Re-Appraising the Nature and History of Chemical Weapons Deployed in Armed Conflicts

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Abstract

Conflicts, particularly violent armed conflicts, are a recurring component of human existence. It has a negative impact on both those directly participating and those not directly involved, particularly with the deployment of chemical weapons. Limiting the detrimental effects of this form of unconventional weapon in armed conflict is one of international humanitarian law's most important objectives. The history of any given concept, society, innovation is very important and should never be underplayed. This article examines the historical development of the deployment of chemical weapons in armed conflict. It highlights the nature of chemical weapons and the trajectory of its deployment. It sheds light on the effect of chemical weapons in armed conflicts. It finds that chemical weapons are being deployed in recent armed conflicts with devastating effect on people. This article also brings to the fore the need to address the continued deployment of chemical weapons in armed conflict. This article concludes that there in need to re-appraise the existing legal and institutional frameworks for combating the use of chemical weapons in armed conflict to create a safer world for all.

Keywords: chemical weapons, armed conflicts, international humanitarian law.

1. INTRODUCTION

The usage of chemical weapons in armed conflicts is a matter that caused perplexing discussions in the international stage.[1] This is due to the perniciousness attached to its effective usage. Chemical weapons are generally known to be extremely harmful and cause quantum change whenever it is being deployed.[2]This research will focus onthe nature of chemical weapons and its use in different armed conflicts.

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1 K Ganesan, S K Raza and R Vijayaraghavan, "Chemical warfare agents" (2010)2(3) *Journal of Pharmacy and Bioallied Sciences* 166–178

[2]Derrick Tin et. al. " A Descriptive Analysis of the Use of Chemical, Biological, Radiological, and Nuclear Weapons by Violent Non-State Actors and the Modern-Day Environment of Threat" (2023)38(3) *Prehosp Disaster Med* 395-400. See also, United Nations Office for Disarmament Affairs "Chemical Weapons"<https://disarmament.unoda.org/wmd/chemical/> accessed 28 August,2025

Chemical warfare is the use of the toxic properties of chemical substances to kill, injure or incapacitate an enemy in warfare and associated military operations.[3]According to the Organisation for the Prohibition of Chemical Weapons (OPCW), this chemical substance can be any chemical compound intended as a weapon "or its precursor that can cause death, injury, temporary incapacitation or sensory irritation through its chemical action. Munitions or other delivery devices designed to deliver chemical weapons, whether filled or unfilled, are also considered weapons themselves."[4] Defined by Tucker as "man-made, super toxic chemicals that can be dispersed as a gas, vapor, liquid, aerosol (a suspension of microscopic droplets), or adsorbed onto a fine talcum-like powder to create 'dusty' agents,"[5] these weapons were made to carry through the atmosphere.

The use of Chemical Weapons in Warfare has been long thought to be inhumane and is largely prohibited in historical and religious manuscripts including the Hindu Laws of Manu and laws derived from the Koran.[6] Ancient uses of chemical weapons have been deduced to include poisoning of arrows and wells and one of the earliest references to use of chemical agents in battle is the Byzantine Navy's use of Greek Fire, a mixture of sulphur and other chemicals, which had incendiary and toxic effects.[7] Meanwhile, the modern use of CW can be traced to the ideas proposed by scientists and nations during the several wars in Europe in the 19th century[8] and even the American Civil War.[9]

French forces were the first to employ chemical weapons in the first World War, by using tear gases in 1914,and the agent used was either xylyl bromide, which is described as smelling 'pleasant and aromatic', or ethyl bromoacetate, described as 'fruity and pungent.'[10] The first widespread use of Chemical Weapons was by German forces which occurred on the 22nd of April, 1915 in Ieper, Belgium during the first World War with an effect that shocked both sides of the conflict. By the end of World War I (WWI), the total casualty from Chemical Weapons was about 1.3 million persons while about 100,000 of them died shortly after exposure to chemical warfare

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3 Chauhan, S., D'Cruz, R., Faruqi, S., Singh, K., Varma, S., Singh, M., & Karthik, V. 'Chemical warfare agents.' *Environmental Toxicology and Pharmacology*, *26*(2), 113-122. (2008) <https://doi.org/10.1016/j.etap.2008.03.003<https://www.sciencedirect.com/science/article/pii/S1382668908000483> accessed 19 April 2025

4 OPCW. 'What is a Chemical Weapon? | OPCW.' <https://www.opcw.org/our-work/what-chemical-weapon>http://www.opcw.org/about-chemical-weapons/what-is-a-chemical-weapon/> accessed 18 April 2025

5 Jonathan B. Tucker, "Introduction," in *Toxic Terror: Assessing Terror Use of Chemical and Biological Weapons*, ed. Jonathan B. Tucker (Cambridge, MA: MIT Press, 2000), 3

6 OPCW, 'Practical Guide for the Medical Management of Chemical Warfare Casualties'. P.9 <https://www.opcw.org/sites/default/files/documents/2019/05/Full%20version%202019_Medical%20Guide_WEB.pdf.> accessed 19 April 2025.

7Gerald J. Fitzgerald, 'Chemical Warfare and Medical Response during WWI',(2008)*American Journal of Public Health* 98, < https://doi.org/10.2105/AJPH.2007.111930>; accessed 19, April, 2025.

8Sarah Everts, 'A Brief History of Chemical Weapons' Science History Institute. May 11, 2015 <https://www.sciencehistory.org/distillations/a-brief-history-of-chemical-war>Accessed 23 April 2025.

9Ibid.

10James Patton, 'Gas in the Great War' University of Kansas Medical School <https://www.kumc.edu/school-of-medicine/academics/departments/history-and-philosophy-of-medicine/archives/wwi/essays/medicine/gas-in-the-great-war.html> accessed 23 April 2024

agents and many other thousands of survivors suffer long term health defects over the rest of their lives.[11]

Before the World Wars, known uses of chemical weapons in armed conflict include the Athenian military's tainting of the water supply of the besieged city of Kirrha with poisonous hellebore plants as far back as 600 BCE.[12] The Strasbourg Agreement which was the first international agreement to outlaw a specific form of Chemical Weapons, poisoned weapons, was signed between France and Germany in 1675.[13]

To do justice to the topic under review, this paper is divided into six parts including the introduction. Part 2 discusses the nature and characteristics of chemical weapons. This is aimed giving a cursory view on the emergence and development of the use of chemical weapons and its horrific nature which necessitates the need for urgent global attention. Part 3 discusses the typology of chemical weapons. Part 4 examines the effects of the use chemical weapons. The 5th part focuses on the trajectory of the use of chemical weapons in armed conflicts over the years. While part makes useful recommendations by addressing the challenges of the use chemical weapons in armed conflicts and part 7 concludes the article.

2. THE NATURE AND CHARACTERISTICS OF CHEMICAL WEAPONS

The Chemical Weapons Convention (CWC) of 1993 prohibits the deployment of chemical weapons, and this goes further contrary to international law and treaties. The Chemical Weapons Convention (CWC) mandates that all member states wipe out their chemical weapons storage facilities and forbids the production, development, storage, and use of chemical weapons.

"Toxic chemicals and their precursors, except where it is intended for peaceful purposes and used in quantities consistent with such purposes" refers to the way the Chemical Weapons Convention (CWC) defines chemical weapons.[14]Chemical weapons comprise those known to cause harm to people, animals, or plants through the usage of chemicals that are toxic. They are strictly prohibited by international law and considered to be cruel weapons. Chemical weapons can be solids, liquids, or gaseous substances, amongst various other types. They are put to use in operations of terrorist attacks for the purpose of frightening citizens or target enemies in warfare.[15]

Chemical weapons are designed to be consumed, inhaled via the skin, or ingested in an attempt to cause harm to or kill.[16] With respect to the specific type and the

11OPCW (n 4)
12 Sarah Everts (n 6)
13 Ibid.
[14]Peter Mager, "Chemical Weapons Convention"<https://www.airuniversity.af.edu/Portals/10/ASPJ/journals/Chronicles/Mager.pdf> accessed 28 August, 2025
15 M. Crowley, in Preventing Chemical Weapons: Arms Control and Disarmament as the Sciences Converge, ed. M. Crowley, M. Dando, and L. Shang, The Royal Society of Chemistry, 2018, pp. 146-190.
[16]Vladimír Pitschmann, "Overall View of Chemical and Biochemical Weapons"<https://pmc.ncbi.nlm.nih.gov/articles/PMC4073128/> accessed 28 August, 2025

dosage of chemical used, the detrimental effects of chemical weapons might vary substantially. Chemical weapons are frequently employed as blister, choking, and nerve agents.[17]

Nerve agents are extraordinarily hazardous compounds that contribute to nervous system dysfunction. They are made up of VX, Soman, and Sarin.[18] The aforementioned substances interfere with an enzyme that is essential for neurological signals to function appropriately, contributing to mortality rates, breathing failure, and seizure disorders.[19] Sulphur mustard and lewisite are instances of blister agents which cause irritation to the skin, eyesight, and respiratory system adversely. They are capable of resulting in visual impairment if they come through direct contact with the eyes and lead to inflammation and burns on the skin.[20]

Chlorine and phosgene are instances of choking substances that are directed at the respiratory system, which can cause coughing in general, chest pain, and difficulties with breathing. They may be catastrophic, result in severe lung damage or lead to death.[21]

Chemical weapons can be deployed through a wide variety of techniques such as the implantation of weapons of mass destruction, explosives, rockets, missiles, and either food or water contaminants or the spraying process. Their implementation has a tendency to bring about widespread commotion and causing disruption, as well as potentially fatal consequences for military troops and civilians.[22]

According to the Chemical Weapons Convention, a chemical weapon is defined as any part of it, notwithstanding whether it is put together or not and whether it is stored with one another or independently. By way of example, a poisonous chemical and its means of delivery equipment might be safeguarded apart; however, they are nonetheless categorized as chemical weapons under the Convention despite the fact that they are not equally deadly as a fully developed weapon.[23]

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[17]Report of the World Health Organisation (WHO) on Health Aspects of Chemical and Biological Weapons < https://iris.who.int/bitstream/handle/10665/39444/24039.pdf> accessed 30 August, 2025

[18]Frederick R. Sidell, M.D., "NERVE AGENTS" <https://medcoeckapwstorprd01.blob.core.usgovcloudapi.net/pfw-images/borden/chembio/Ch5.pdf> accessed 30 August, 2025

[19]Ibid.

[20]Ibid.

[21]Gary W Hoyle and Erik R Svendsen, "Persistent effects of chlorine inhalation on respiratory health" <https://pmc.ncbi.nlm.nih.gov/articles/PMC5063681/> accessed 30 August, 2025

[22]Dr. Riccardo Cappelli and Prof. Nicola Labanca, "Proliferation and Disarmament of Chemical Weapons in the NATO Framework. Lessons from history" <https://www.nato.int/acad/fellow/99-01/labanca.pdf> accessed 30 August, 2025. See also Christine Gosden and Derek Gardener, "Weapons of mass destruction—threats and responses" <https://pmc.ncbi.nlm.nih.gov/articles/PMC1184257/> accessed 30 August, 2025.

[23]Convention on the prohibition of the development, production, stockpiling and use of chemical weapons and on their destruction, Paris 13 January 1993 <https://ihl-databases.icrc.org/en/ihl-treaties/cwc-1993> accessed 30 August, 2025

Chemical weapons continue to be an imminent threat to global peace and security and are illegal according to international law.[24] The global community needs to persist in keeping a vigilant eye as well as undertake countermeasures to put an end to the creation, manufacturing, storage, and deployments of chemical weapons.

The utilization of poisonous compounds in chemical weapons gives them the capability to cause harmful destruction or even death. The aforementioned substances can be disseminated as liquids, gases, or aerosols, among other forms. Chemical weapons may have any of the following characteristics such as:

i) **Toxicity:** The use of poisonous compounds in chemical weapons has the objective of harming human beings, livestock, or the natural environment. Numerous negative reactions, such as burns, breathing problems, and nervous system damage, can be caused by these substances.[25]

ii) **Speedy onset:** upon exposure, chemical weapons are capable of having a detrimental effect on the well-being of an individual in only a matter of seconds to minutes. They become particularly hazardous in combat circumstances as a result of this.[26]

3. EXAMPLES OF CHEMICAL WEAPONS

It is important to note that there are various examples and classifications of chemical weapons. Depending on the proximity of a society to garner resources to manufacture chemicals, there are quite many kinds of these chemical weapons, many of which would be examined in subsequent paragraphs.

a) Nerve agents: Among the basically known arsenals of chemical agents, nerve agents are by far the most poisonous and possess the most rapid rate of implementation. They operate in a similar way to chemicals like pesticides or insecticides that are known as organophosphates, and they cause comparable adverse health consequences. Nevertheless, nerve agents are considerably more effective than insecticides with organophosphates. They comprise of (VX, tabun, cyclohexyls Arin, soman, and sarin).[27]

Sarin gas isan extremely dangerous, odour-free nerve agent that are capable of killing an individual within minutes upon exposure by interfering with their nervous system's regular operation.[28]

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[24]International laws such as the 1925 Geneva Protocol, 1993 Chemical Weapons Convention (CWC) and Customary International Law all prohibit the use of chemical weapons

[25]Brendan M. Doran, "The Human and Environmental Effects of CBRN Weapons"<https://research.library.fordham.edu/cgi/viewcontent.cgi?article=1009&context=environ_2015> accessed 30 August, 2025

26 K. Ganesan, S. K. Raza, and R. Vijayaraghavan, "Chemical Warfare Agents" (2010)2(3) *Journal of Pharmacy and BioAllied Sciences* 4

[27]Brennan RJ, Waeckerle JF, Sharp TW, Lillibridge SR, 'Chemical warfare agents: emergency medical and emergency public health issues' (1991)34 *Annals of Emergency Medicine* 191.

[28] United Nations Office of Drugs and Crime Handbook on Chemical, Biological,Radiological, And Nuclear (Cbrn) In Vbss Training, <https://www.unodc.org/documents/Maritime_crime/CBRN_Handbook.pdf> accessed 18 October, 2024.

Soman a nerve agent that is a chemical warfare weapon designed by human beings. Soman is a clear colourless in nature, insipid fluid with a mild odour that could be comparable to decomposing fruit or camphor laced with mothballs. If heated up, it can transform directly into the form of a vapor.[29]

b) Vesicating or blistering agents (such as mustards, lewisite).
Mustard gas: A vesicant that causes severe blisters and skin burns upon contact, as well as lung damage in cases of inhalation.[30]

c) Choking agents or lung toxicants (such as chlorine, phosgene, diphosgene) Cyanides

d) Incapacitating agents (such as anticholinergic compounds)

e) Lacrimation or riot control agents (such as pepper gas, chloroacetophenone, CS)

f) Vomiting agents (such as adamite)[31]

4. EFFECTS OF THE USE OF CHEMICAL WEAPONS

Chemical warfare (CW) is undoubtedly the most terrifying of all the Weapons of Mass Destruction (WMD) that human beings has so far put together. CW agents are extremely hazardous synthetically produced substances that are capable of being emitted as an aerosol form, gas, or liquid, additionally they can be adsorbed to particles to turn into a powder. These CW agents negatively impact humans in an array of ways that turns out to be either fatal or paralyzing. [32]

i) Nerve Agents

An irrevocable inhibition of the metabolic process known as acetyl cholinesterase (AChE) is the mechanism by which nerve agents exert their biological effects.[33] The neurotransmitter acetylcholine (ACh), which is released into the air at the nerve synaptic junction, neuronmuscle (neuromuscular) junction, and nervegland junction, undergoes hydrolysis by this enzyme. A small fraction of ACh is continuously released and broken down by AChE in an individual that is fit. Overexcitation or paralysis arise from Ach accumulation brought on by AChE inhibition. The indicators of poisoning manifest up as soon as the poisonous nerve agents stretch the tissues of the human body.[34]

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[29]Ibid.
[30] Borak J, Sidell FR. 'Agents of chemical warfare: sulphur mustard' (1992)21(3)*Annals Emergency Medicine*303-308.
[31]Ibid.
[32] K, Raza, SK. Vijaya Raghavan R. "Chemical warfare agents." (2010) 2(3) *Journal of Pharmacy and Bioallied Science*
[33]ICRC Report on an effective killer: Five things you need to know about chemical weapons, <https://www.icrc.org/en/document/effective-killer-five-things-you-need-know-about-chemical-weapons> accessed 18 October, 2023.
[34]Ibid.

Meiosis, or constriction of the pupil, may result in increased salivation, a running nose, increased sweating, urination, and diarrhoea, and may also cause decreased blood pressure and heart rate, cramps, arrhythmias of the heart, seizures, and convulsions. The numbness of the muscles involved in respiration and suppression of the respiratory system are the most adverse reactions. Respiratory impairment ultimately leads to death. In the unlikely scenario where the nerve agent concentration is high, death follows instantaneously.

ii) Blistering Agents

For Blistering Agents, the kind of exposure, the agent's concentration, and the context of the exposure all affect the extent to which this latent phase persists for and just how quickly and intensely symptoms manifest. Mustard can be in form of gas or aerosol formation, which can cause harm to the skin, eyes, and respiratory system. After contact, harm from chemicals starts 1-2 minutes later, but onset discomfort is not felt for four to six hours. Conjunctivitis to corneal opacification, ulceration, and rupture are a few instances of eye damage.[35]

Skin injuries vary from erythema like a sunburn to vesicles that aggregate to become blisters. The dermis may develop necrosis from coagulation as a side effect of liquid penetration. The degree after being exposed additionally impacts how mustard gas affects the respiratory tract. There will be oedema and erythema in the vocal cords, bronchial tubes and the nasal passages if the amount of exposure is modest. Respiratory constriction can arise from laryngeal oedema and necrosis.[36]

There is a risk of a pulmonary infection with bacteria, which may give rise to bronchopneumonia. Death from mustard exposure may be brought about by the latter. Leucopoenia can result from severe mustard exposure resulting in damage to the bone marrow. consumption of poisoned food or water When liquid mustard contaminates food or drink, it can cause nausea, vomiting, discomfort, and diarrhoea. Heart irregularities, nausea, and malaise can all result from skin exposure alone.

iii) Choking agents

The respiratory tract, which includes the nasal cavity, mouth and throat, and most significantly the lung area, is the place where choking agents especially cause harm to those who are victims.[37] In cases of extreme severity, these substances can "choke" those who are exposed people by triggering membranes to expand, the lungs being flooded with fluids, and death from an insufficient supply of oxygen. These types of deaths are referred to as "dry-land drownings." Within this category, the most commonly identified substances are chlorine and phosgene, although other compounds in this category include diphosgene, nitric oxide, and perfluoro isobutylene (PFIB). In general, they weigh substantially more than air. Because both phosgene and chlorine are widely used throughout multiple chemical industrial

[35]A. P. Watson, G. D. Griffin, "Toxicity of Vesicant Agents Scheduled for Destruction by the Chemical Stockpile Disposal Program" (1992)98 *Environmental Health Perspectives* 260

[36]Ibid.

[37]United States Department of Defense Report on Chemical and Biological Defense Primer <https://www.hsdl.org/?view&did=1504> accessed 18 October, 2024.

processes, it is difficult to effectively control these chemical compounds, which can be catastrophic low-tech weapons in the hands of terrorists.[38]

iv) Riot control Agents

Riot control agents are chemicals that cause irritation to the upper part of the respiratory system, causing blepharospasm and tears in the eyes, which subsequently contributes to the pupils of the eyes to contract. They have been frequently referred to as bothersome agents, lachrymators, and irritating substances. Usually, the wider community refers to them as tear gas. A variety of chemicals that cause tears were studied as CW agents. When exposed, they irritate the skin, provoke tears, and cause discomfort the eyes. The intensity of the tear gas-induced sensations, such as inflammation of the skin and lachrymation, prevents people suffering from responding logically, thereby making it difficult for them to carry out their arranged actions.

5. TRAJECTORY OF THE DEPLOYMENT OF CHEMICAL WEAPONS IN ARMED CHEMICALS

5.1. Post-World War II Era and the Use of Chemical Weapons

World War II is recognized as the most extensive and catastrophic war in history, surpassing all others in terms of casualties, global participation, and financial costs. It involved 70 million military personnel and led to the death of 17 million soldiers. Civilian casualties were even more significant, with at least 19 million Soviet civilians, 10 million Chinese civilians, and 6 million European Jews perishing during this worldwide conflict.[39]

World War II had a global impact, involving around 70 nations across multiple continents and leading to societal contributions to war efforts and civilian suffering.[40] For the United States, the war had profound consequences, with a significant number of casualties and deaths. It marked the end of the Great Depression, transformed societal roles, and expanded the government's role.[41]

In 1945, the United States was markedly different from the post-war years. Poverty, lack of modern amenities, and racial segregation prevailed. However, the post-World War II era witnessed an economic boom, substantial societal changes, and the belief in America's capacity to shape global peace.

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[38]Ibid.

[39] Tony Judithin Postwar: A History of Europe Since 1945" This book provides a comprehensive overview of Europe's history in the aftermath of World War II

[40]Iris Kesternich, Bettina Siflinger, James P. Smith, and Joachim K. Winter, "The Effects of World War II on Economic and Health Outcomes Across Europe"(2014) 96(1) *Review of Economics and Statistics* 103-118.

41 Ibid.

After World War II, the United States entered into a conflict with the Soviet Union, resulting in global tensions, communist influence, and fears of espionage.[42] In the early 1970s, media depicted the 1950s as a carefree era, but it was characterized by societal changes.[43] African Americans fought for equality, a youth culture with rock 'n' roll emerged, and critics across the political spectrum offered insights on American society.

The aftermath of World War II reshaped the global landscape, with significant destruction and efforts to rebuild. The United States rose to a dominant economic and military position, experiencing dramatic societal changes.[44]

Between the two World Wars, chemical weapons were used despite international bans. While production increased during World War II, they were not used in Europe but were employed in concentration camps and Asia.[45] Post-war, the Chemical Corps focused on maintaining stockpiles and creating new agents. With the rise of atomic weapons, the emphasis shifted away from chemical arms.

To manage the aging stockpile, disposal methods like incineration and neutralization were developed. Chemical munitions were moved and safely destroyed. In the 1980s, binary chemical weapons were created, leading to arms reduction negotiations and the Chemical Weapons Convention (CWC).[46] The most significant post-World War II chemical weapon use occurred during the Iran-Iraq War (1980–88). Since then, chemical weapons have been used only in a few cases, like Iraq in the 1980s. Today, the U.S., a CWC signatory, is destroying its chemical munitions stockpile and no longer maintains offensive chemical warfare capability.[47]

5.2. Post-World War II and the Use of Chemical Weapons in Yemen

Between 1963 until 1967, chemical weapons were utilized in Yemen during the North Yemen Civil War. As part of a "scorched-earth policy designed to eliminate" the countryside, Egypt launched poison gas.[48] The use of chemical weapons was deemed acceptable by the world community regardless of how it violated against the

[42]McKenzie Powell, "The Influence of the Central Intelligence Agency in the Formation of the Cold War; 1946-1949" <https://cdn.wou.edu/history/files/2015/08/McKenzie-Powell.pdf> accessed 30 August, 2025

[43]Ibid.

[44]A.W. Purdue, "The Transformative Impact of World War II" <https://d-nb.info/1125540141/34> accessed 30 August, 2025

[45]Ibid.

[46]Paul F. Walker, "Three Decades of Chemical Weapons Elimination: More Challenges Ahead" <https://www.armscontrol.org/act/2019-12/features/three-decades-chemical-weapons-elimination-more-challenges-ahead> accessed 30 August, 2025

[47]Javed Ali, "Chemical Weapons and the Iran-Iraq War: A Case Study in Noncompliance" <https://www.nonproli feration.org/wp-content/uploads/npr/81ali.pdf> accessed 30 August,2025

[48]Orkaby, Asher, 'Chemical Warfare in Yemen', Beyond the Arab Cold War: The International History of the Yemen Civil War, 1962-68 (Oxford Studies in International History: New York, 2017), <https://doi.org/10.1093/acprof:oso/9780190618445.003.0007>accessed 9 January, 2025.

Geneva Protocols of 1925.[49] The conflict is mostly forgotten, but the international community's feeble reaction to Syria's repeated chemical weapons attacks nearly half a century ago still lurks large in the country's current narrative. There had been minimal international recognition of the chemical warfare campaign in Yemen, no public memorials, certainly no widespread repudiation of the culprits.[50]

The conversation about what to do in Syria today did not include the probable use of chemical weapons in Yemen. In response, the international community placed the Soviet Union under a number of sanctions and embargoes. While the mujahideen conducted guerrilla warfare in small groups throughout the 80% of Afghanistan that was not under uncontested Soviet control which almost exclusively consisted of the country's rugged, mountainous terrain, Soviet troops occupied the country's major cities and all major communication routes. Along with planting millions of landmines throughout Afghanistan, the Soviets also used air power to deal harshly with civilians and Afghan resistance, levelling villages to deny the mujahideen a location to hide, demolishing important irrigation ditches, and employing other scorched-earth tactics. The world's unwillingness to halt chemical assaulting on individuals throughout the Middle East is starkly demonstrated by the stalemate in Yemen.[51] Egypt was not one of the few nations to use chemical weapons in Yemen; during the Iran-Iraq War, Iran also employed sulphur mustard gas. Yemen is still immersed in strife, and although there is no record of the nation ever working toward a chemical weapons program, chemical weapons have been used there.

Shortly after World War II, Yemen saw complicated and wide-ranging conflicts. After World War II, several kinds of major factors contributed to the conflicts in Yemen encompassed poverty, unemployment, shortages in water, and corruption, each of which highlighted the country's deeply embedded conflict and lack of democracy.[52]

Conflict between the Ansar Allah group, formerly known as the Houthi movement, and members of the internationally recognized government. The Houthi movement is connected to a regional variety of Shia Islam.

The U.S. Navy started to get cognizant of the militarization of Yemen's waterways. Saudi Arabia's blockade aimed at halting Iran from supplying the Houthis and hinderingthe medical work done in North Yemen by the ICRC. In 1967, the main activity carried out by the ICRC in the region was providing medical help to the sick and injured in the portion of Yemen controlled by the Royalist party.[53]

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[49]Masahiko Asada, "A Path to a Comprehensive Prohibition of the Use of Chemical Weapons under International Law: From the Hague to Damascus"(2016)21(2)*Journal of Conflict Security and Law* 153-207

[50]Ibid.

[51]Orkaby, Asher, 'Chemical Warfare in Yemen', Beyond the Arab Cold War: The International History of the Yemen Civil War, 1962-68, Oxford Studies in International History (New York, 2017; online edn., Oxford Academic, 22 June 2017), <https://doi.org/10.1093/acprof:oso/9780190618445.003.0007>, accessed 26 October, 2024.

[52]Ginny Hill, Peter Salisbury, Léonie Northedge and Jane Kinninmont, "Yemen Corruption, Capital Flight and Global Drivers of Conflict" A Chatham House Report, <https://www.chathamhouse.org/sites/default/files/public/Reearch/Middle%20East/0913r_yemen.pdf> accessed 30 August, 2025.

[53]Martin D. Fink, "Naval Blockade and the Humanitarian Crisis in Yemen" (2017)64(2) *Netherlands International Law Review*

However, a number of incidents made the task of this mission extremely difficult. First, there was the January incident in Ketaf in the Jauf, during which an air raid on the village on January 5, 1967, resulted in the fatalities of roughly 120 individuals, many of them women and children.[54]

Given the suffering thus created, the International Committee of the Red Cross (ICRC) sincerely requests that all parties to this conflict maintain the widely recognized humanitarian norms of international law and morality under all conditions.[55] To ensure that its healthcare professionals and representatives in Yemen can continue providing unbiased aid to the victims of this conflict, the ICRC demands cooperation as well as comprehension of all the relevant parties.[56]

The ICRC uses this opportunity to reiterate that, as a general rule, it has decided not to make public any observations made by its participants while they are performing their duties, out of compassion for the people who are in need of its help. Nevertheless, these observations serve as support for the appropriate negotiations that it continually takes part in when needed.[57]

5.3. Post-World War II and the Use of Chemical Weapons in Afghan-Soviet War

The Soviet-Afghan War was a protracted war which flared up from 1979 to 1989 in the Democratic Republic of Afghanistan (DRA), which was administered by the Soviet Union.[58] The DRA, the Soviet Union, and associated paramilitary groups engaged in heavy combat with the Afghan mujahideen and their foreign allies, making it one of the most significant conflicts of the Cold War.[59] Although the mujahideen received support from a number of nations and groups, the majority of them came from Pakistan, the United States (that is, during Operation Cyclone), the United Kingdom, China, Iran, and the Persian Gulf Arab states.[60] The war turned a proxy conflict between the US and the USSR due to the involvement of other nations. Throughout the 1980s, there was fighting, especially in rural Afghanistan. Between 562,000 and 2,000,000 Afghans lost their lives in the battling and millions more left the nation as refugees; the majority of these individuals sought safety in Pakistan and Iran. It is estimated that between 6.5% and 11.5% of Afghanistan's 13.5 million earlier citizens (as of the 1979 census) have perished during the conflict.[61] In addition to causing severe havoc across Afghanistan, academics have pinpointed

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[54]Ibid.

[55]ICRC Report, "Yemen, Potential Existence and Effects of Naval Blockade" (2016) <https://casebook.icrc.org/case-study/yemen-potential-existence-and-effects-naval-blockade> accessed 30 August, 2025

[56]Ibid.

[57]Annual ICRC Report on Yemen, 1967, pp. 15-17

[58]Dr. Robert F. Baumann, *Russian-Soviet Unconventional Wars in the Caucasus, Central Asia, and Afghanistan*, leavenworth Papers Number 20,<https://history.army.mil/html/books/107/107-1/CMH_Pub_107-1.pdf> accessed 24 November, 2024.

[59]P. Stobdan, "The Afghan Conflict and Regional Security" (1999) 23(5) *Journal of Strategic Analysis*<https://ciaotest.cc.columbia.edu/olj/sa/sa_99stp02.html> accessed 24 November, 2024.

[60]Ibid.

[61]ICRC Country Report Afghanistan "ICRC worldwide consultation on the rules of war' <https://www.icrc.org/sites/ default/files/external/doc/en/assets/files/other/afghanistan.pdf> accessed 30 August,2025

the Soviet-Afghan War as a pivotal element in the Soviet Union's collapse and the official end of the Cold War.[62] Under Leonid Brezhnev's leadership, the Soviet Union invaded Afghanistan to back the pro-Soviet government that had been enforced there as a result of Operation Storm-333. This identified the start of the war.[63]

In response, the world community placed the Soviet Union under a number of sanctions and embargoes. While the mujahideen conducted guerrilla warfare in small groups throughout the 80% of Afghanistan that was not under uncontested Soviet control which almost exclusively consisted of the country's rugged, mountainous terrain Soviet troops occupied the country's major cities and all major communication routes.[64] Along with planting millions of landmines throughout Afghanistan, the Soviets also utilized air power to deal ruthlessly with people and Afghan opposition, levelling villages to deny the mujahideen a place to hide, demolishing important irrigation ditches, and employing other scorched-earth methods.

First, the Soviets intended to stabilize the administration of the People's Democratic Party of Afghanistan (PDPA), quickly secure the country's towns and road systems, and remove all of their armed personnel within six months to a year.[65] On the other hand, they encountered intense operational challenges due to the rough, hilly terrain and severe opposition from Afghan rebels. Fighting across the nation escalated by the mid-1980s, when the Soviet Union's military presence in Afghanistan had grown to about 115,000 soldiers.[66] The war effort's complexity eventually cost the Soviet Union dearly as its political, economic, and military resources were depleted. Reformist Soviet leader Mikhail Gorbachev declared in the middle of 1987 that the Soviet Union would start a full military withdrawal from Afghanistan.[67]

The last Soviet military column occupying Afghanistan passed into the Uzbek SSR on February 15, 1989, marking the beginning of the final wave of withdrawal.[68] The Afghan Civil War began when the PDPA government, continuing to have external Soviet support, launched a solo war effort against the mujahideen.[69] Nevertheless, all assistance to the Republic was withdrawn after the Soviet Union broke up in December 1991, which resulted in the Homeland Party's Isolated Republic being overthrown by the mujahideen in 1992 and the outbreak of a second Afghan Civil War.[70]

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[62]Ali Ahmad Jalali and Lester W. Grau, *The Other Side of The Mountain: Mujahideen Tactics in the Soviet-Afghan War* (The United States Marine Corps Studies and Analysis Division: Quantico, Virginia 1996)

[63]Ibid.

[64]William C. Green, "The Other Side of the Mountain: Mujahideen Tactics in the Soviet-Afghan War" (2003)56(3) *Naval War College Review.*

[65]Ibid.

[66]Ibid.

[67]Ibid.

[68]Ali Ahmad Jalali and Lester W. Grau (n 35)

[69]Ibid.

[70]Barnett R. Rubin, Afghanistan: The Forgotten Crisis, -, WRITENET, 1 December 1996, <https://www.refworld.org/reference/countryrep/writenet/1996/en/96430> accessed 30 August, 2025

The former US secretary of state, George Schultz, has written extensively on the topic of chemical warfare in Afghanistan.[71] The Soviet forces continued to deploy chemicals and poisons selectively against the Afghan resistance, according to reports of chemical strikes from February to October 1982, according to Schultz. Nerve gas and compounds in the colours yellow, black, red, and white were pumped from armoured vehicles and dropped from aircraft and assault helicopters across twelve regions. Kandahar Airport, a crucial staging ground for Soviet military operations, housed the chemicals.[72]

Until late 1982, suspicions arose about the Soviets using chemical agents in Afghanistan since 1979. George Shultz, former American Secretary of State, confirmed mycotoxin use in the country.[73] Reports from 1980 and 1981 described yellow-brown mist attacks causing blistering and vomiting, similar to "yellow rain" victims in Southeast Asia.[74] Shultz also mentioned new evidence in 1982 that reinforced the belief that lethal chemicals were deployed against the Afghan resistance by Soviet and Afghan Government forces from 1979 to 1981.[75]

5.4. Post-World II and the Use of Chemical Weapons in the Chadian-Libyan War

The conflict between Libya and Chad (1970s-1994) primarily revolved around the Aouzou Strip, a resource-rich region in northern Chad. Libya, under Colonel Muammar Gaddafi, claimed the Aouzou Strip based on an unratified treaty between France and Italy in 1935.[76] Chad, on the other hand, argued for its ownership of the strip with support from a 1955 treaty between Libya and France. In 1973, Libya effectively annexed the Aouzou Strip, leading to cross-border clashes and hostilities.[77] These hostilities escalated into a brief war known as the Toyota War, which took place from 1979 to 1987. During this war, Chadian government troops successfully repelled Libyan forces. A ceasefire was declared from 1987 to 1988, followed by unsuccessful negotiations. In 1994, the International Court of Justice ruled in favour of Chad, granting it sovereignty over the Aouzou Strip.[78]

Following the downfall of Colonel Muammar Gaddafi in the Libyan Civil War (2011-2012), Libya descended into a state of chaos. The country effectively split into three

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[71]George P. Schultz, “chemical Weapons in the Southeast Asia and Afghanistan: An Update” (1982) Report from the Secretary of State, Special Report No. 104, <https://www.cia.gov/readingroom/docs/CIA-RDP87R00029R000400 790001-9.pdf> accessed 27 November, 2024.

[72]Ibid.

[73]Ibid.

[74]Julian Robinson, Jeanne Guillemin and Matthew Meselson, "Yellow Rain in Southeast Asia: The Story Collapses (1990)<https://projects.iq.harvard.edu/files/meselsonarchive/files/1990_yellow_rain_in_southeast_asia.pdf> accessed 30 August, 2025.

[75]Ibid.

[76]Zachary Lynn, "Forgotten Conflicts: The Libyan-Chadian War" (2020) Sea Lion Press, <https://www.sealionpress.co.uk/post/forgotten-conflict-the-libyan-chadian-war> accessed 27 November, 2024.

[77]Ibid.

[78]Elias N. Stebek, "ICJ Judgment (1994) on the Libya/Chad Territorial Dispute: A Brief Overview and Observations" (2009)3(1) *Mizan Law Review* pp. 6

main entities: the National Army controlled the eastern region, including Benghazi; the New General National Congress and various militias, such as the Golden Dawn, controlled the northwest, including the capital Tripoli.[79]

The south-western regions of Libya were held by Tuareg forces. The civil war and chaos continued into 2014, with the General National Congress refusing to disband after its mandate expired, leading to mass protests. The United Nations made efforts to broker peace between the Libyan Army and Libya Dawn factions, resulting in a partial ceasefire declared in January 2015.[80]

In 2016, a new interim government called the 'Government of National Accord' was formed with the backing of the UN. However, other factions did not recognize its authority. Throughout this period, there were clashes between rival militias in Tripoli's southern suburbs, leading to a state of emergency declared by the UN-backed government.

Since April 2019, sustained fighting has been ongoing between the Libyan National Army and the UN-backed government in Tripoli, as the Libyan National Army aims to seize control of the capital.

The conflict in Chad against Libyan intervention can be summarized as a series of interventions by Libya, with the support of various Chadian factions, against Chadian groups that had the backing of France and other foreign countries. The conflict culminated in the Toyota War when Chadian forces united to oppose the Libyan occupation, leading to the expulsion of Libyan forces from Chad. Gaddafi's initial intention was to annex the Aouzou Strip, which was the northernmost part of Chad, based on historical claims.[81]

5.5. Iran and the Use of Chemical Weapons

Iran's encounter with chemical warfare during the Iran-Iraq War (1980-1988) has made it a strong opponent of chemical weapons. In 1997, Iran ratified the Chemical Weapons Convention (CWC). However, allegations have persisted, suggesting that Iran maintained its own chemical weapons arsenal.[82] These claims became less certain after 2003, with no efforts made to utilize the CWC's challenge inspection mechanisms to investigate alleged Iranian chemical facilities. Furthermore, the allegations regarding the stockpiling of chemical warfare agents have not been verifiable through unclassified information.

Assessing Iran's chemical warfare capabilities is challenging due to limited original material and a heavy reliance on repackaged information from a few sources. Much

[79]Zachary Kallenborn and Raymond A. Zilinskas, "Disarming Syria of Its Chemical Weapons: Lessons Learned from Iraq and Libya" <https://www.nti.org/analysis/articles/disarming-syria-its-chemical-weapons-lessons-learned-iraq-and-libya/> accessed 27 November, 2024.
[80]Ibid.
[81]Wright, John L., Libya, Chad and the Central Sahara in Perspective (Hurst Publishing Press, 1989)
[82]Randi HunshamarØygarden,"Chemical Weapons and the Iran--Iraq War" (2014) <https://bora.uib.no/bora-xmlui/bitstream/handle/1956/9153/128400983.pdf?sequence=1&isAllowed=y> accessed 30 August, 2025.

of the information about Iran's CW programmes is based on open-source reports of Iranian transactions involving dual-use materials, which have been interpreted as supporting the existence of an offensive CW programme.[83] For example, Iran has imported chemicals like thiodiglycol and thionyl chloride, which can be used for legitimate purposes but could also be diverted for illicit CW activities.[84]

Iran's import of phosphorus pentasulfide in the mid-1990s, which can be used for various purposes, including the production of nerve agents, raised concerns. However, U.S. intelligence reports between 2003 and 2010 did not specify any CW agents possessed by Iran, and references to agent stockpiles or delivery systems were removed. This suggests that the U.S. intelligence community either lacks certainty about or is unwilling to publicly disclose the details of any Iranian offensive CW programme.[85]

The Iran-Iraq War from 1980 to 1988 led to Iran's exposure to chemical weapons. Starting in 1983, Iraq conducted more effective chemical attacks against Iran, initially using blister agents like mustard gas and later incorporating nerve agents such as tabun and possibly sarin. While the exact number of Iranian casualties from these attacks is uncertain, Iran estimates around 60,000 casualties.[86]

The Iran-Iraq War, which lasted from 1980 to 1988, led to Iran's growing interest in chemical weapons. This interest was fuelled by what Iran saw as a lack lustre international response, particularly from the United Nations, to Iraqi chemical attacks against Iranian forces. Many Iranian officials believed that they needed to develop a chemical warfare capability as a deterrent against future chemical attacks.

In 1987, Iran's representative to the United Nations issued a warning that if the Iraqi regime did not cease its chemical attacks, Iran would retaliate in kind. However, within Iran, some officials publicly criticized the use of chemical weapons on moral grounds, considering them un-Islamic.[87]

It is known that Iran pursued an offensive chemical weapons program at one point. In 1998, Iran officially acknowledged that it had previously possessed chemical weapons, but claimed to have abandoned the programme after a ceasefire was established.[88]

Reports have suggested that Iran may have used chemical weapons on a small scale during the 1980s war with Iraq, but conclusive evidence is lacking. During the 2003 invasion of Iraq, U.S. forces discovered internal Iraqi intelligence reports that

[83]Iran Watch, "A History of Iran's Chemical Weapon-Related Efforts" (Iran, 26 November 2019) <https://www.iranwatch.org/our-publications/weapon-program-background-report/history-irans-chemical-weapon-related-efforts> accessed 20 November, 2024.
[84]Ibid.
[85]Nuclear Treaty Initiative Fact Sheet "Iran Chemical Overview"(2020) <https://www.nti.org/analysis/articles/iran-chemical/> accessed 20 November, 2024.
[86]Javed Ali, "Chemical Weapons and the Iran-Iraq War: A Case Study in Noncompliance," The Non-proliferation Review, Spring 2001, <www.nonproliferation.org> accessed 10 September, 2024.
[87]Ray Takeyh, "The Iran-Iraq War: A Reassessment" (2010) 64(3) *Middle East Journal* 371
[88]Ibid.

mentioned Iranian use of chemical agents against Iraq.[89] Additionally, some allegations suggested that Iran sent chemical munitions to Libya in exchange for ballistic missiles.

Regarding Iran's chemical warfare capabilities, there has been limited public information. Some instances suggest that Iran imported bulk quantities of precursors for chemical warfare agents.[90] Several countries, including India, West Germany, and China, have been implicated in exporting dual-use materials and technology to Iran. The U.S. imposed sanctions on entities and individuals involved in such exports.[91]

In 2000, the CIA estimated that Iran possessed a stockpile of several thousand metric tons of weaponized and bulk chemical agents. A 2002 CIA report mentioned that Iran's stockpile likely included blister, blood, choking agents, and possibly nerve agents. Iran may have developed this capability with support from Western individuals, companies, and other nations like India and China.[92]

From 2003 onwards, U.S. intelligence assessments became less definitive regarding Iran's chemical weapons programme.[93] Earlier reports contained specific assessments of Iran's chemical weapons capabilities, including the types of agents it had allegedly stockpiled. Subsequent reports offered more general statements about Iran's capability to produce chemical weapons but lacked specificity.[94]

Iran also sought materials for chemical weapons defence, as permitted under the Chemical Weapons Convention (CWC). It acquired decontaminating agents and protective gear from various sources.[95] Iran's extensive weaponry could potentially be adapted to deliver chemical agents, including artillery shells, aerial bombs, mines, and missiles. Reports suggested that Iran had developed 155mm artillery shells, aerial bombs, and chemical warheads for Scud missiles.[96] Iran's Shahab missile and unmanned aerial vehicles could also be used for delivery. Cruise missiles like the Kh-55 Granat could carry chemical or biological warheads. Although there were claims of cooperation between Iran and Syria on chemical weapons during the Syrian Civil War, these allegations were disputed, and Iran denied sending weapons to Syria.[97]

Officially, Iran has consistently denied having chemical weapons, emphasizing its adherence to international agreements, such as the Chemical Weapons

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[89]Ibid.
[90]Matthew J. Ferretti, "The Iran-Iraq War: United Nations Resolution of Armed Conflict" (1990) 35(3) *Villanova Law Review* 197
[91]Ibid.
[92]Ibid.
[93]Takeyh, Ray. “Iran’s Nuclear Calculations.” (2003) 20(2) *World Policy Journal*, pp. 21–28
[94]Ibid.
[95]Javed Ali, Chemical weapons and the Iran Iraq war: A case study in noncompliance (2001)8(1) *TheNon-proliferation Review*,43-58,
[96]Ibid.
[97]Ibid.

Convention.[98] It has hosted training sessions on the medical aspects of chemical warfare and insists it does not possess such weapons.[99]

Iran continued to import potential chemical warfare agent precursors, but these chemicals have legitimate civilian applications.[100] The U.S. sanctioned various international companies in relation to Iran's weapons of mass destruction programs. However, CWC inspections of Iranian facilities have not uncovered evidence of an illicit chemical weapons programme.[101]

Despite concerns from Western states, the lack of concrete evidence, more recent intelligence assessments, and CWC inspections have not confirmed the existence of an illegal chemical weapons program in Iran. It is deemed unlikely that Iran would transfer chemical or biological weapons to non-state actors due to the fear of international consequences.

Iran officially denies possessing chemical weapons and consistently points to its adherence to international agreements.[102] As a State party to the Chemical Weapons Convention (CWC), Iran emphasizes that it does not possess such weapons and considers them inhumane and against its principles. Iran has also hosted training sessions on the medical aspects of chemical warfare under the CWC.[103]

Despite ongoing suspicions and past accusations, there is a lack of concrete evidence supporting Iran's involvement in chemical warfare-related activities. Many Western nations view Iran's efforts to expand its chemical industry with caution, but this should be weighed against the scarcity of reliable open-source information, less specific recent intelligence assessments, and the fact that inspections under the CWC have not uncovered signs of an illicit chemical weapons program in Iran.[104]

It's important to note that Iran's acquisition of chemicals with dual-use civilian applications is not conclusive evidence of a chemical weapons program, as such materials can serve legitimate civilian purposes.[105] The U.S. imposed sanctions on international companies, including some Chinese firms, due to their involvement in

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[98]Nathan E. Busch, Joseph F. Pilat, "Disarming Libya? A reassessment after the Arab Spring" (2013) 89(2) *International Affairs (Royal Institute of International Affairs 1944-)*, 460.
[99]Ibid.
[100]Arms Control Association Report, "Arms Control and Proliferation Profile: Iran" (2025) <https://www.armscontrol
.org/factsheets/arms-control-and-proliferation-profile-iran> accessed 30 August, 2025.
[101]WISCONSIN Project on Nuclear Arms Control, "A History of Iran's Chemical Weapon-Related Efforts" (2005) <https://www.wisconsinproject.org/a-history-of-irans-chemical-weapon-related-efforts/> accessed 30 August, 2025
[102]John R. Bolton, "Iran's Continuing Pursuit of Weapons of Mass Destruction" (2004) U.S Department of State, <https://2001-2009.state.gov/t/us/rm/33909.html> accessed 27 November, 2024.
[103]Ibid.
[104]Ibid.
[105]Caritas Europa Report, "A People Sacrificed: Sanctions against Iraq" (2001) <https://reliefweb.int/report/iraq/
people-sacrificed-sanctions-against-iraq-report-caritas-europa> accessed 26 November, 2024.

activities related to weapons of mass destruction, but these sanctions were often linked to dual-use equipment that has civilian applications as well.[106]

5.6. Syria and the Use of Chemical Weapons

The Syrian Network for Human Rights has issued a statement marking the 10th anniversary of the largest chemical attack by the Syrian regime on Two Ghoutas.[107] In the statement, the organization highlights that despite a decade passing since this major chemical weapon attack, the regime responsible continues to evade accountability.[108] The statement outlines the events of August 21, 2013, emphasizing that the chemical attack on Two Ghoutas had a premeditated goal of killing as many residents, including women and children, as possible. The regime aimed to silently and lethally gas them in their sleep, taking advantage of calm weather conditions that would cause the poison gas to settle at ground level.

The attack resulted in the asphyxiation of 1,144 individuals, including 1,119 civilians (99 children and 194 women) and 25-armed opposition fighters. Additionally, 5,935 survivors suffered from severe respiratory issues and suffocation.[109] This attack accounted for 76 percent of all victims in chemical weapons attacks by the Syrian regime from December 2012 to the last documented attack in May 2019 in al-Kbeina, rural Latakia.[110]

According to the report of the Syrian Network for Human Right's database, there have been 222 documented chemical weapons attacks in Syria between December 23, 2012, and August 20, 2023. Approximately 98 percent of these attacks were carried out by Syrian regime forces, while the remaining two percent were attributed to ISIS.[111] Of these, the Syrian regime's 217 chemical attacks resulted in the deaths of 1,514 individuals and injuries to 11,080 people. ISIS conducted five chemical weapons attacks in Aleppo governorate, causing injuries to 132 individuals.[112]

The report categorizes the 222 chemical weapons attacks based on UN Security Council resolutions. The Syrian regime conducted 33 attacks before Security Council resolution 2118 and 184 after it.[113] Additionally, 115 chemical weapons attacks occurred after Security Council resolution 2209.[114] Furthermore, the Syrian regime carried out 59 attacks after the establishment of the Joint OPCW-UN Investigative

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[106]Ibid.

[107]The Report of the Syrian Network for Hunan Rights on the Deployment of Chemical Weapons in Syria (November, 2023) <https://snhr.org/blog/category/report/thematic-reports/weapons/chemical-weapons/> accessed 30 November, 2024.

[108]Ibid.

[109]Reports of the Human Rights Watch on the Use of Chemical Weapons in Syria (August, 2013) <https://www.hrw.org/report/2013/09/10/attacks-ghouta/analysis-alleged-use-chemical-weapons-syria> accessed 30 November, 2024.

[110]Ibid.

[111]The Report of the Syrian Network for Hunan Rights (n 79)

[112]Ibid.

[113]Ibid.

[114]Yasmin Naqvi, "Crossing the red line:The use of chemical weapons in Syria and what should happen now" (2017) 99(3) *International Review of the Red Cross* 964

Mechanism (JIM) and Security Council resolutions 2235. All five of ISIS's attacks violated Security Council resolutions 2118, 2209, and 2235.[115]

The report holds Syrian regime leader Bashar Assad responsible for the movement and use of chemical weapons, as it is seen as a calculated policy within the highly centralized Syrian regime structure. This policy implicates military and intelligence institutions, particularly the leaderships of the General Military Intelligence Directorate, Air Force Intelligence Directorate, the National Security Bureau, and the Syrian Scientific Studies and Research Centre (including Institute 1000 and Branch 450). Syrian Network for Human Right's data indicates the involvement of at least 387 high-ranking military officers, security officials, and civilian and military personnel in these attacks, leading to their inclusion on US and EU sanction lists.

It has been suggested that the Syrian case must be referred to the International Criminal Court (ICC), and that all those involved must be held accountable.[116] An alternative option would be to establish a special tribunal to try those involved in war crimes and crimes against humanity against the Syrian people, to help put an end to the shameful impunity that has now been going on for over a decade.[117]

As approved in the 20th session of the Conference of the States Parties to the Chemical Weapons Convention, held in 2015, November 30 of every year is known as the Day of Remembrance for All Victims of Chemical Warfare. This occasion is a token of recognition and memorialization by the Organization for the Prohibition of Chemical Weapons (OPCW) of the suffering of the survivors of chemical attacks and of their right to effective support and advocacy. On this day, the state parties to the OPCW reaffirm their commitment to bringing about a world truly free of the threat of chemical weapons.

On such an occasion, it is both appropriate and essential to remember the chemical attacks that Syria has seen in recent years, and more importantly to remember the victims and survivors of those attacks who are still awaiting justice and accountability to this day. Among the victims, a total of 1,510 individuals perished, including 1,409 civilians, 94armed opposition fighters, and 7 prisoners from Syrian regime forces. Of the civilian casualties, 205 were children, and 260 were women. The Syrian regime was responsible for all the fatalities. Additionally, 11,212 people were injured in chemical weapon attacks, with 11,080 injured in attacks by the Syrian regime and 132 in attacks by ISIS.

Investigations have revealed that both the Syrian government of Bashar al-Assad and ISIL militants used chemical weapons, with the majority of such attacks attributed to the Syrian government.[118] In 2014, the OPCW Fact-Finding Mission found systematic and widespread use of chlorine. The OPCW-UN Joint Investigative

[115]Ibid.

[116]Yasmin Naqvi, "Crossing the red line: The use of chemical weapons in Syria and what should happen now" (2017) 99(3) International Review of the Red Cross, 959–993

[117]Ibid.

[118]Brooks, J., Erickson, T.B., Kayden, S. et al. "Responding to chemical weapons violations in Syria: legal, health, and humanitarian recommendations" (2018)12(12) *Conflict and Health Journal* 13

Mechanism (OPCW-UN JIM) identified the Syrian government as responsible for sarin and chlorine attacks, while ISIL militants used sulphur mustard.[119]

According to various sources, the Syrian government conducted numerous chemical attacks, with Human Rights Watch reporting at least 85 such incidents between 2013 and 2018.[120] A Global Public Policy Institute study indicated over 300 attacks, primarily by Assad's forces. Although the international community pressured Syria to destroy its chemical weapons, post-disarmament, suspected chemical weapon use incidents continued, involving Syrian Ba'athist forces, ISIL, Syrian opposition, and Turkish Armed Forces. The Khan Shaykhun chemical attack in 2017 led to U.S. military action, and the Douma chemical attack in 2018 prompted responses from the United States, United Kingdom, and France. In April 2021, Syria was suspended from OPCW membership for failing to disclose its chemical weapon stockpiles and violating the Chemical Weapons Convention.[121]

6. RECOMMENDATIONS

The findings of this article provide important insights into the nature, characteristics and examples of Chemical Weapons. It also gives an historical perspective to the use of chemical weapons in various armed conflicts, while noting the interventions of the International Community in each conflict. It further presents a vivid account the devasting nature of chemical weapons and reiterates the need for an urgent global intervention to control its deployment in armed conflicts.

This article recommends that the member States that have acceded to the CWC should also propose an optional protocol to the treaty that would address the obvious deficiencies contained therein, particularly the use of CW in armed conflict and the need to distinguish between what constitutes a minor breach and a fundamental breach. It is also suggested that the UN establish a dedicated ad hoc international criminal tribunal to prosecute the use of CW in nations where it has been deployed. It would establish a collective punitive mechanism for the use of CW in armed conflict and serve as a deterrent.

Finally, this article recommends for more proactive measures to prevent the use of chemical weapons in armed conflicts, including a more comprehensive and effective legal and institutional framework that will minimise the use of lethal weapons to a bare minimum and hold offenders more accountable. It also advocates for more forceful global response against those who use chemical weapons in armed conflict.

7. CONCLUSION

The findings of this article provide important insights into the nature, characteristics and examples of Chemical Weapons. It also gives an historical perspective to the use of chemical weapons in various armed conflicts, while noting the interventions of

[119]Ibid.

[120]Reports of the Human Rights (n 71)

[121]Third report of the Organization for the Prohibition of Chemical Weapons United Nations Joint Investigative Mechanism. 24 August 2016, <https://press.un.org/en/2016/dc3651.doc.htm> accessed 29 June 2024.

the International Community in each conflict. This article further presents a vivid account the devasting nature of chemical weapons and reiterates the need for an urgent global intervention to control its deployment in armed conflicts.