“Over the past five years, and perhaps longer, weapons outlawed by mankind, weapons successfully banned from the battlefields of the industrialized world for five decades, have been used against unsophisticated and defenseless people...”
These words of an American official, in testimony before the U.S. Congress, are not based on conjecture, guesswork or the allegations of unidentified sources. They are the culmination of years of painstaking investigation, by individuals and organizations of many countries, in an effort to identify the sources, agents and extent of chemical warfare in Southeast Asia and Afghanistan.

The story uncovered by these investigations is one of suffering, terror, death, deception and the systematic violation of international covenants. It is the story of toxin and chemical warfare, of what the world has come to call...
“Yellow Rain”

The Findings

“The Soviet Union and its allies are violating international law systematically by using chemical and toxin weapons that have killed thousands....”

Although much remains to be learned, the world now knows the identities of the victims of Yellow Rain and their attackers, as well as some of the types of chemical and toxin agents used.

The accumulated evidence, available to individuals and nations everywhere, leads to one inevitable conclusion: The Soviet Union and its allies are violating international law systematically by using chemical and toxin weapons that have killed thousands of Asians and Afghans. More specifically, experts have concluded that:

- Laotian and Vietnamese forces, operating under Soviet supervision, have employed lethal chemical and toxin weapons in Laos since 1975;
- Vietnamese forces, armed and supported by the Soviet Union, have, since the Vietnamese invasion of Kampuchea in 1978, used lethal chemical and toxin agents in Kampuchea; and
- Soviet forces have used a variety of lethal chemical warfare agents in Afghanistan since the Soviet invasion in December 1979.

Further evidence shows that they have employed Yellow Rain toxins since at least 1980.

The linkage of these attacks to the Soviet Union is inescapable. As the evidence shows, the Soviets developed these chemicals and toxins, transferred them to Laotian and Vietnamese military forces, and supervised their deployment. In Afghanistan, Soviet forces have used these chemical weapons directly.

These conclusions are by no means those of the United States alone, but are shared by many government officials and representatives of international organizations throughout the world. After lengthy, independent examination of the American evidence, for example, British authorities announced that they had concluded that chemical weapons, including toxins, had been used in Southeast Asia. At the request of the Canadian Department of External Affairs, the University of Saskatchewan conducted an exhaustive study of chemical warfare in Laos and Kampuchea—and concluded that at least three different types of agents were being employed, one of them the toxin identified as Yellow Rain. The Lawasia Society, an organization of lawyers from South and Southeast Asia, also found conclusive evidence of chemical-agent attacks after an independent investigation.

The Mystery

“Yet they reported one terrible, bizarre symptom that was without precedent: massive internal bleeding....”

Yellow Rain began as a mystery. Initially, facts were elusive, physical evidence lacking, eyewitness testimony uncorroborated, and tests on samples for known chemical warfare agents consistently negative. Yet beginning in the late 70s, most investigators who talked with H'Mong villagers from Laos, or later to Kampuchean refugees, became convinced that something extraordinary was happening in the remote jungles of Southeast Asia. After 1979, similar reports emerged from Afghanistan.

The lack of conclusive evidence was not surprising. These incidents were occurring in some of the most inaccessible regions of the world. It often took the victims and eyewitnesses of chemical attacks in Laos six weeks to reach haven in Thailand and tell their stories to refugee workers, doctors and journalists. Physical evidence was almost impossible for the refugees to
In late 1979, the U.S. State Department and other American agencies began a coordinated effort to gather and analyze information on alleged chemical warfare attacks in Southeast Asia, seeking to verify the use of lethal agents, the types of agents and what parties were carrying on a method of warfare outlawed by international conventions. The United States also began discussing these reports with other governments.

A team of U.S. Army medical specialists and investigators traveled to refugee camps in Thailand to verify reports of chemical warfare in neighboring Laos and Kampuchea. They conducted ex-tensive interviews of eyewitnesses and survivors of attacks, as well as of physicians and refugee workers who had treated and cared for them. Based on these interviews, the American experts identified three basic sets of symptoms: burns to the skin, eyes, nose and throat; spasms and convulsions; and heavy bleeding. The U.S. team concluded that the attackers were using at least two and possibly three chemical agents, including mustard gas, which caused burns; nerve gas, a lethal agent that caused convulsions; and some unknown agent responsible for massive hemorrhaging.

Intelligence information on Communist military activities, and defectors from military forces in Laos and Kampuchea confirmed many reports of attacks. At the same time, the United States sought to obtain samples of the blood and tissue of victims, as well as samples of soil, vegetation and yellow powder residue from attack sites.

During their investigations, U.S. officials found no evidence of any systematic propaganda campaign by H’Mong tribesmen or Afghan freedom fighters to promote the allegations that chemical agents were being used against them. When early indications surfaced that Pol Pot’s

The U.S. Investigation

“The U.S. team concluded that the attackers were using at least two and possibly three chemical agents ...”
Kampucheans resistance forces (Khmer Rouge) did engage in such an organized propaganda campaign, U.S. officials made a particular effort to confirm allegations of gas attacks from sources of information not linked to the Khmer Rouge.

The U.S. State Department released its first compilation and analysis of evidence on August 7, 1980. Based on interviews with eyewitnesses and victims of poison gas attacks in the three nations, the Department concluded that enough evidence existed to warrant an impartial United Nations investigation to determine the facts. American officials indicated that they were prepared to cooperate fully in such an investigation, and pointed out that since 1978, the United States repeatedly had brought reports of chemical warfare against Asians to the attention of competent authorities in Laos, Vietnam and the Soviet Union. As one official stated: "We believe the international community as a whole should attempt to establish the facts."

In December 1980, the U.N. General Assembly, at the urging of the United States and other nations, authorized a commission of experts to investigate allegations of chemical warfare in Southeast Asia by a vote of 78 to 17, with 36 abstentions. Commission members included representatives from Egypt, the Philippines, Kenya and Peru.

In September 1981, the United States presented preliminary evidence to the commission, and urged its members to visit refugee camps, and sites of reported chemical use, to confirm U.S. findings that lethal chemical attacks had occurred.

Based on interviews with refugees in Thailand, the U.N. team did conclude that the symptoms in some cases suggested "possible use of some sort of chemical warfare agents." The group asked to investigate "territories where chemical attacks have allegedly occurred," and to interview alleged victims and eyewitnesses there. To reach a definitive conclusion, the experts said, "would require timely access to the areas of alleged use of chemical warfare agents in order to establish the facts. Such an exercise has so far not been possible."

Access was not possible because authorities in Laos and Kampuchea denied them permission to travel to alleged chemical warfare sites. As a result, the commission reported that it was unable to reach a final conclusion as to whether or not chemical agents had been used. In December 1981, the General Assembly, against Soviet objections, voted by an even greater margin than the previous year to extend the chemical warfare investigation.

The U.N. commission issued its second report in December 1982 with a qualified finding that circumstantial evidence suggested "the possible use of some sort of toxic substance in some instances." Despite the failure to be more definitive, a senior U.S. official at the U.N. observed: "Their report supports our finding that trichothecene toxins have been identified in samples. Furthermore, the team notes evidence that these toxin agents have been used." The commission found the possibility of natural contamination highly unlikely, the official added. The tentative nature of the conclusions is not surprising since the commission faced severe restrictions of time and resources, including long delays in delivering toxin samples, which are biodegradable, to laboratories for analysis.

The Mycotoxin Discovery

On September 14, 1981, the United States announced preliminary test results of a vegetation sample taken from a reported attack site in Kampuchea. Walter Stoessel, then U.S. Under Secretary of State for Political Affairs, said the findings "clearly demonstrated that American concerns about chemical warfare in Southeast Asia were entirely justified."

He stated that a leaf-and-stem sample from Kampuchea revealed evidence of three mycotoxins of the trichothecene group. The mycotoxins were identified as nivalenol, deoxynivalenol and T2 toxin. (A toxin is a chemical poison which is usually produced in nature by living organisms, but also can be manufactured synthetically.)

The level of these trichothecenes found in the Kampuchea sample, even after dilution by the background material collected with them, was still 20 times greater than occur in nature. In addition, U.S. officials pointed out, the three toxins and others identified since then-do not occur as natural products of those fungi found in the hot climate of Kampuchea and Laos. The officials noted further that the symptoms associated with the three toxins-severe itching, blistering, vomiting and hemorrhaging-match those of alleged victims in Southeast Asia.
On November 17, 1981, the United States announced the results of tests on three more samples from Kampuchea and Laos. U.S. officials said these new results—taken together with those of previous tests—wholly supported the judgment that trichothecenes have been used as chemical warfare agents in those two nations.

Experts examined the new samples carefully to obtain accurate results. Investigators collected vegetation and soil samples from the sites of alleged chemical attacks, as well as samples from nearby areas outside the target zone. A leading mycotoxin scientist, Chester Mirocha of the University of Minnesota, tested them on a “blind” basis. Officials provided no information concerning the history or origin of the samples; Mirocha was requested only to examine the coded samples for the presence of trichothecenes. The samples included vegetation known not to contain mycotoxins and samples where trichothecenes were added. Although the samples from the attack areas showed the presence of trichothecenes, the materials from outside the attack areas were found free of these mycotoxins. These results further confirmed the U.S. contention that these toxins do not occur naturally in Southeast Asia.

The State Department presented more findings on January 29, 1982, based on blood and urine samples of survivors of a chemical attack in Kampuchea during the fall of 1981 that killed several persons. Traces of the T2 toxin or its derivatives were found in at least four of the nine victims.

On May 13, 1982, the State Department released results of blood-sample tests from two more Kampuchean who were victims of an apparent gas attack on February 13. The samples were flown to the United States, tested by Mirocha, and found to contain levels of T2 toxins as high as 22 parts per thousand million and levels of 10 parts per thousand million for a T2 derivative. By comparison, Mirocha explained, doses of one to five parts per thousand million can kill animals.

According to Prak Reth, one of the Kampuchean guerrillas tested, Vietnamese troops were shelling his unit with artillery near the village of Tuol Chrey when they fired one or more chemical rounds. All the Kampuchean troops shortly began suffering from severe toxic poisoning: eye irritation, bloody vomiting and diarrhea, trembling and painful breathing. Within a day, Reth and other members of the unit sought medical treatment. Amos Townsend, a physician with the International Rescue Committee, was called in to take blood samples from Reth and another guerrilla.

According to a November 1982 State Department report, experts have continued to collect additional physical evidence, and to test the blood and tissue of the latest victims arriving at Thai refugee camps. These rigorously analytical tests confirm allegations of unceasing chemical and toxin attacks through the fall of 1982.

The fusarium fungus which produces these mycotoxins thrives on grains exposed to cold, wet climates. Although outbreaks of these deadly toxins have been reported in Japan, Europe and the United States, it is the Soviet Union that historically has experienced repeated outbreaks of what Russians called “staggering sickness,” which is characterized by profuse internal bleeding.

Outbreaks of these mycotoxins through contamination of stored grains have occurred in the Ukraine, Soviet Central Asia, the Urals and Siberia. In 1944, some 30 percent of the population of the Orenburg district in Siberia were stricken by the mycotoxins. An estimated 30,000 people-10 percent of the population-reportedly died.

The Soviet Union has been studying trichothecene mycotoxins since the 1930’s, and is considered the world leader in this research. According to Western experts, mycotoxins are an important subject of study at Warsaw Pact institutes associated with chemical and biological warfare research.

The facilities for producing and storing mycotoxins are similar to those needed for pharmaceutical-grade antibiotics. No such facilities exist in Southeast Asia to research, test, produce and deploy in munitions the quantities of Yellow Rain agents present there. The Soviet Union, however, does have this capability. A number of these Soviet facilities, according to the U.S. experts, are under military control and heavy military guard.

A survey of Soviet scientific literature during the past 50 years shows a strong interest in producing large quantities of mycotoxin, amounts far beyond ordinary research requirements. Of the 50 articles on trichothecenes in unclassified Soviet literature, some 22 discussed the optimum conditions for biosynthesis of the toxins.

The testimony of foreign military officers who have attended the Military Academy of Chemical Defense in Moscow supports
Right, Soviet soldier in chemical-war exercise during Warsaw Pact maneuvers. Soviet military maintains largest chemical-warfare establishment in the world; they also are leaders in mycotoxin (Yellow Rain) research. Below, individual chemical detection kit taken from Soviet soldier in Afghanistan. Blowup from kit at bottom lists two standard chemicals in Soviet arsenal, soman and sarin. Since Afghan resistance fighters have no chemical-war capability, kit serves exclusively to detect contamination from Soviets' own use of chemical agents.
the conclusion that the Soviets consider chemical weapons an effective and acceptable means of warfare. Soviet instructors outlined the use of three types of chemical agents: harassing agents such as CS or tear gas; incapacitants and herbicides; and during the “decisive phase, lethal agents can be employed under certain circumstances. Chemical weapons can be used to spoil enemy efforts to initiate operations, even if the enemy has not used them first.”

The 1977 East German military manual, *Textbook of Military Chemistry*, matter-of-factly discusses the development of toxic agents, and points out that since toxins are not living substances and can be produced synthetically, they can be included among chemical warfare agents.

Another indication of Soviet activity in biological warfare research was the April 1979 explosion at a military laboratory near Sverdlovsk. That blast released a cloud of anthrax spores that killed approximately 1,000 persons in the area. Soviet officials insisted that the anthrax deaths were due to eating contaminated meat. Experts, however, have pointed out that anthrax spores are killed by thorough cooking. In addition, according to some reports, autopsies of victims showed that death was caused by inhaling the anthrax spores. Experts also noted that the quantity of spores released by the explosion was far too great for research purposes alone.
Soviet Connection II: Southeast Asia

"...Pathet Lao and Vietnamese troops, assisted by Soviet chemical war specialists, are using lethal agents against H’Mong populations in an effort to exterminate a difficult foe."

The evidence from Laos and Kampuchea indicates that select Laotian and Vietnamese forces, under direct Soviet supervision, have used lethal trichothecene toxins and other combinations of chemical agents against H’Mong resistance forces and villages in Laos since at least 1976, and against Kampuchean guerrilla forces since 1978.

In Kampuchea, Vietnamese forces have used lethal trichothecenes and other chemical agents primarily against Khmer Rouge troops. The United States estimates that at least 1,000 have died in more than 130 documented attacks from 1978 through the fall of 1982. Most have occurred in Battambang and other provinces bordering Thailand.

In one operation, a Vietnamese soldier who later defected reported that in March 1979, Soviet advisers accompanying his unit employed chemical weapons in a battle with Khmer Rouge forces. He testified that after his regiment donned gas masks, two Soviets fired a hand-held weapon whose shell gave off clouds of gray and white smoke upon impact, killing more than 300 Khmer Rouge troops, as well as a Vietnamese border-defense contingent which did not have gas masks. This was not an isolated incident. Kampuchean resistance forces have reported frequently that Soviet-backed Vietnamese forces have delivered chemical agents in artillery shells, mortar and grenade rounds, and in rockets fired by aircraft. Often, the Kampuchean troops describe the gas from these munitions as white or yellow, causing chest pain, vomiting, disorientation and profuse bleeding. According to numerous accounts by refugees and soldiers, Vietnamese forces in Kampuchea also have undertaken a systematic campaign to poison water sources and food supplies with a variety of chemical agents, including toxins.

In Laos, H’Mong hill tribesmen and lowland cultures have traditionally been in conflict. Many H’Mong tribesmen sided with France and later with the United States in fighting Communist forces in Indochina. Now Lao and Vietnamese government troops, assisted by Soviet chemical war specialists, are using lethal agents against H’Mong populations, apparently in an effort to subdue or possibly exterminate a difficult foe.

U.S. officials report, for example, that Soviet experts oversee a number of chemical weapons storage facilities in Southeast Asia. As one U.S. official stated: “Both lethal and nonlethal chemicals are believed to be stored at these sites and are transported between storage facilities and ordinance camps or field use areas as needed.”

The H’Mong frequently have witnessed Soviets directing air and ground chemical war attacks. The Laotian Air Force, for example, is for all practical purposes run by more than 500 Soviet advisers who provide the equipment, technical and logistical support, and give training in conventional and chemical warfare. Other eyewitnesses have testified that Soviets routinely supervise the handling, storage and loading of chemical weapons in Laos. Teams of Soviet chemical warfare specialists also have conducted frequent inspection tours in Laos and Vietnam.

One of the most detailed accounts of chemical warfare comes from a Laotian pilot who defected in 1979. For two years, from 1976 to 1978, he flew combat mis-
missions in light aircraft, armed with rockets modified to carry chemical warheads. His targets were H'Mong villages, often in the mountainous Phou Bia region that was a center of H'Mong resistance to the Pathet Lao regime. His account is valuable because it helps verify accounts of Laotian refugees who were the victims of such attacks.

According to his testimony, flight procedures for these chemical attacks, which employed distinctive rockets with loose-fitting red tips, differed sharply from missions with ordinary explosives. A senior Vietnamese or Lao officer always accompanied him, instructing him to attack at an unusually high altitude, and to return to base immediately after firing his rockets without making a normal second run to assess the damage. During this period, he received additional pay, extra food, and regular physical checkups and injections. The pilot observed that his red-tipped rockets exploded above the ground, releasing large amounts of smoke that appeared light red and yellow.
Laos: Chemical Warfare Zones

The overwhelming majority of victims of chemical and toxin attacks are civilians, not soldiers. The H'Mong children below and at right, interviewed at refugee camps in Thailand, are suffering from skin outbreaks that experts believe were caused by aerial chemical attacks.

According to medical interviewers, H'Mong refugee (right) was blinded and sickened by a chemical attack on his home near the Phou Bia region of Laos.

in color. This description corroborates H'Mong testimony describing Yellow Rain attacks as a colored cloud or mist.

U.S. officials estimate the number of Asians killed in this campaign-directed mainly against non-combatants—at about 6,000, although other observers place the fatality count much higher, between 15,000 and 20,000.

Is it possible that Vietnam and Laos could be using chemical agents independent of the Soviet Union? The weight of the evidence is clear and unambiguous: The Soviet role in the manufacture, supply and deployment of chemical munitions to their client states in Southeast Asia is massive and continuing. Experts agree that it is impossible to contend that Vietnamese and Laotian forces could manufacture and deploy such a large and varied arsenal of chemical munitions against largely defenseless Asian peoples without active Soviet involvement and logistical support.

Laos: Chemical Warfare Zones

- Provinces where chemical attacks have occurred
- Area of concentrated chemical attacks
- Military headquarters with chemical unit
- Refugee Camp

Adopted from U.S. State Department map
One Victim’s Story

This is Lor Xiong, a 15-year-old H’Mong boy who lived in the Phu He area of Laos, which contains a number of small H’Mong villages. In the spring of 1982 he was working in the fields when he heard a jet aircraft pass overhead. Shortly thereafter, a wet, yellowish substance fell from the sky, soaking his shirt and pants. Xiong went home, washed and changed his clothes. Approximately 10 minutes later, he became very sick with chest pain, difficulty breathing, drowsiness and impaired hearing. Throughout the night, he vomited and suffered from bloody diarrhea. Xiong said that a number of other villagers became ill, and he saw one person die after eating contaminated food, possibly tapioca. Chickens in the village died, as did some of the vegetation in the area. When Canadian officials interviewed Xiong at a refugee camp, he still was suffering from the effects of the attack. He continued to experience chest pains, and to breathe with difficulty when walking. Most of his body, including his face, remained covered with severe skin lesions that were itchy and painful.
Soviet Connection III: Afghanistan

“As in Southeast Asia, the Soviets employed incapacitating and lethal chemicals in varying combinations and amounts...”

In assessing the evidence from Afghanistan, observers have concluded that Soviet and Soviet-backed Afghan forces have conducted chemical attacks with irritants, a variety of nerve agents, mustard gas, toxic smoke and incapacitating agents, including one previously unknown in the West, which is termed Blue-X for the color of the cloud it produces. It apparently renders its victims unconscious for six to eight hours, allowing them to be disarmed or captured.

Recently, experts have received and tested samples that verify frequent eyewitness reports of the Soviet use of Yellow Rain toxins. The special State Department report published in November 1982, for example, documents the analysis of two contaminated Soviet gas masks that revealed the presence of trichothecene mycotoxins.

Afghan military defectors have identified many of the chemical agents brought into Afghanistan by the Soviets, and detailed where they have been stockpiled, and how and when they have been used. Some of these defectors, U.S. experts state, are Afghan officers trained in chemical warfare by the Soviet Union.

The invading Soviet army carried Soviet chemical-war equipment with them into Afghanistan, including modified jet engines that spray detergents over tanks and other vehicles at high temperatures and speeds to remove contaminants in minutes. They also deployed AGV-3 personnel decontamination chambers. These facilities consist of three tents in which soldiers decontaminate, strip and change into fresh uniforms.

Such equipment is standard for the Soviet Army, and its presence in Afghani-
stan was not unusual, even though the Afghan freedom fighters do not pose a chemical-war threat. Rather than being kept in storage or rear areas, however, this equipment has been spotted in forward combat zones. Further, Afghans have witnessed both vehicle and personnel decontamination units in use, and seen Soviet soldiers wearing protective clothing. The deployment of such Soviet decontamination equipment, observers have stated, "suggests that chemical battalions have supported offensive chemical use."

In the first months of the invasion, Afghan observers reported 10 separate chemical attacks in the northeastern section of the country; by the spring and summer of 1980, eyewitnesses and refugees reported attacks in all areas of resistance to the Soviet-installed regime. As in Southeast Asia, the Soviets employed incapacitating and lethal chemicals in varying combinations and amounts; eyewitness reports indicate that the Soviets have tended to use irritants and incapacitating agents in populated areas easily accessible to outside observers, and lethal chemicals, including Yellow Rain toxins, in battles against mujahidin forces in more remote mountain regions.

Still the reports accumulate. Mujahidin eyewitnesses in Lowgard Province, for example, report that on two occasions in
September 1982, Soviet forces contaminated underground water supplies by using an armored vehicle to pump a yellow gas through hoses into waterways. Based on a conservative analysis of the information available, experts estimate that chemical attacks killed at least 3,000 Afghans by 1982. Officials indicate that the actual casualty figure might be twice that number.

**Soviet Connection IV: Motivations**

“They are weapons of terror that can effectively subdue entire villages or populations... the attackers can depopulate entire regions, and force the inhabitants to disperse or move into refugee camps.”

Even after the physical evidence, the eyewitness testimony and other pieces of information are assembled, a question remains: Why?

Why would the Soviet Union risk world condemnation to conduct chemical war attacks against Asian and Afghan peoples who pose no conceivable threat to Soviet security interests?

An assessment, of the political and military situations confronting the Soviets in Afghanistan, Laos and Kampuchea suggests several answers. In all three cases the Soviets and their clients are trying to end the resistance of forces operating from relatively inaccessible jungle or mountainous terrain. In many cases, conventional weapons-artillery, bombs and napalmare not particularly effective, and direct infantry assaults are costly in men and materiel. Chemical agents, on the other hand, offer a quick, effective means of destroying forces that have little or no defense against such attacks.

Chemical weapons offer the Soviets several other advantages. They are weapons of terror that can effectively subdue entire villages or populations; further, by using persistent nerve and chemical agents that can contaminate food supplies and water sources, the attackers can depopulate entire regions, and force the inhabitants to disperse or move into refugee camps.

The Soviets could be using trichothecene toxins, among other agents, for a variety of reasons. Experts speculate that toxins are relatively cheap to manufacture, and safe to store and transport. They are relatively unknown in the West, and therefore are difficult to locate, collect and identify.

The evidence also indicates that the Soviets regard these remote regions as opportunities for field study and experimentation with chemical and toxic agents. The number of different agents used, for example, suggests an attempt to evaluate which chemical weapons are most effective under actual battlefield conditions. In Laos, survivors of a Yellow Rain attack report that Laotian troops injected them with a “new medicine” and took them to a hospital for observation. In Afghanistan, eyewitnesses have seen Soviet troops in full protective gear enter areas subjected to chemical attacks and examine the bodies of the dead.

**U.S. Chemical Agents**

“...In the Vietnamese conflict, the United States used herbicides to deprive enemy forces of ambush cover and to disrupt enemy food sources.”

The United States is aware of Soviet allegations that the United States engaged in chemical warfare activities during the Vietnam War with the use of herbicides—notably so-called “Agent Orange.”

The distinction between U.S. and Soviet chemical operations in Southeast Asia is a critical one. The chemical agents used by Communist forces in Afghanistan, Laos and Kampuchea since 1976 include substances that are intended to kill. In the Vietnamese conflict, the United States used herbicides to deprive enemy forces of ambush cover and to disrupt enemy food sources. The chemicals in Agent Orange are by no means exotic; they have been used widely in America as weed killers for 30 years. It was only after U.S. forces had applied large concentrations of these chemicals in Vietnam that reports surfaced that heavy exposure might be responsible for birth defects and a high incidence of liver cancer, even in American soldiers. These still unconfirmed reports caused U.S. officials to stop the use of the herbicide in Vietnam and the United States at the same time.

In Vietnam the United States also used standard riot control agents such as CS tear gas that can be found routinely in the inventory of police forces in the United States and many other countries.
The use of chemical and toxin agents is a violation of two major international treaties. The first is the 1925 Geneva Protocol, one of the few remaining legacies of the First World War, and among the oldest agreements on arms control still in force. Both the United States and the Soviet Union are signatories.

The Geneva Protocol bans the use in war of asphyxiating, poisonous gas and bacteriological methods of warfare. Some nations signed this protocol with reservations. The United States, for example, has reserved the right to regard the accord as non-binding if any enemy state should not abide by the provisions of the Protocol regarding chemical weapons. President Franklin D. Roosevelt was one of the first to articulate a U.S. policy that has remained consistent for the past 50 years: “We shall under no circumstances resort to the use of such weapons unless they are first used by our enemies.”

The Soviet Union has similar reservations. It has reserved the right to regard the protocol as non-binding should any enemy fail to observe the Protocol’s provisions.

The second treaty is the 1972 Biological and Toxin Weapons Convention, which prohibits the possession or transfer of toxin weapons to other countries. The Soviet Union, the United States and most other nations are signatories to this agreement as well.

Even before the 1972 convention on biological and toxin weapons entered into force, the United States took unilateral action. In 1969 President Richard Nixon reiterated that the United States unilaterally renounced “first use” of lethal or incapacitating chemical weapons, and unconditionally renounced use of all biological weapons. In 1970 the U.S. ban on biological weapons was extended to include toxins.

On February 8, 1982, the Reagan Administration reaffirmed the U.S. commitment against the use of such weapons: “The United States will not use chemical weapons unless chemical weapons are first used against us or our allies. The United States does not and will not possess biological or toxin weapons.”

As State Department official Richard Burt pointed out in March 1982, the Soviet Union “has never provided any specific information to the international community on what steps it has taken to comply with the 1972 convention’s ban on the production and stockpiling of biological and toxin weapons.”

He continued: “In 1980, when the United States sought clarification of reports of an outbreak of anthrax in the city of Sverdlovsk, from causes which did not appear natural, the Soviet Union refused to engage in the sort of consultations prescribed in the 1972 treaty.”

A common defect of the Geneva Biological Weapons Convention is that neither contains provisions for verification, nor any adequate mechanism for resolving issues of compliance. Since the late 1970’s, the United States has made a continuous effort to reach agreement with the Soviet Union on a comprehensive ban on chemical weapons. U.S. officials state that these talks have been stalemated because of fundamental disagreements on the need for effective verification, “particularly Soviet intransigence on questions relating to on-site inspection.”

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**International Law**

“Possession or transfer of toxin weapons to other nations is a clear violation of the 1972 Biological and Toxin Weapons Convention.”

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**Biological Weapons Convention of 1972**

The 1972 Convention is an expansion of the earlier Geneva Protocol. It specifically prohibits the production, stockpiling and transfer of biological and toxin weapons. Article I of the Convention states:

“Each State Party to this Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain:

“(1) microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes;

“(2) weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.”

In article II, the Convention states:

“Each State Party to this Convention undertakes to destroy, or to divert to peaceful purposes as soon as possible but not later than nine months after the entry into force of the Convention, all agents, toxins, weapons, equipment and means of delivery specified in article I of the Convention...”

And article III reads:

“Each State Party to this Convention undertakes not to transfer to any recipient whatsoever, directly or indirectly, and not in any way to assist, encourage, or induce any State, group of States or international organizations to manufacture or otherwise acquire any of the agents, toxins, weapons, equipment or means of delivery specified in article I of the Convention.”
Vientiane where he discusses the problem with various diplomatic missions and the senior U.N. representative in Laos. During the visit, he raises U.S. concerns about the problem directly with the Lao Foreign Ministry.

September 1979

The United States dispatches a Department of Defense medical team to Thailand to interview and prepare a report on H'Mong refugees having knowledge of gas attacks in Laos.

November 1979

The U.S. makes demarches to the Vietnamese in Paris and to the Soviets in Moscow expressing concern about reports of poison gas use against resistance forces in Laos. Both the Soviets and Vietnamese support the Lao denial of the validity of the reports.

December 1979

State and Defense Department officials present evidence of gas attacks in Laos to the Foreign Affairs Committee of the U.S. House of Representatives.

February 1980

The United States makes a bilateral demarche to the Soviets regarding chemical warfare in Laos and Kampuchea, and about reports that chemical weapons are being used by the Soviets in Afghanistan. The demarche takes place in Geneva during U.S.-Soviet bilateral negotiations on a comprehensive prohibition of chemical weapons production, development and stockpiling.

May 1980

The United States dispatches an interagency team of U.S. government political technical and intelligence officers to Europe to brief Western allies about the Yellow Rain problem, and to stimulate support for an impartial international investigation.

July 1980

U.S. makes another demarche to the Soviets in the course of U.S.-Soviet bilateral chemical warfare negotiations. The Inter-Parliamentary Union adopts a resolution calling for an impartial international investigation of reports of chemical weapons use.

August 1980

The United States circulates to U.N. member states a 125-page compendium of reports and declassified intelligence information pertaining to the use of chemical weapons in Laos, Kampuchea and Afghanistan.

The 40-nation Committee on Disarmament includes language in its Annual Report to the U.N. General Assembly on the need for an impartial international investigation of the problem of chemical weapons use.

December 1980

With the support of the United States and other nations, the U.N. General Assembly adopts a resolution (A/35/144 C) establishing a U.N. investigation, under the auspices of the U.N. Secretary General and with the assistance of qualified medical and technical experts, of reports of chemical weapons use. The vote is 78 in favor, 17 opposed, with 36 abstentions.

March 1981

In accordance with General Assembly Resolution A/35/144 C and the request of the U.N. Secretary General, the United States offers detailed information pertaining to reports of the use of chemical weapons in Southeast Asia and Afghanistan. The U.S. submission consists of a letter summarizing the U.S. findings, the U.S. compendium of reports from August 1980, an update to that compendium covering the period through January and February 1981, the transcripts of U.S. congressional hearings held on the subject, and the texts of resolutions condemning the use of chemical weapons passed by the U.S. Senate and House of Representatives.

July 1981

The United States provides further details and written responses to questions from the U.N. Group of Experts concerning the U.S. March 1981 submission.

September 1981

In a September 13th speech in Berlin, Secretary of State Alexander Haig announces that the United States has obtained physical evidence of the use of lethal mycotoxins in Southeast Asia, discovered in the analysis of a leaf-and-stem sample from the site of a chemical attack in Kampuchea.

On September 14, the United States submits a report on the new evidence pertaining to the use of mycotoxins to the U.N. Group of Experts. On the same day, Under Secretary of State for Political Affairs Walter Stoessel holds a press conference in Washington and provides a detailed press background on the new evidence. During consultations with Soviet Foreign Minister Andrei Gromyko in New York, Secretary Haig again raises U.S. concerns about the new evidence on the use of lethal mycotoxins in Southeast Asia, and about the 1979 Sverdlovsk anthrax incident.
October 1981

Following up the Haig/Gromyko discussions, Robert Grey, consultant to the Arms Control and Disarmament Agency, makes detailed bilateral demarches to the Soviets in Washington; at the same time, the U.S. Deputy Chief of Mission initiates similar discussions in Moscow. Both raise the general subject of Soviet compliance with the Biological Warfare Convention, as well as specific U.S. concerns regarding the 1979 Sverdlovsk anthrax incident and the evidence of the use of trichothecere mycotoxins in Southeast Asia. In their formal response, made in November, the Soviets reject U.S. concerns once again.

The U.S. sends another interagency team of political, technical and intelligence officers to Europe to brief the allies about the new evidence of the use of lethal mycotoxins in Southeast Asia.

A delegation of U.S. government political, technical and medical experts appears before the U.N. Group of Experts, where they respond to questions pertaining to the U.S. submission on September 14 of new evidence concerning use of lethal mycotoxins in Southeast Asia.

November 1981

The U.N. Group of Experts investigating use of chemical weapons travels to Thailand to visit refugee camps and interview and examine survivors and eyewitnesses of chemical attacks in Laos and Kampuchea. While there, the experts obtain samples from alleged chemical attacks and samples of vegetation and blood from refugees exposed to chemical attacks.

In testimony before the U.S. Congress, Richard Burt, Director of the Bureau of Politico-Military Affairs, announces that analyses of samples from areas subject to chemical warfare reveal high levels of mycotoxins, while analyses of control samples from noncombat areas in Southeast Asia contain no mycotoxins.

The United States submits a report to the U.N. Group of Experts on its analyses of chemical warfare samples from Kampuchea and Laos, which were found to contain high levels of mycotoxins.

The United States makes demarches to the Vietnamese in New York and to the Lao in Vientiane regarding the evidence of the use of lethal mycotoxins in the conflicts in Kampuchea and Laos. Both the Vietnamese and the Lao reject the evidence and deny the validity of U.S. concerns.

December 1981

The American Broadcasting Company (ABC) broadcasts a special television documentary on chemical warfare in Southeast Asia and Afghanistan entitled “Rain of Terror,” which presents evidence of Yellow Rain attacks, including an analysis of a sample obtained by ABC that contained the presence of three mycotoxins in addition to a man-made chemical substance used in aerosols.

The U.N. Secretary General submits the Report of the U.N. Group of Experts investigating reports of chemical weapons use. The report is inconclusive and states that the group had been unable to carry out all the actions it had intended (e.g., on-site visits to Afghanistan, Laos and Kampuchea) due to the refusals to cooperate of the countries concerned, and that it had been unable to complete some of the actions it had planned (e.g., on-site visits to Pakistan, analysis of the samples obtained in Thailand) in the time available.

With the full support of the United States and other nations, the U.N. General Assembly adopts a resolution (A/38/66 C) extending the mandate of the U.N. Group of Experts investigating chemical weapons use for another year.

The vote on the resolution is 86 in favor, 20 opposed, and 32 abstentions.

January 1982

The United States releases the results of tests on survivors of a fall 1981 chemical attack in Kampuchea in which traces of T2 toxin or its derivatives were found in blood and urine samples of four of nine victims.

March 1982

Secretary of State Haig submits a comprehensive report to the U.S. Congress entitled “Chemical Warfare in Southeast Asia and Afghanistan.” The report is based on a special U.S. National Intelligence Estimate which concludes that: 1) Laos and Vietnamese forces, under Soviet supervision, have used lethal chemical and toxin agents in Laos since 1975; 2) Vietnamese forces in Kampuchea have employed lethal chemical and toxin agents since 1978; and 3) Soviet forces have used a variety of lethal and nonlethal chemical and nerve agents in Afghanistan since the 1979 Soviet invasion.

April 1982

The United States dispatches an interagency team of U.S. government political, technical and intelligence officers to Europe and Asia to brief governments and the public on the overwhelming evidence of the use of lethal chemicals and toxins in Southeast Asia and Afghanistan.

May 1982

U.S. State Department announces that additional blood samples from two Khmer Rouge soldiers subjected to a February 1982 chemical-war attack show extremely high levels of the mycotoxin T2 and its derivatives.

June 1982

The United Kingdom states that, “Careful and independent study of information released to us by the United States Government has now led us to believe that chemical weapons, probably including mycotoxins, have been used in Southeast Asia....

“The use of chemical weapons is a flagrant contradiction of the civilized standards reflected in the 1925 Protocol. Moreover, the use of toxins in Southeast Asia would represent a breach of the 1972 convention banning biological and toxin weapons.”

A study conducted by Canada’s University of Saskatchewan concludes that at least three different types of chemical agents have been employed in Southeast Asia, one of them being trichothecene mycotoxins.

Following an independent investigation sponsored by an organization of lawyers called Lawasia, a distinguished group of jurists and academics from five Asian nations report that they are “morally certain” that chemical weapons have been used in Kampuchea and Laos.

September 1982

Soviet soldier, captured by Afghan resistance forces after defecting, testifies that he has seen three different types of Soviet chemical weapons stored at an air base in Afghanistan. He further states that he has witnessed Soviets returning from combat who had been contaminated by their own gases, and talked to a dozen types of chemical agents in Afghanistan just after a mission during which his unit fired chemical rockets at mujahedin forces.

November 1982

The U.S. State Department issues a special report entitled “Chemical Warfare in Southeast Asia and Afghanistan: An Update.” The report describes conclusive physical evidence of trichothecene mycotoxin use by Soviet forces in Afghanistan, and presents additional evidence and testimony that supports claims that chemical and toxin attacks are continuing unabated in all three countries.

December 1982

A U.N. investigating team issues a qualified report stating that “it could not disregard the circumstantial evidence suggestive of the possible use of some sort of toxic chemical in some instances.”
A World Challenge

As this document is printed, the weapons of chemical war are being used against Asians and Afghans precisely for the reasons that nations have sought to outlaw them: because they are weapons of mass terror, suffering and death.

The evidence of systematic Yellow Rain attacks and their connection to the Soviet Union can no longer be ignored or dismissed by the international community. Without strong, concerted action by the community of nations, the Geneva Protocol of 1925, the oldest arms control agreement still in force, and the 1972 Biological Weapons Convention, are in danger of becoming meaningless pieces of paper that afford security to no one.

As one official stated: “What is going on today in Afghanistan and Southeast Asia is not an East-West issue, It is an issue of universal import with particular consequences for those countries least prepared to defend against the use of chemical and biological agents. “It is the responsibility of the world community which will, in the end, determine whether these attacks continue and proliferate or halted forever.”