of contamination by Agent Orange/dioxin is still to be determined in some areas known to be polluted with Agent Orange/dioxin due to the Pacer Ivy operation at Da Nang and Bien Hoa airports and some other airports. The position of seven aircrafts that crashed containing Agent Orange/dioxin has also still to be determined yet [4].

In some of the sprayed areas, the concentration of dioxin has reduced to the permissible level, thus no longer affecting the people and the environment [22-24].

#### *Supporting the victims*

Over the past 30 years, the government and people of Viet Nam have always supported the victims of Agent Orange/dioxin in Viet Nam. At the present time over 200,000 Agent Orange/dioxin victims receive a monthly allowance from the government that has allocated a budget of about 50 million USD [30].

In addition, the government of Viet Nam has encouraged and created favorable conditions in expenditure for NGOs such as Agent Orange Victims Fund, Agent Orange Victims Association to assist over 1 million other victims in health care, life improvement and generating work employment.

Thousands of victims, particularly children with birth defects have been cared, nurtured and treated in Hoa Binh village, Vietnam Friendship village and Centers of the disabled children throughout the country.

Yet, the above support activities only meet a small part of a very large and long-term demand of Agent Orange/dioxin victims.

#### *Treatment of Agent Orange/dioxin contaminated areas and environmental restoration*

In the 1990s, the Ministry of Defence of Viet Nam built carried out some construction works to control the spreading of dioxin in Da Nang, Bien Hoa and Phu Cat airports. The Ministry of Defence is also conducting a project isolating and landfilling an area heavily contaminated by dioxin in Bien Hoa airport. With the total budget of 75 billion Vietnamese Dong (5 million

USD), this project can only deal with a part of the dioxin contaminated area in Bien Hoa airport.

In 2007, with the sponsorship of Ford Foundation and partial technical support from USEPA, the Ministry of Defence of Viet Nam has carried out projects preventing the spreading of dioxin from heavily contaminated area in Da Nang airport, and controlling the consequences of dioxin on the environment and people living near the airport.

Viet Nam has been implementing the mangrove-planting project to rehabilitate forests destroyed by herbicides/dioxin.

*The international relations in research and overcoming consequences of Agent Orange/dioxin*

Some foreign organizations and individuals have been cooperating with Viet Nam in research and overcoming of the consequences of Agent Orange/dioxin. Viet Nam highly appreciates the support in developing the UNDP project on the treatment of Agent Orange/dioxin contamination in heavily polluted areas, and their concern for disabled children – victims of Agent Orange/dioxin - from UNICEF, humanitarian activities of some organizations and individuals from Japan, Germany, Norway, England, and the United States... Some scientific research works on the adverse impacts of agent orange/dioxin on the environment and people of Viet Nam have been conducted by scientists from Japan, Germany, Canada, and Russia in cooperation with the Vietnamese scientists. Some Peace, Friendship villages have been built to provide care for Agent Orange/dioxin victims in Viet Nam funded by the Düsseldorf Peace Village and Veteran Associations of Germany, South Korea.



President Nguyen Minh Triet and President George Bush in Washington DC. June, 2007. (Viet Nam News Agency)

Cooperation between the governments of Viet Nam and the US in research and overcoming of consequences of Agent Orange/dioxin began in 2000 following the visit to Viet Nam by President Bill Clinton. The results, over the past years, have been shown through some small scaled activities, namely cooperation in organizing scientific seminars; helping Viet Nam with a dioxin analysis equipment already used; training of some young staff; sampling in Da Nang for dioxin analysis; providing budget of 400,000 USD for USEPA and BEM to research measures for dioxin treatment in Da Nang.

The joint declaration of the two heads of state of Viet Nam and the US during the visit by the US President Bush in November 2006 noted the support from the US in dioxin treatment at Da Nang airport and for the disabled in Viet Nam.

In June 2007, at the reception of President Nguyen Minh Triet in Washington, President Bush made a commitment to fund 3 million USD in the foreign affair fiscal year of 2007 for the treatment of dioxin contamination in Da Nang airport and assistance of people exposed to this

toxin. However, so far, following many requests from the concerned agencies of Viet Nam, the US side has not yet had discussion in detail on the use of this amount.

In recent years, some NGOs from the US have supported Viet Nam in research and in overcoming the consequences of Agent Orange/dioxin. The Vietnamese side has highly appreciated the willingness and activities of the Ford Foundation, Viet Nam Veteran American Fund (VVAFF) and some American friends in supporting Viet Nam in overcoming of the consequences of Agent Orange/dioxin.

The government and people of Viet Nam would always appraise cooperation and assistance of organizations and individuals in the world in overcoming of Agent Orange/dioxin.

### *Conclusions*

The Agent Orange/dioxin war by the US in Viet Nam was the largest use of chemicals in humankind history. Many Vietnamese and foreign scientists, including some US scientists, have carried out research and confirmed the severe consequences of Agent Orange/dioxin left for the environment and many human generations in Viet Nam. As concerned persons, we must understand the sufferings shouldered by the victims of Agent Orange/dioxin. This is a great worry for conscientious and responsible people.

Despite post-war difficulties, the government and people of Viet Nam have made efforts to organize various activities to research and overcome the consequences of Agent Orange/dioxin but have only partially met the very high and complex demand for overcoming the consequences. Dioxin contamination areas should be thoroughly treated soon; Agent Orange/dioxin victims need care and treatment; their spiritual and material life need to be improved.

The government of the US should be responsible for assisting Viet Nam in overcoming the consequences of Agent Orange/dioxin on a much larger scale at present and in a more practical manner. The relation between Viet Nam and the US will not really be normalized and the sorrow of the past war will not end until this problem is addressed.

Overcoming of Agent Orange/dioxin consequences should not be only involved with the victims in Viet Nam but also with Agent Orange/dioxin victims from the US and the US allies who took part in the Viet Nam war and the Vietnamese victims living in the US.

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