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THE DIRECTOR OF
CENTRAL INTELLIGENCE

National Intelligence Council

DDI #1574-82
24 February 1982

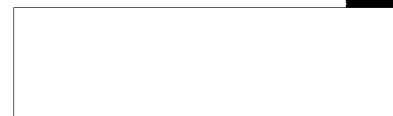
MEMORANDUM FOR: Director of Central Intelligence
FROM : Hans Heymann, Jr.
National Intelligence Officer
at Large
SUBJECT : Evidence on Use of Chemical
Agents

The attached paper responds to your
request.



Hans Heymann, Jr.

Attachment



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DDI #1574-82
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MEMO FOR: DCI
FROM : NIO-at-Large
SUBJECT : SNIE on Chemical Warfare

Distribution:

0 - DCI
1 - DDCI
1 - ExDir
1 - SA/DCI
1 - C/NIC
1 - ER
2 - NIO-at-L (Heymann)
1 - DDI Reg.
NIO-at-Large/HHeymann/

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Evidence of Use of Chemical Agents in Southeast Asia and Afghanistan

Four types of evidence were adduced to arrive at our conclusion that a variety of lethal and non-lethal chemical agents were used in Southeast Asia and Afghanistan:

- Signs and symptoms (medical-toxicological)
- Environmental samples from known attack sites.
- Blood samples from and examinations of victims
- Collateral and special intelligence

1. Signs and Symptoms

Study by medical-toxicological experts of symptoms exhibited by individuals exposed to toxic agents has provided a good indication of the general class of chemical agent used, e.g., the range of clinical manifestations from chemical agents as reported by a US Army investigative team resulted in the determination that nerve agents, irritants such as CS, and a highly toxic hemorrhaging chemical or mixture of chemicals were used in Laos. Other medical-toxicological personnel arrived at the same determination and further indicated that toxins such as the trichothecenes were a probable cause of the lethal hemorrhaging effect seen in Kampuchea as well as Laos. Symptoms reported by the DK in Kampuchea and the Mujahedin in Afghanistan were in many cases similar to those reported by the H'Mong in Laos. In addition, symptoms reported from Afghanistan and Kampuchea indicated that a highly potent, rapid-acting incapacitant "knockout" chemical also was being used. Mujahedin victims and witnesses to chemical attacks reported other unusual symptoms, including a blackening of the skin, severe skin irritation with multiple small blisters and severe itching, severe eye irritations, and difficulty in breathing -- suggesting that phosgene oxime or a similar substance was used.

With respect to "Yellow Rain" specifically, the attached table shows a comparison of effects as reported by victims, observers and medical personnel with medically known effects of tricothecene poisoning.

2. Environmental Samples

Samples have been collected from Southeast Asia since mid-1979 and from Afghanistan since May 1980. To date about 50 individual samples -- of greatly varying types of usefulness for analytical purposes -- have been collected and analyzed for the presence of traditional CW agents, none of which have been detected. On the basis of recommendations by medical and toxicological experts and of findings by the CSL, many of the samples have been analyzed for the trichothecene group of mycotoxins. Four samples, two from Kampuchea and two from Laos, were found to contain high levels of trichothecene toxins. In the most important cases, control samples taken in the immediately adjacent area of the attack were negative.

**Comparison of Reported "Yellow Rain" Effects
With Known Trichothecene Effects**

Yellow Rain Reports*

1. Nausea, vomiting--severe, immediate
2. "Falling down, world turning"
3. "Burning of skin" . . . small blisters
4. "Shaking all over, flopping like fish out of water"
5. "Bleeding eyes"
6. "Pounding" chest, rapid heartbeat, weakness
7. Severe pain in center of chest
8. Sleepiness, "not able to talk"
9. Bleeding gums
10. "Can't breathe"
11. "Skin and body hot with cold"
12. Diarrhea with blood
13. Loss of appetite, inability to eat
14. Bleeding into skin and fingernails
15. Drop in white blood cell count
16. "Rotten esophagus, stomach, intestines; soft spleen and liver"
17. Swelling of all organs

Effects of Trichothecenes

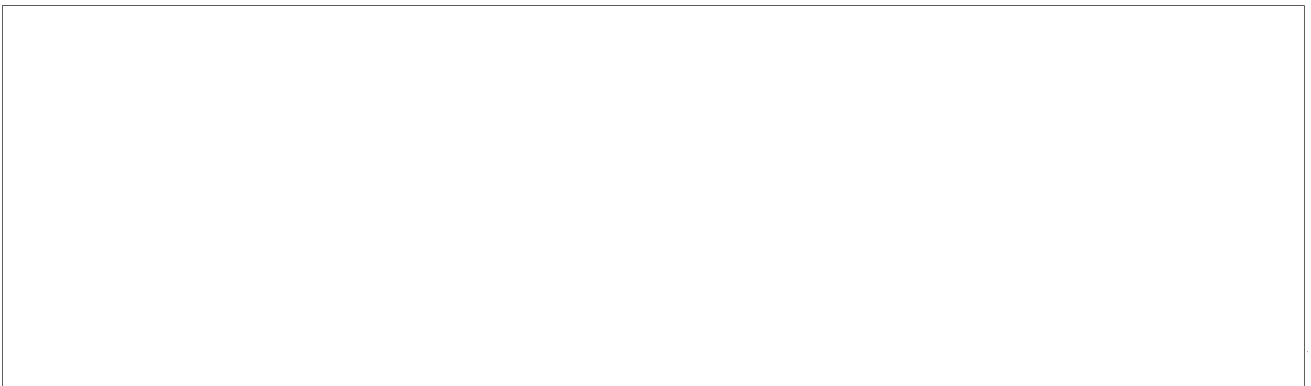
1. Nausea, vomiting--severe, immediate
2. Dizziness
3. Generalized erythema with a burning sensation of skin
4. Ataxia (failure of muscular coordination), occasional tremors and convulsions
5. Congestion of the sclera (white outer coat of eyeball) and blood in tears
6. Hypotension (abnormally low blood pressure) with secondary rise in heart rate
7. Angina (substernal chest pain)
8. Somnolence, central nervous system symptoms
9. Stomatitis (inflammation of oral mucous membranes) and ptyalism (excessive salivation)
10. Shortness of breath
11. Fever and chills
12. Diarrhea with blood
13. Anorexia
14. Thrombocytopenia (decrease in number of platelets, white blood cells involved in clotting of blood) and purpura (skin discoloration caused by hemorrhage into tissues)
15. Leukopenia and anemia
16. Rapid necrosis of linings of gastrointestinal tract; lymphoid necrosis in spleen and liver
17. Congestion of all organs

* Effects are immediate at levels near to or above a rough estimate of 500 to 1,000 mg total body burden for an adult. Although inhalation data are pending, the levels are consistent with reported lethal and sublethal doses. Trichothecenes in combination, when directly ingested or inhaled, or in purified form, are more toxic in lower concentrations and the order of signs and symptoms and timing varies.

We should note that, because of the low persistency of CW agents, sample collections should ideally be made within minutes or hours of an attack. Under the circumstances of Southeast Asia and Afghanistan this has simply not been possible. While numerous samples were collected, few of them held any realistic prospect of yielding positive results. It is fortunate that trichothecenes are sufficiently persistent to allow detection several months after the attack. Regarding Afghanistan, where access is relatively better, a new collection effort is underway to obtain samples in such an accelerated manner.

3. Blood Samples and Direct Medical Examinations

A number of blood samples taken from victims of recent attacks showed results strongly supporting poisoning by trichothecenes. This evidence included the presence of trichothecene metabolite, as well as other changes in blood count and enzyme studies that are entirely consistent. Control samples from non-exposed members of the same population were negative.



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No single piece of evidence of any category taken alone proves our case in any scientific sense. But so far, ~~alone~~ exposed to all of the evidence combined has questioned its compelling nature.

88-2148/7

24 February 1982

MEMORANDUM FOR: Hans Heymann
National Intelligence Officer at Large

FROM : Special Assistant to the Director for
Interdepartmental Affairs

SUBJECT : SNIE on Chemical Warfare

1. The Director asked this morning for a short statement on the nature of the evidence which has led us in our recent SNIE to conclude that the Soviets have, either directly or through their proxies, used chemical agents in South and Southeast Asia. What he means is specifics as to types of blood samples, the tests run, etc. He is on top of the judgments of the SNIE, but he feels a little bit weak on the nature of the evidence underlying those judgments.

2. The Director would like to have this as soon as possible, although he is not asking for it for any particular meeting. Because it should be a fairly simple and straightforward exercise, I ask that, if possible, you give it to me by close of business today. My suggestion is that you somehow summarize the discussion of the evidence in the SNIE and attach excerpts from the SNIE if necessary as backup.



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cc: C/NIC
ExO/NIC
SA/DCI 

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