Remembering the Vietnam War: Tragedies, Lessons, and the Unconventional Agents for Peace

Dear Madam Chairperson,

Honored Magsaysay Award Trustees,

Distinguished Guests,

Esteemed Colleagues, and Friends,

In 1965, while serving as an intern at the Medical University of Saigon, now Ho Chi Minh City, I encountered a profoundly disturbing event during a night shift. I delivered a severely deformed newborn—one without a brain, only a face. The sight was horrifying, and when the mother saw her child, her eyes widened in shock before she collapsed, screaming and crying, "Oh my God, I gave birth to a monkey!" For days, she rolled around in her hospital bed, weeping incessantly. The entire family was devastated, believing their perceived immorality had resulted in this "monster." As for me, I was haunted for days, unable to eat or sleep.

This was not an isolated case. I witnessed similar incidents frequently, with a noticeable increase in specific congenital anomalies. I began preserving the deceased newborns with birth defects in formalin jars, hoping to research the cause and find ways to alleviate my patients' suffering.

After 1975, many American Vietnam Veterans visited Tu Du hospital--the largest hospital in southern Vietnam that specialized in Obstetrics and Gynecology--and asked me about birth defects and cancers related to toxic chemicals sprayed over the southern part of Vietnam during wartime. I then began looking for documents written on the spraying of toxic chemicals and found a report about this subject published by the US National Academy of Sciences, Institute of Medicine, in 1974. Only then, did I realize that the deformed babies I delivered might have a causal relationship to the toxic chemicals that the US Air Force repeatedly sprayed over my country – on a large scale – for many years.

Operation RANCH HAND was the U.S. Air Force operation responsible for the tactical fixed-wing aerial application of herbicides from UC-123 aircraft. A test program for evaluating tactical herbicides was approved for the U.S. Air Force in late 1961, and on August 10, 1961, the first spraying of chemicals was carried out on the northern side of Kontum, along Highway 14.[1,2]

It is estimated that over a 10-year period, from January 7, 1962, to January 7, 1971, the US military sprayed more than 19 million gallons (72 million liters) of herbicides in southern Vietnam, of which at least 11 million gallons (nearly 42 million liters) were Agent Orange—making it the most widely used herbicide in the war. [2,3]

Spraying of Agent Orange, which is contaminated with dioxin, occurred over inland forests at the junction of the borders of Cambodia, Laos, and South Vietnam; inland jungles north and northwest of Saigon; mangrove forests on the southernmost peninsula of Vietnam; and mangrove forests along major shipping channels southeast of Saigon, Vietnam.[2]

What is Agent Orange?

The different types of herbicides used by U.S. forces in Vietnam were identified by code names referring to the color of the band around the 55-gallon drum that contained the chemical.

These included Agents Orange, White, Blue, Purple, Pink, and Green.

The spraying of herbicides was intended to kill foliage to deny cover to Vietnamese Liberation troops and to destroy crops that could be used to feed the troops.

The spraying also aimed to make whole areas unlivable and drive villagers into "pacified" areas and "strategic hamlets."

The main victims were civilians in villages who were repeatedly contaminated when they ate crops and drank groundwater that had been sprayed.

It is important to note that Agent Orange and Dioxin are not the same.

So, what is Dioxin?

Dioxins are dangerous environmental pollutants -- persistent organic pollutants (POPs) -- that take a long time to break down in the environment.[12]

They enter the body through skin contact, inhalation, and ingestion of contaminated food or water. Due to their chemical stability and ability to be absorbed by fat tissue, dioxins have a half-life of 7 to 11 years in the body. In the environment, they accumulate in the food chain, with higher concentrations found in animals at the top of the food chain.[12]

Dioxins are divided into three closely related families: 1) polychlorinated dibenzo-p-dioxins (PCDDs), 2) polychlorinated dibenzofurans (PCDFs), and 3) certain polychlorinated biphenyls (PCBs).

Counting around the carbon rings, dioxins with chlorines at positions 2, 3, 7, and 8 on the carbon rings are toxic.[6]

The Agent Orange herbicide, sprayed by the U.S. Air Force in southern Vietnam between 1961 and 1971, consisted of a 50:50 mixture by weight of the n-butyl esters of two phenoxy acids: 2,4-dichlorophenoxyacetic acid (2,4-D) and 2,4,5-trichlorophenoxyacetic acid (2,4,5-T).[4]

A synthetic contaminant of 2,4,5-T is the compound 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), informally known as dioxin. [4] TCDD is the most potent and the most studied dioxin. It was shown to be highly toxic in animals, and it was implicated in birth defects seen in mice.[2]

TCDD is an unavoidable by-product of combustion during the manufacture of pesticides that use chemicals such as 2,4,5-T as an ingredient.[7] Further details of this dioxin's toxic effects can be found in the IRIS (Integrated Risk Information System) 2012 policy statement published by the U.S. Environmental Protection Agency (EPA).[8]

The World Health Organization convened a meeting in Geneva, Switzerland, in May 1998, attended by experts from many countries. Their primary focus was to discuss health risks associated with 2,3,7,8-Tetrachlorodibenzo-p-dioxin and reevaluate the tolerable daily intake (TDI) guidelines. By applying the concept of toxic equivalency (TEQ), the new TDI guideline was established in the range of 1-4 pg TEQs/kg of body weight/day.

The "Regulatory Toxicology and Pharmacology" published by Elsevier on November 14, 2023, reported on "The 2022 World Health Organization reevaluation of human and mammalian toxic equivalency factors for polychlorinated dioxins, dibenzofurans, and biphenyls". It stated: "**in humans, long-term exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin, the most potent and best studied DLC, is linked to impairment of the immune system, developing nervous system, the endocrine system, reproductive functions, and carcinogenic responses**. (JEFCA, 2002; Loomis et al., 2018; USEPA 2012, Knutsen, Alexander et al., 2018)."[9]

A joint effort of Vietnamese and American scientists was published in the American Journal of Public Health in 1995, reporting 160 dioxin analyses of tissue from 3243 persons were performed. Elevated 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) levels as high as 1832 ppt were found in milk lipid collected from southern Vietnam in 1970, and levels up to 103 ppt were found in adipose tissue in the 1980s. Pooled blood collected from southern Vietnam in 1991/92 also showed elevated TCDD up to 33 ppt, whereas

tissue from northern Vietnam (where Agent Orange was not used) revealed TCDD levels at or below 2.9 ppt.[10]

When considering the harmful effects of a chemical agent, we must look at the full picture: its properties, the quantity used, and the duration of exposure. In the case of my homeland, southern Vietnam, these factors combined to create a truly devastating situation.

More than 3 million of my people were mercilessly doused with millions upon millions of liters of herbicides that contain the most sinister poison known in human history—2,3,7,8-tetrachlorodibenzo-p-dioxin. This wasn't just any toxin; it was the most potent, the most toxic of all dioxins! And this wasn't just a brief encounter either, but a prolonged assault over 10 long, agonizing years!

The harm inflicted on my people and the destruction wrought upon the environment were truly staggering and horrifying, beyond what anyone can comprehend.

No words can truly capture the depth of this tragedy.

The scars left behind are not just on our land, but etched into the very fabric of our society, our families, and our bodies. It is a legacy of pain that stretches far beyond those ten horrible years and continues to affect us deeply, reminding us of the long-lasting impact of this war.

To delve deeper, my colleagues and I conducted extensive surveys between 1982 and 1989 in areas known to have been sprayed with toxic chemicals during the war, including Ben Tre, Ca Mau, and Can Gio. We compared rates of birth defects, miscarriages, and in-utero fetal deaths in these areas with those in Ward 10, District 1, Ho Chi Minh City. Our findings were alarming: all types of abnormal pregnancies were nearly four times higher in the chemically exposed areas compared to Ho Chi Minh City residents. These results were published in Chemosphere, Vol.18, Nos. 1-6, pp 843-846, 1989.

Subsequent studies by our team, along with colleagues in Hanoi, and researchers from France, Germany, Japan, and the United States have firmly established the causal link between exposure to toxic chemicals, especially Agent Orange contaminated with dioxin, and reproductive abnormalities.

Admiral Elmo Zumwalt Jr., who had ordered the chemical spraying during the Vietnam war, later became an advocate for affected veterans. In a statement before the Human Resources and Intergovernmental Relations Subcommittee on Government Operations, U.S. House of Representatives on June 26, 1990, he said:

"**The debate on this matter (the serious health risks associated with exposure to the contaminants found in Agent Orange) has been needlessly prolonged. The right decision – indeed the only morally acceptable decision – for members of this committee and their colleagues in Congress to make is to acknowledge that Agent Orange is responsible for a wide range of diseases, illnesses and birth defects for which Vietnam veterans should be rightfully compensated.**"

I wish he extended his acknowledgment further, encompassing ALL the victims in Vietnam and everywhere in the world who continue to suffer the consequences of this chemical warfare. They, too, deserve to be rightfully compensated!

My colleagues and I have continuously researched and traveled to many countries to report, making people around the world understand the pain that victims of Agent Orange/Dioxin have to endure, while also warning about the severe devastation of war on present and future generations as well as on the environment and ecology.

- In January 1983, I attended an international conference on the long-term consequences of herbicides and defoliants used during the war in Vietnam.

  Scientists from 22 countries participated, including the Soviet Union, USA, UK, France, Germany, Japan, Czechoslovakia, Korea, New Zealand, Australia, Laos, Cambodia, and Vietnam.

  I reported on previous studies, and the subcommittee on human effects concluded that there are five types of congenital deformities very common in Vietnam but rare or non-existent in other countries, even in Southeast Asia:

  1. Neural tube defects
  2. Deformities of sensory organs
  3. Deformities of limbs
  4. Conjoined twins
  5. Cleft lip and cleft palate

- In 1984, I traveled to all 18 provinces of West Germany and Switzerland, reporting on the situation of children with disabilities due to exposure to Agent Orange/Dioxin.

Subsequently, in 1989, Friedensdorf International in Oberhausen sponsored Vietnam to build 13 Peace Villages to raise and care for children of Agent Orange/Dioxin victims in 12 provinces and cities of Vietnam.

- Throughout the 1990s, I reported in many places in Japan and the US to raise awareness on the Agent Orange/Dioxin issues.

- On January 30, 2004, as Vice President of the Vietnam Association for Victims of Agent Orange/Dioxin (VAVA), I participated in filing a lawsuit against US chemical companies on behalf of Vietnamese victims. These companies produced and supplied toxic chemicals to the US military for use in Vietnam, despite knowing that rapid production of Agent Orange at high temperatures resulted in dioxin contamination.

- Through arrangements made by NGO friends in the US, I visited American universities in Washington D.C., California, Boston-Massachusetts, and New York multiple times to discuss Agent Orange/Dioxin with faculty and students.

- Together with American colleagues and NGO representatives, I attended the American Public Health Association (APHA) conference in 2007 and participated in various group meetings to discuss Agent Orange/Dioxin issues in Vietnam. APHA had over 14,000 members who are prominent American epidemiologists.

  On November 6, 2007, the entire APHA conference passed Policy 20075 and made many recommendations such as: "…**APHA recommends that the US government and involved companies provide resources for services for the disabled in areas where dioxin victims are concentrated; provide medical services and nursing services for those harmed by AO; and develop community support organizations, including health care and educational and chronic care services and medical equipment to care for American and Vietnamese people harmed; including additional services as they are identified**…".[10]

  They also recommended that the US government and the involved chemical companies be responsible to remediate or attempt to clean up those areas in VN that still contain high levels of dioxin. Yes, the cleanup of airports where chemical barrels were stored must be done immediately to prevent further dioxin exposure to nearby residents.

- Since its inception in 2003, I have served as the Vice President of the Vietnam Association for Victims of Agent Orange/Dioxin (VAVA), an organization representing three million Vietnamese victims of Agent Orange and other chemical agents. VAVA has chapters at national, provincial, district, and commune levels across 50 provinces.

  As the voice of the victims, many of whom are VAVA leaders and members themselves, we advocate on their behalf with the Vietnamese government and in international forums.

  VAVA actively engages in various initiatives, including facilitating mutual assistance, promoting income-generating projects, collaborating with the government on financial and social aid, addressing environmental contamination, raising funds for housing, training, and education, and working alongside volunteers to improve victims' lives. Through these efforts and our advocacy for justice and compensation from responsible parties, VAVA plays a crucial role in enhancing the well-being of Agent Orange victims and their families.

- In 2007, I participated in the Vietnam-US dialogue group, discussing ways to heal Agent Orange/Dioxin wounds and proposing measures to clean up the environment at airports and support victims.

- In 2008, I testified before the US House of Representatives. The theme of the testimony was "Our forgotten responsibility: What can we do for victims of Agent Orange/Dioxin?"

- In 2009, I attended the World Court of Conscience on Agent Orange/Dioxin in Paris, France.

- In 2010, I again testified before the US House of Representatives on "Recent developments in Remediation."

Today, as I stand before you, I carry with me the stories of millions of Agent Orange/Dioxin victims – their pain, their resilience, and their unwavering hope for justice and healing. These stories remind us that war's legacy extends far beyond the last bullet fired or the final treaty signed. They challenge us to confront the long-term consequences of conflict and to work tirelessly for a peace that truly heals.

As you sit here today, or perhaps watch this lecture from somewhere across the globe, I wonder if you can feel it - that stirring in your heart, that call to action for the victims of Agent Orange/Dioxin. It's a call that transcends borders, languages, and time itself.

To those of you who feel this call, I extend an invitation - not just to read, but to act upon it. It's good to study, but go beyond the reports and articles I've listed for you from reputable sources. TCDD (Dioxin) is the most toxic and most studied chemical, so yes, there is a lot of data available; but I implore you, don't get lost in the numbers and the reports. Don't let the pages of statistics numb you to the horrifying effects of this chemical warfare.

The victims of Agent Orange/Dioxin and their families aren't just figures on a page - they're real people, real lives, each with their own struggles and stories.

I hope the call in your heart grows strong enough to propel you to actions. I hope you will speak up for those whose voices have been silenced; and I hope you will reach out, bring peace and comfort to those whose ability to help themselves has been stripped away.

To the brilliant young minds of today, I look to you with hope and expectation.

Your world is one of incredible technological marvels - from the little smart phones in your pockets to the AI systems guiding planes through the skies. Soon, a journey to the moon may be as commonplace as a cross-country flight.

But I challenge you to dream bigger. Use your talents not just to advance technology, but to heal our wounded world. Develop innovations that don't just benefit a select few, but uplift ALL of humanity.

You have the power to transform the scars of the past into hope for the future. Let your legacy be one of compassion, restoration, and universal progress.

In your hands lies the potential to make this world not just technologically advanced, but truly better - a place where the echoes of past atrocities are replaced by the harmonies of global cooperation and care.

But our vision must extend beyond healing the past - we must prevent such atrocities from ever occurring again. As we demand justice for the victims of Agent Orange/Dioxin and their families, we must also raise our voices against all forms of war, conventional or unconventional. War brings nothing but destruction, pain, and lasting scars on humanity and our planet.

Our collective genius must be directed towards preserving this wonderful Earth and its beautiful people, not devising new ways to harm it or each other. We owe it to ourselves, to the victims of past conflicts, and to future generations to create a world where peace is not just an ideal, but a reality.

So I ask you today, with all the passion in your hearts and the strength in your voices, to join me in declaring: "**NO MORE WAR**!"

Let this be a commitment, not just words. A commitment to stop war everywhere, to build lasting peace, to create a world where our children and grandchildren will never know the horrors we've witnessed.

Let us work tirelessly, hand in hand, to protect our Earth and to pass on a legacy of peace, compassion, and unity to the generations that follow.

Together, we can turn the page on humanity's darkest chapters and write a new story - a story of peace, of healing, of unity. The pen is in our hands. Let's write this new chapter together.

Thank you!

Dr. Nguyen Thi Ngoc Phuong

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