Identifying commonalities within the operational environment when chemical weapons are used.

A Monograph

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Although a wide range of literature exists which discusses the use of chemical weapons, none looks at their employment in the context of the conditions of the operational environment. This monograph identifies that four commonalities exist between operational environments that encourage or enable the use of chemical weapons. They are the presence of an existential threat, an ineffective international reaction, a perception of success caused by chemical weapons and presence of moral disengagement mechanisms. Understanding these commonalities exist, and that measures can be taken to counter them, allows future operational planners to develop approaches which will mitigate or prevent the use of chemical weapons against forces across all areas of the range of military operations.

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Abstract

Identifying commonalities within the operational environment where chemical weapons are used, by MAJ Dominic A. Wiejak, 35 Pages.

Although a wide range of literature exists which discusses the use of chemical weapons, none explores their employment in the context of the conditions of the operational environment. This monograph identifies four commonalities that exist within operational environments encouraging or enabling the use of chemical weapons. They are the presence of an existential threat, an ineffective international reaction, a perception of success caused by chemical weapons, and the presence of moral disengagement mechanisms. Understanding that these commonalities exist, and that measures can be taken to counter them, allows future operational planners to develop approaches which will mitigate or prevent the use of chemical weapons against forces across the range of military operations.

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Abbreviations

LSCO	Large Scale Combat Operations
LTTE	Liberation Tigers of Tamil Eelam
SLAF	Sri Lankan Armed Forces
UNSC	United Nations Security Council

Introduction

In 2016, Da'esh attacked US forces in Iraq with chemical weapons.[1] In 2018, Russian intelligence agents attacked UK citizens with chemical weapons.[2] Despite the implementation of international conventions, and improvements in protective technologies throughout the 1900s, chemical weapons remain a significant threat to the force in the 21st century. The 2018 US *National Defense Strategy* (NDS) alleges that all five of the United States' adversaries have access to chemical weapons.[3] All future theatres of conflict could feature chemical weapons and the US army and its allies must take steps now to mitigate against their use. A failure to do so could see catastrophic casualties and an escalation to use of other forms of weapons of mass destruction. Planners need to understand the indicators and warnings of chemical weapon use within an operational environment, and as of the present, no study or body of literature exists to aid them in this task.

This monograph exists to support strategic and operational planners preparing for conflicts by identifying commonalities within operational environments which may encourage belligerents to use chemical weapons. By identifying these commonalities early, operational approaches can be developed to prevent the use of chemical weapons by making the operational environment unconducive to their employment, or to better anticipate the use of chemical weapons and, therefore, more effectively protect the deployed force.

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[1] Jim Michaels, "Pentagon Confirms ISIL Tried to Use Mustard Gas on Troops in Iraq," *USA Today* (McLean, VA), 2016. Accessed 9 February 2021. https://www.usatoday.com/story/news/world/2016/09/22/pentagon-confirms-isil-chemical-attack-near-us-troops-iraq/90841824/.

[2] North Atlantic Treaty Organization, *Statement by the North Atlantic Council on the Use of a Nerve Agent in Salisbury,* NATO, 14 March, 2018, https://www.nato.int/cps/en/natohq/news_152787.htm?selectedLocale=en

[3] US Department of Defense, *Summary of the 2018 National Defense Strategy* (Washington, DC: Government Publishing Office, 2018), 4; Arms Control Association, "Chemical and Biological Weapons Factsheet at a Glance," Arms Control Association, 2020. Accessed 9 February, 2021. https://www.armscontrol.org/factsheets/cbwprolif.

There is a wealth of published literature regarding many aspects of chemical weapons, however, what is currently available does not effectively synthesize research to present a foundational understanding of why actors chose to employ chemical weapons in a conflict. For example, detailed, single conflict analysis is available on many of the instances of chemical weapon use throughout the last 120 years. These include works such as Hiltermann's *A Poisonous Affair* (Iran-Iraq war) and Wilkinson's *Before Intelligence Failed* (Iraq 2003).[4] Without making wider comparisons across cases, their findings and recommendations are limited in their utility for operational level military planners because it is not immediately possible to generalize from one case to many.

There are also comparative studies which discuss multiple cases of chemical weapon use, however, they too have limited application for the operational planner. Rather than examining the operational context of chemical weapon employment, these cross-case studies tend to focus on a capability strand (such as Kaszeta's *Toxic* which is limited to nerve agents) or a specific group of actors (such as Braithwaite's *Chemical Weapon use for Domestic Repression*).[5] No research exists specifically comparing common characteristics of operational environments within which chemical weapons are used, and it is this gap that this monograph seeks to fill.

This monograph identifies common characteristics through a comparative case study method over three sections. The first section contains three individual case studies, examining

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[4]Joost R. Hiltermann, *A Poisonous Affair* (New York: Cambridge University Press, 2007).; Mark Wilkinson, *Before Intelligence Failed* (London, C. Hurst & Co, 2018). See also: Randi Hunshamar Oygarden, *"Chemical Weapons and the Iran Iraq War"* (Universitas Bergensis, 2104), accessed 19 September 2020, https://core.ac.uk/download/pdf/30915827.pdf.; Rene Pita, and Juan Domingo, "The Use of Chemical Weapons in the Syrian War," *Toxics* 2 (2014).

[5] Dan Kaszeta, *Toxic* (London: C. Hurst & Co, 2020).; Robert Braithwaite, "Chemical Weapon Use for Domestic Repression." *Defense Studies* 16, (2016): 327-45. Further examples of agent specific agent literature includes Jonathon B. Tucker, *War of Nerves* (New York: Pantheon Books, 2006); and Theodore Karasik, *Toxic Warfare* (Santa Monica, CA: RAND, 2002). Actor specific literature includes Jonathon M. McComb, "Closing Pandora's Box: The Threat of Terrorist Use of Weapons of Mass Destruction," *Global Security Studies* 4, no. 1, Winter 2013 (2013); and James J. F. Forrest, "Terrorist Use of WMD," in *The World's Most Threatening Terrorist Networks and Criminal Gangs*, ed. Michael T. Kindt, Jerrold M. Post, and Barry R. Schneider (New York: Palgrave MacMillan, 2009).

various conflicts in which actors employed chemical weapons. The first case investigates the Iraqi government during the Iran-Iraq War. The second investigates the Liberation Tigers of Tamil Eelam during the Sri Lankan Civil War. The third investigates the Syrian government during the ongoing Syrian Civil War. Following the individual case analysis, the monograph compares the cases to identify commonalities among the operational environments and arrive at its findings. Finally, the monograph builds on this comparison to present findings and recommendations relevant to operational planners.

Between 1900 and 2019, international monitoring bodies reported 41 instances of state and non-state actors employing chemical weapons in a broad range of conflicts.[6] The monograph employs a series of criteria to ensure the selected case studies' have relevance to contemporary operational planners. First, this monograph focuses on the post-1945 period. The choice of cases intentionally includes a wide variety of conflict types (state on state, insurgency, and counterinsurgency) from different theatres (Middle East and South Asia) and a variation in frequency of chemical weapons employment in a given conflict.

To draw conclusions relevant to military operational planners, this research did not consider two categories of chemical weapon use. It does not include state-sponsored assassinations using chemical means because they belong purely to the strategic level. The monograph also does not examine chemical weapon use by non-state actors, such as Ayo Shinrikyo, who sought anarchic objectives as those actors have different priorities and decision-making processes than those that military operational planners.[7]

A final consideration that drove case selection was the accessibility of cross verifiable unclassified information for each of the cases. This is especially important when considering the

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[6] David M. Allison and Stephen Herzog. "Gas, Norms and Statistics: The Jury Is Still Out." *The Non Proliferation Review* 26, 5-6 (2019): 400, https://www.tandfonline.com/doi/pdf/10.1080/10736700.2019.1706822

[7]Mary D. Zalensy et al., "A Conceptual Model to Identify Intent to Use Chemical-Biological Weapons," *Journal of Strategic Security* 10, 3 (2017): 55, https://www.jstor.org/stable/26466834.

use of chemical weapons, as intelligence surrounding these weapons is often restricted into high classification levels or is subject to sustained campaigns of misattribution and disinformation.

The Iran-Iraq War

Iraq on the Defensive

Despite Iraq having fired the first shots of the war, by 1982, Iranian resistance had driven the front line back to the pre-war border.[8] Iraq sought a ceasefire in the summer of 1982, backed by the UN.[9] Iran, nevertheless, continued their offensive operations against Iraq, stating that their war aims had become Saddam Hussein's government's total defeat.[10] Saddam Hussein perceived the Iranian intent as an existential threat, a belief further reinforced by a string of Iranian tactical successes.

In November 1983, in the mountainous central border region, Iranian forces broke through weak Iraqi defenses near Penjwin. Breakout from the mountain passes would have allowed Iran to exploit into central Iraq's main oil drilling region.[11] In February 1984, the Iranian military seized another oil-producing area, the Majnoon Islands, in the southern marshes.[12] The loss of either of these areas would have been strategically catastrophic for Iraq as oil was their primary economic resource of the time.[13]

Iranian tactical successes were possible due to the numerical asymmetry between Iran and Iraq. Iraq's smaller army had suffered considerable losses early in the war, leaving few forces to defend the entire Iran-Iraq border.[14] In Iran, the popular revolution and the Iraqi invasion had

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[8] Efraim Karsh, *The Iran-Iraq War*: *1980-1988* (Oxford: Osprey, 2002), 36.

[9] Ismat Kittani to Javier Perez Cuellar, 17 March 1986, in *UN Digital Library,* (New York: United Nations, 1986), 1. https://digitallibrary.un.org/record/114579?ln=en

[10] Pierre Razoux, *The Iran-Iraq War* (Cambridge, MA: Belknap Press of Harvard University Press, 2015), 221.

[11] Razoux, *The Iran-Iraq War*, 253.

[12] Oygarden, "Chemical Weapons and the Iran Iraq War.", 31-32

[13]. Razoux, *The Iran-Iraq War*, 253

[14] Kevin M. Woods et al., Saddam's War: An Iraqi Military Perspective of the Iran-Iraq War, *McNair Paper*, vol. 70 (Washington, DC: National Defense University, 2009), 48. https://www.hsdl.org/?view&did=15772.

swelled the ranks of religious militias.[15] These militias formed human wave attacks, storming overstretched Iraqi defenses.[16] Although the Iraqi army was able to inflict high numbers of casualties, they lacked enough conventional fires capabilities to halt the Iranian assaults.

Saddam Hussein deployed his operational reserve, the Republican Guard, in response to the offensives at Penjwin and Majnoon. The Iraqi forces were authorized to use chemical weapons to overcome the numerical asymmetry.[17] At Penjwin, the Iraqi use of mustard gas caused limited casualties, but the surprise and fear induced by the chemical attack halted the Iranian breakthrough.[18] The Iraqi's increased the lethality of their response at the Majnoon by using Taburn nerve gas.[19] Although neither attack caused numerically significant casualties, the Iranian initiative faltered after the employment of chemical weapons.[20] For Iraq, these tactical successes proved the value of chemical weapons' psychological and physical effects.

The International (non)Reaction

In November 1983, Iran demanded a UN investigation into Iraqi use of chemical weapons.[21] Relations between the UN Security Council and the Iranian government had broken down early in the war. Consequently, the UN Secretary-General found himself as the only intermediary whom both sides perceived as neutral.[22] In March 1984, after some delay, a UN

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[15] Razoux, *The Iran-Iraq War*. 121.

[16] Karsh, *The Iran-Iraq War: 1980-1988*, 33-35.

[17] Tucker, *War of Nerves*, 249-250.

[18] Oygarden, "Chemical Weapons and the Iran Iraq War.", 26-27.

[19] Kaszeta, *Toxic*, 172.

[20] Razoux, *The Iran-Iraq War*, 253.

[21] Said Rajaie-Khorassani to Javier Perez de Cuellar, 3 November 1983, in *UN Digital Library*, (New York: United Nations, 1983), https://digitallibrary.un.org/record/58113?ln=en; Said Rajaie-Khorassani to Javier Perez de Cuellar, 9 November 1983, in *UN Digital Library*, (New York: United Nations, 1983). https://digitallibrary.un.org/record/58117?ln=en

[22] Javier Perez de Cuellar, *Pilgrimage for Peace* (New York: St Martin's Press, 1997), 134-135.

fact-finding team deployed to Iran.[23] The investigation found evidence of the use of mustard and taburn gas against the Iranian military.[24]

The international reaction to the report had little impact. When challenged by the media, an Iraqi government official euphemistically referred to the Iranians as insects and stated that Iraq possessed, and would use, more "insecticide" in the future.[25] The UN Secretary-General condemned the use of chemical weapons but did not directly attribute blame to Iraq.[26] The UN Security Council also condemned the use of chemical weapons, urging both sides to respect humanitarian law, but took no definitive action through resolutions.[27] To Iran, the delays represented the failure of international law and international institutions.[28] To Iraq, the UN's reaction gave legitimacy to their past use of chemical weapons and prepared the way for their future employment.

Iraq on the Offensive

In spring 1986, Iraq launched an offensive to retake the oil refining and storage sites on the Al-Faw Peninsula.[29] The soft marsh terrain limited the Iraqi army's ability to maneuver and the effectiveness of their high explosive munitions.[30] Alongside a conventional offensive, the Iraqis used a combination of persistent and non-persistent chemical agents to defeat Iranian

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[23] Javier Perez de Cullar to Said Rajaie-Khorassani, 10 Feburary 1984, in *UN Digital Library*, (New York: United Nations, 1984). https://digitallibrary.un.org/record/62037?ln=en.

[24] United Nations, *Report of the Specialists Appointed by the Secretary General to Investigate Allegations by Iran Concerning the Use of Chemical Weapons*. (New York: UNSC, 1984), 11-12. https://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/Disarm%20S16433.pdf

[25] Hiltermann, *A Poisonous Affair*, 37

[26] United Nations, *Report of the Specialists Appointed by the Secretary General to Investigate Allegations by Iran Concerning the Use of Chemical Weapons*, 1.

[27] Oygarden, "Chemical Weapons and the Iran Iraq War.", 35.

[28] Tucker, *War of Nerves*, 287.

[29] Razoux, *The Iran-Iraq War*, 352.

[30] Woods et al., Saddam's War: An Iraqi Military Perspective of the Iran-Iraq War, 56.

defensive positions and disrupt logistic and reinforcement nodes in the rear.[31] Over four days, the Iraqi military pushed the front line back 12 miles and the Iranians suffered 35,000 casualties. An estimated 8,000 of these were attributed to the use of chemical weapons.[32]

Iraq continued to use chemical weapons to the end of the war. In 1988, an Iraqi offensive was launched near the Majnoon Islands. Saddam Hussein had delegated the authority to employ chemical weapons down to Iraqi Corps Commanders by this stage of the war to enable freedom of action.[33] Iranian defenses collapsed within 8 hours. In one day, Iran suffered 11,000 casualties, 4,000 of those attributed to nerve gas.[34] Iraq was able to inflict large numbers of physical and psychological casualties on the Iranians, reinforcing their perception that chemical weapons were directly contributing to tactical successes.

Iraq's continued use of chemical weapons attracted limited international reaction. A UN investigation in 1986 attributed the use of chemical weapons by Iraq on Iran, though the repercussion was no more than a note reminding both sides to respect humanitarian law provisions.[35] Under new leadership, the USSR had withdrawn their support to Iran in 1982 and channeled military equipment into Iraq.[36] The US was growing closer to the Ba'athist government, having reestablished diplomatic relations in 1984, and continued to avoid challenging Iraq on its use of chemical weapons.[37] Iran continued to lack support from the UN or the governments of Arab nations or superpowers.[38] Iraq believed that they had the backing of the

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[31] Kaszeta, *Toxic*, 172.

[32] Central Intelligence Agency, *Impact and Implications of Chemical Weapons Use in the Iran Iraq War* (Langley, VA: Central Intelligence Agency, 1988), 7. https://www.theblackvault.com/documentarchive/impact-and-implications-of-chemical-weapons-use-in-the-iran-iraq-war-april-1988/

[33] Woods et al., Saddam's War: An Iraqi Military Perspective of the Iran-Iraq War, 56.

[34] Oygarden, "Chemical Weapons and the Iran Iraq War.", 97.

[35] Hiltermann, *A Poisonous Affair*, 73.

[36] Razoux, *The Iran-Iraq War*, 240.

[37] Razoux, *The Iran-Iraq War*, 169; Hiltermann, *A Poisonous Affair*, 52.

[38] Hiltermann, *A Poisonous Affair*, 47.

broader global community in the fight against Iran despite their continuing use of chemical weapons

The Al-Anfal Campaign

In 1987, the Iraqi army began the Al-Anfal Campaign against the Kurdish peoples. The campaign was ostensibly in punishment for an attack on the town of Kirkuk in late 1986. However, Saddam Hussein had long sought revenge on the Kurds, for the perceived embarrassment of the terms of the 1975 Algiers accord, and their assistance to Iran throughout the war.[39] Chemical weapons formed an integral part of the Iraqi strategy from the start. In formal orders, Saddam Hussein euphemistically authorized the use of “special weapons” to 'kill the maximum people present'.[40] First at Serdasht in 1987, then at Halabja in 1988, the Iraqi Republican Guard deliberately targeted population centers with chemical weapons to kill Kurdish civilians.[41] The fear induced by the use of chemical weapons formed a psychological line of effort in the Iraqi strategy, intended to undermine the Kurdish population's faith in their militias' ability to provide protection.[42] Saddam Hussein expected little international reaction to his use of chemical weapons and he was right. After the attacks at Halabja, the US State Department suggested that Iran was to blame.[43]

Analyzing Key Factors within the Operational Environment

The Iraqi military initially used chemical weapons as they believed they faced an existential threat from Iran. The change in initiative from Iraq to Iran in the early part of the war placed the Iraqi military on the back foot, and the increasingly aggressive rhetoric from the

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[39] Hiltermann, *A Poisonous Affair*, 91-92.

[40] Human Rights Watch, *Iraq's Crime of Genocide: The Anfal Campaign against the Kurds* (New Haven: Yale University Press, 1995), 52-56.

[41] Kaszeta, *Toxic*, 175-176.

[42] Hiltermann, *A Poisonous Affair*, 130-131.

[43] Human Rights Watch, *Iraq's Crime of Genocide: The Anfal Campaign against the Kurds*, 254; Tucker, *War of Nerves*, 194.

Iranian leadership demonstrated an intent to overthrow Saddam Hussein's government The urgency of the threat posed by Iranian offensives was amplified by their ability to break through Iraqi defenses and threaten strategically vital areas such as the oil fields near Penjwin and in the Majnoon islands.

As the war progressed, the threshold of perceived threat needed to employ chemical weapons decreased. Iranian presence in the Al-Faw peninsula during the 1986 offensive was impacting the Iraqi oil production networks but did not present a threat to the government's power bases in Baghdad, or to Basra. Iraq's 1988 offensives in the Majnoon and Kurdistan also sought objectives with strategic importance, but the urgency of the threat to Saddam Hussein from Iran or the Kurdish militias was small.[44] Iraq's initial use of chemical weapons was because they felt they had no other option. Their continued use, however, was based on a different factor

Iraq believed that it needed to use chemical weapons to overcome capability gaps at both the tactical and operational levels. At a tactical level, the use of chemical weapons achieved physical effects against Iranian numerical superiority and within urban terrain when used as a defensive aid.

At the operational level, chemical weapons mitigated the Iraqi armored forces' inability to maneuver in the southern marshes and northern mountains. More significantly for the Iraqis was the psychological effect that chemical weapons created. Whether in halting Iranian assaults in the early part of the war or destroying the Kurdish militia's narrative and will to fight in the Al Anfal campaign, the fear induced by the use of chemical weapons altered Iraqi operational and strategic planning through the remainder of the war.[45] Iraq perceived that chemical weapon use was directly leading to operational and tactical successes, and these successes were not being challenged at the strategic level.

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[44] Karsh, *The Iran-Iraq War: 1980-1988*, 55.

[45] Woods et al., Saddam's War: An Iraqi Military Perspective of the Iran-Iraq War, 56.

Iraq's early use of chemical weapons was a gamble – they faced the very real likelihood of an Iranian breakthrough without them, but the possibility of international repercussions if they did. The UN's initial delays in 1983-84 to acknowledge the use of chemical weapons by Iraq, and the subsequent lack of robust action, gave Iraq a perceived green light to continue with their use.[46] At the same time, despite its publicized use of chemical weapons, Iraq was also able to develop its relationships with both the USA and the USSR. This lack of international condemnation reinforced the Iraqi view that they were the victim in the war, legitimizing an 'ends justify the means' mindset which was reflected in attitudes amongst the war's actors.

Iraq's continued use of chemical weapons demonstrates the presence of moral disengagement mechanisms toward the Iranian and Kurdish victims.[47] Saddam Hussein displaced responsibility for the war, and the resulting use of chemical weapons by blaming Iran and the Kurds for the war's start.[48] The Iraqi high command also displaced responsibility for the use of chemical weapons by delegating the authority for their use from strategic authorization in response to early Iranian offensives to routine tactical level control by the end of the conflict.[49] The Iraqi chain of command also used euphemistic language, such as 'insecticide' and 'special weapons', to mask their use of chemical weapons in numerous communication forms, from press conferences to formal orders.

Having discovered the effectiveness of gas in disrupting the Iranians at Penjwin and Majnoon, the Iraqi's believed the limp international response gave them the green light to escalate their employment. Morally disengaging from the impact of chemical weapon use on unprotected adversaries by divulging responsibility to tactical level commanders perpetuated this cycle,

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[46] Tucker, *War of Nerves*, 205.

[47] Albert Bandura, "Moral Disengagement in the Perpetration of Inhumanities," in *The Encyclopedia of Peace Psychology*, ed. Daniel J. Christie, vol. 2 (London: Wiley, 2012), 191.

[48] Woods et al., Saddam's War: An Iraqi Military Perspective of the Iran-Iraq War, 28.

[49] Tucker, *War of Nerves*, 269.

normalizing their use. While early in the war the Iraqis could justify this with their fear of an Iranian existential threat, later in the war the blaming of Iran for initiating the conflict and for breaking humanitarian law themselves served to continue the employment of chemical weapons.

Post Script. Iraq in 1991

The threat of Iraqi use of chemical weapons against coalition forces in the war of 1991 was high. Iraq did plan for the employment of chemical weapons against coalition forces.[50] The operational environment, however, did not support an Iraqi decision to use them.

Unlike the Iranians, the coalition took steps to message to the Iraqis that the war was not intended to pose an existential threat. The Iraqi military took significant casualties during both the air and land campaigns, however, they did not believe that the coalition intended regime overthrow due to effective messaging conducted by coalition leadership.[51] This messaging was reinforced by the physical actions on the ground, with engagements taking place around Kuwait City and deep in the western desert, never turning north toward Baghdad.[52] Without an urgent perceived threat to Saddam Hussein's leadership, the Iraqi government did not believe that an existential threat existed. Even if one had, the Iraqi government could not rely on outside support.

The network of alliances that Iraq had relied upon during the war with Iran no longer existed. The USSR had collapsed, and the USA was now leading the conflict against Iraq. Saddam Hussein could not rely upon support from Arab nations, who had joined the US led coalition in response to Iraq's invasion of a fellow Arab state.[53] The international community was not only unwilling to turn a blind eye to Iraq and the possibility of their use of chemical weapons,

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[50] Tucker, *War of Nerves*, 303.

[51] Benjamin Buch, and Scott D. Sagan, "Our Red Lines and Theirs," *Foreign Policy*, 2013. Accessed 11 February, 2021. https://foreignpolicy.com/2013/12/13/our-red-lines-and-theirs/.

[52] Barry R. Schnieder, *Deterrence and Saddam Hussein: Lessons from the 1990-1991 Gulf War* (Maxwell, AL: Air University Press, 2009), 23.

[53] Douglas W. Craft, *An Operational Analysis of the Gulf War* (Carlisle, PA: US Army War College, 1993), 3-4. https://apps.dtic.mil/dtic/tr/fulltext/u2/a256145.pdf.

but they directly warned Iraq that the consequences of chemical weapon use would be escalation and threatened the possibility of nuclear retaliation.[54] Without international support to prevent that possibility, the Iraqi military did not feel it could employ chemical weapons without significant repercussions, so unlike in the Iran-Iraq war, the risk-reward decision was skewed against Iraq.

The difference in operational environments that Iraq faced in 1983 and 1991 led to Iraq's decision not to use chemical weapons against the coalition. With little international support and no existential threat, the risk of significant repercussion successfully deterred Saddam Hussein from adopting the tactics he perceived had led to success in the Iran-Iraq war.

[54] Schnieder, *Deterrence and Saddam Hussein: Lessons from the 1990-1991 Gulf War*, 25.

Sri Lanka – The Siege of East Kiran

Eelan War II Begins

Tension between the Sinhala Sri Lankan government and Tamil rebels had been ongoing since Sri Lanka gained independence in the 1940s.[55] New generations of fighters, born into the conflict and indoctrinated through the Liberation Tigers of Tamil Eelam's (LTTE) cadre system, fuelled increasing violence levels and the implementation of 'dirty tactics'.[56] In 1987, the LTTE conducted their first suicide bombing against the Sri Lankan Armed Forces (SLAF).[57] The LTTE identified suicide bombings as a way to overcome a lack of arms and ammunition.[58] As a result of this arms capability asymmetry between the Tigers and the SLAF, the LTTE was willing to experiment with unusual and unconventional capabilities if they felt they would give them some level of advantage.

Other than India, the wider international community paid little attention to the conflict.[59] India shared an ethnic background with the Tamils and was concerned about regional instability caused by the conflict, chairing peace negotiations and deploying peace keepers throughout the

[55] S. D. Selvadurai, and Mike Smith, "Black Tigers, Bronze Lotus: The Evolution And Dynamics of Sri Lanka's Strategies of Dirty War " *Studies in Conflict and Terrorism* 36 (2013): 554. https://doi.org/10.1080/1057610X.2013.793617 .

[56] Ibid, 560.

[57] Robert Pape, "Tamil Tigers - Suicide Bombing Innovators," interview by Lynn Neary, Talk of the Nation, 2009, NPR, Chicago. Accessed 25 November 2020. https://www.npr.org/templates/story/story.php?storyId=104391493.

[58] Selvadurai, and Smith, "Black Tigers, Bronze Lotus: The Evolution And Dynamics of Sri Lanka's Strategies of Dirty War ", 555.

[59] Human Rights Watch, *World Report: Sri Lanka* (Human Rights Watch, 1990). Accessed 17 September 2020. https://www.hrw.org/reports/1990/WR90/ASIA.BOU-11.htm#P718_161127.

1980s.[60] In 1989, the Sri Lankan government and LTTE brokered a fragile ceasefire leading to the peacekeepers' departure in January 1990.[61]

The LTTE used the ceasefire to consolidate in three historically Tamil regions, including Batticaloa on the east coast.[62] On June 10, 1990, the ceasefire collapsed after LTTE troops ambushed and executed 600 unarmed Sri Lankan police officers.[63] The ambush triggered several LTTE offensives across the country, the surprise of which gave the Tigers the initiative they believed they needed to secure significant military successes.

The Battle for Batticaloa

To the Tamils, the peninsula of Batticaloa had both historical and strategic significance. It was home to an ancient ancestor of the Tamils and functioned as the capital of the eastern province of Sri Lanka.[64] In the late 1980s, the SLAF had forcibly removed ethnic Tamils to requisition land to build a fort on the north coast at East Kiran.[65] Control of the Batticaloan coast was also strategically important for the Tamils, as it was one of the few areas where the LTTE could land black market arms.[66] The LTTE deemed that the fort was a strategically important objective in both narrative and logistical terms..

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[60] Raj Vijayasiri, *"A Critical Analysis of the Sri Lankan Government's Counter Insurgency Campaign"* (US Army Command and General Staff College, 1999), 15. https://apps.dtic.mil/dtic/tr/fulltext/u2/a367729.pdf.

[61] Bruce Matthews, "Sri Lanka in 1989: Peril and Good Luck," *Asian Survey* 30, 2 (1990): 145. https://doi.org/10.2307/2644892.

[62] Hiran Halangode, "Besieged: Confronting the LTTE Assaults in Mid-1990 in Batticaloa Province," *Thuppahi's Blog*, 28 March, 2016. Accessed 17 September, 2020. https://thuppahis.com/2016/03/28/besieged-confronting-the-ltte-assaults-in-mid-1990-in-batticaloa-province-an-infantry-officers-tale/.

[63] Ibid.

[64] Batticaloa Online, "About Batticaloa," 2013. Accessed 23 January, 2021. https://www.batticaloaonline.com/about-us/about-batticaloa.

[65] "Why Can't We Go Home? Military Occupation of Land in Sri Lanka," Human Rights Watch, 2018. Accessed 19 September, 2020. https://www.hrw.org/report/2018/10/09/why-cant-we-go-home/military-occupation-land-sri-lanka#.

[66] Daniel Byman et al., "The LTTE's Military Related Procurement," in *Trends in Outside Support for Insurgent Movements* (Santa Monica, CA: RAND, 2001), 122.

On June 11, 1990, the LTTE isolated the camp, calling on the 60 SLAF defenders to surrender. When the defenders failed to do so, the Tigers began their assault. A 10 day siege followed, with 300 LTTE cadre members attacking in shifts.[67] In response, the Sri Lankan navy deployed a maritime column to relieve the SLAF.[68]

As the siege progressed, the LTTE faced two time based challenges. The relief column's impending arrival meant the LTTE needed to achieve their objectives quickly if they were to succeed. The cadre members involved in the assault were also running low on arms and ammunition due to the broader operational level shortage of materiel.[69]

To the LTTE, chemical weapons offered a possible asymmetric way to achieve success. The LTTE were able to source barrels of chlorine gas from a nearby printing factory and improvise a firing system.[70] On the morning of June 21, 1990, the Tigers blew up the barrels of chlorine outside the SLAF camp. The LTTE discussed the use of chlorine over radio frequencies they knew to be monitored by the SLAF to widen the psychological effect of the attack.[71] Although some defenders were temporarily incapacitated, a change in wind direction dissipated the gas and enabled the SLAF to hold out several more hours until the maritime column's arrival. The Tigers abandoned their attack when the SLAF reinforcements arrived, having failed to take the camp.[72] The LTTE's inventive nature led them to experiment with chlorine gas as a means to

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[67] Bruce Hoffman, "The First Non-State Use of a Chemical Weapon In Warfare: The Tamil Tigers' Assault on East Kiran," *Small Wars and Insurgencies* 20, no. September-December 2009, 3-4 (2009): 469. https://doi.org/10.1080/09592310903026969 .

[68] Ibid., 470.

[69] Ibid., 471.

[70] Ibid., 464; Similar use of Chlorine Barrels and improvised firing systems are alleged to have been used in Grozny in December 1999 - see Geibel, Adam, “Poisoned Clouds over Deadly Streets” *Military Review* No 82, vol 1, Jan-Feb 2002. 86-87.

[71] Hoffman, "The First Non-State Use of a Chemical Weapon In Warfare: The Tamil Tigers' Assault on East Kiran." 464 .

[72] Shamindra Ferdinando, "Battle for Supremacy in Batticaloa,", *The Island.* Accessed 18 September, 2020, http://pdfs.island.lk/defence/20130311_115.html.

overcome the SLAF's defensive strengths. The Tiger's limited technical expertise with chemical agents undermined the weapon's potential effectiveness.

Conventional Tactics Return

The attacks on East Kiran marked the only use of chemical weapons in the Sri Lankan Civil War.[73] Chlorine gas' ineffectiveness in the siege had not persuaded the Tiger's leadership that the use of chemical weapons was an effective line of operation for them to adopt.

Following the initial offensives of Eelam War II in 1990, LTTE organization and doctrine underwent fundamental changes. These changes brought about successes in 1993 and 1994 in large scale battalion/brigade attacks, leading to significant political losses by the Sri Lankan government in elections in 1995.[74] The LTTE's new tactics were possible due to the end of the arms shortage. The collapse of the Soviet Union flooded the black market with materiel, providing the LTTE with conventional weapons throughout the 1990s.[75] The failure of chemical weapons and the success of the reforms in the 1990s, enabled by the narrowing conventional arms capability gap, persuaded the Tigers' leadership that chemical weapons were not a capability to pursue.

Analyzing Key Factors of the Operational Environment

The LTTE's strategy sought to maximize psychological effects to undermine and disrupt SLAF and government narratives. Suicide bombings, ambushes, and assassinations of unarmed security forces were all conducted to undermine government capabilities and retain influence

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[73] This fact is debated. The attacks at East Kiran are the only ones where the use of chemical weapons have been widely proven, however there are allegations of the use of other toxic chemicals during an attack on an SLAF Camp in Jaffna in 1995, and at Bandaranaike Airfield in 2001. See Karasik, *Toxic Warfare*, 22-23.

[74] Nisala A. Rodrigo, *The Rise of the Liberation Tigers: Conventional Operations in the Sri Lankan Civil War*: 1990-2001" (US Army School of Advanced Military Studies, 2019), 31. https://www.hsdl.org/?view&did=832144.

[75] Byman et al., "The LTTE's Military Related Procurement," in *Trends in Outside Support for Insurgent Movements*, 122.

through fear rather than genuine support.[76] The use of chemical weapons against completely unprepared targets, if successful, would have had a significant effect on the morale and cohesion of the SLAF elsewhere. The Tigers sought to maximize this psychological effect by broadcasting their attack over radio networks they knew were monitored. The influence battle was key for the LTTE, especially in the early phases of the war where they faced a disparity in materiel with the SLAF.

The capability asymmetry between the SLAF and LTTE encouraged a culture of improvisation and innovation throughout the war. In the 1980s, the LTTE could not access enough arms and ammunition to conduct a conventional fight. As a result, the LTTE embraced unconventional innovation, such as the implementation of suicide bombing and maritime raiding.[77] The LTTE had previously considered and experimented with chemical agents in the war.[78] The availability of toxic industrial chemicals and the limited technical resource required to spread a chlorine gas cloud, while crude, represented a significant capability step-change against which the SLAF could not protect.[79] The successful use of chemical weapons could have had a long-lasting effect on the morale of the SLAF, not only due to the new threat the LTTE posed but the prestigious objective they would have achieved.

East Kiran was a high profile objective for the LTTE. The Tigers saw the Batticaloa Peninsula as key terrain. It directly represented the Sinhala repression upon which the LTTE built their narrative. Defeating the SLAF and retaking East Kiran would have been a significant profile boost for the LTTE. Failure for the LTTE would be highly embarrassing, especially given that the

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[76] Selvadurai, and Smith, "Black Tigers, Bronze Lotus: The Evolution And Dynamics of Sri Lanka's Strategies of Dirty War ", 548.

[77] Molly Dunigan et al., *Characterizing and Exploring the Implications of Maritime Irregular Warfare* (Santa Monica, CA: RAND, 2012), 73. https://www.rand.org/pubs/monographs/MG1127.html.

[78] Hoffman, "The First Non-State Use of a Chemical Weapon In Warfare: The Tamil Tigers' Assault on East Kiran.", 472.

[79] Ibid., 464.

cease-fire allowed the Tigers to prepare for their offensive and their numerical advantage. The Tigers tasked with securing East Kiran had to contend with this 'narrative pressure' and additional time pressure. The LTTE had to achieve their objective quickly, both to preserve their limited stock of arms and ammunition and before the arrival of the maritime relief column. This combination of a critical and time-sensitive objective increased the objective's profile to one that encouraged experimentation with any weapon that might lead to success.

The LTTE's failure to achieve their desired tactical objectives at East Kiran was a crucial component of the decision for the Tigers to end their experimentation with chemical weapons in the Sri Lankan Civil War. The changing operational environment gave the LTTE the conventional means to successfully achieve psychologically impactful attacks against prestigious objectives.

The Syrian Civil War

Operation Capital Shield

In summer 2013, President Assad believed his government faced an existential threat from rebels within Syria. The capital city was the government's strategic center of gravity, yet government forces' repeated attempts to clear rebel enclaves had failed.[80] A US deployment to neighboring Jordan had increased rumors of support for insurgent offensives. Attacks had steadily increased, including an assassination attempt on the President in early August 2013.[81] The Syrian government believed a coordinated assault was imminent and that their grip on power faced an existential threat.

On August 21, 2013, the Syrian military launched Operation Capital Shield against rebel strongholds in the suburbs of East Ghouta and Moadamiya. The Syrian army initially bombarded the area with high explosive artillery, followed by a barrage of rockets containing sarin gas.[82] The gas penetrated the buildings and shelters, killing an estimated 1,400 people.[83]

The following day, Syrian troops began a clearance of the city, which continued into September. Despite the rebels retaining control of the suburbs, the Syrian government perceived that Operation Capital Shield had been successful. From the military's point of view, they had halted the anticipated offensive and undermined civilian support for the rebels, and chemical weapons had been key to those successes.[84]

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[80] Valerie Szybala, *Assad Strikes Damascus: The Battle for Syria's Capital* (Washington, DC: Institute for the Study of War, 2014), 6. http://www.understandingwar.org/sites/default/files/ISWAssadStrikesDamascus_26JAN.pdf.

[81] Ibid., 16.

[82] Eliot Higgins, "Identifying Government Positions During the August 21st Sarin Attacks," *Bellingcat*, 2014. Accessed 15 September, 2020. https://www.bellingcat.com/news/mena/2014/07/15/identifying-government-positions-during-the-august-21st-sarin-attacks/.

[83] Kaszeta, *Toxic*, 218.

[84] Szybala, *Assad Strikes Damascus: The Battle for Syria's Capital*, 32.

Syria Joins the Chemical Weapons Convention

In 2012, a press conference by the Syrian government stated they were willing to use chemical weapons against states interfering within the conflict.[85] In response, President Barack Obama warned of repercussions against Syria should that happen. A number of intelligence agencies had made allegations of small-scale use of chemical weapons in the autumn 2012 and spring 2013 to the UN. As a result, an investigation team was already in Syria during August 2013. They traveled to the site of the attacks but delayed publishing their findings until international tensions caused by the strikes had calmed.[86] No military repercussions took place but Syria was mandated, through a UNSC resolution, to accede to the Chemical Weapons Convention in October 2013.[87] Syria declared all its chemical weapons stocks had been destroyed in early 2014. The UN also instigated a joint investigative mechanism to observe both the decommissioning of Syrian chemical weapons and to investigate any further allegations of their use in the conflict.[88] The joint investigative mechanism remained in effect until November 2017, when a Russian veto at the UN Security Council forced the resolution to expire.[89]

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[85] The Guardian, "Syrian Regime Makes Chemical Warfare Threat," *The Guardian* (London)2012. Accessed 28 September, 2012. https://www.theguardian.com/world/2012/jul/23/syria-chemical-warfare-threat-assad.

[86] Ake Sellstrom, *A Powerful Story About Investigating Chemical Weapons in Syria* (TED Talks, 2015). https://www.youtube.com/watch?v=zq9kOFWp2T0.

[87] UN Security Council, *Resolution 2118*, 2013, S/RES/2118. https://undocs.org/S/RES/2118(2013).

[88] UN Security Council, Security Council Unanimously Adopts Resolution 2235, Establishing Mechanism to Identify Perpetrators Using Chemical Weapons in Syria (New York: UNSC, 2015), accessed 1 Septemer, 2020, https://www.un.org/press/en/2015/sc12001.doc.htm

[89] Russia stated that their veto was due to the politicising of the JIM, and that the US had already decided who was responsible for chemical attacks in Syria before reports were concluded. Michelle Nichols, "Russia Casts 13th Veto of Un Security Council Action During Syrian Civil War," *Reuters* (New York) 2019. Accessed 18 September, 2020. https://www.reuters.com/article/us-syria-security-un/russia-casts-13th-veto-of-u-n-security-council-action-during-syrian-war-idUSKBN1W42CJ.

Idlib 2015

The population of Idlib had historically been unsupportive of the formal Syrian government.[90] In early 2015, rebels seized Idlib and its surrounding province from the Syrian army in only four days of fighting.[91]

A Syrian counter-offensive followed, led by Syrian special forces known as Tiger forces, and supported by a Syrian armored division.[92] A combination of mountainous and urban terrain made for a complex physical environment.[93] During the three month campaign, international observers reported 46 instances of the Syrian military using chlorine barrel bombs.[94] Many of these, such as attacks at Qmenas, Sarmin and Binnish, targeted outlying civilian-populated areas, away from the counter-offensive front line. The military identified Qmenas and Sarmin as locations where rebels were staging and Binnish as a location for deploying long-range weapons.[95] The Syrian government denied responsibility for all these attacks, claiming they had bombed rebels in possession of chlorine.[96] Between 2014-2017, the Syrian Tiger forces

[90] Aron Lund, "Assad's Broken Base: The Case of Idlib," The Century Foundation, 2016, accessed 27 Nov 2020, 2020, https://tcf.org/content/report/assads-broken-base-case-idlib/?agreed=1

[91] Tobias Schneider, and Theresa Lutkefend, *Nowhere to Hide: The Logic of Chemical Weapons Use in Syria* (Berlin: Global Public Policy Institute, 2019), 23.

[92] See also Gregory Waters, *The Tiger Forces. Pro Assad Forces Supported by Russia* (Washington, DC: Middle East Institute, 2018), accessed 28 November 2020, https://www.mei.edu/sites/default/files/2018-11/TigerForces.pdf.; Leith Aboufadel, "Tiger Forces Announce Their Deployment to Idlib," *al Masdar News* (Beirut)2015, accessed 20 November 2020, https://www.almasdarnews.com/article/tiger-forces-announce-their-deployment-to-idlib/.

[93] Lund, "Assad's Broken Base: The Case of Idlib."

[94] Schneider and Lutkefend, *Nowhere To Hide – The Logic of Chemical Weapons Use in Syria*, 15-19, 42-44.

[95] UNSC, *Third Report of the Organization for Prohibition of Chemical Weapons - United Nations Joint Investigative Mechanism* (New York: United Nations, 2016), 69, 77, 87. https://undocs.org/pdf?symbol=en/S/2016/738.

[96] UNSC, *Third Report of the Organization for Prohibition of Chemical Weapons - United Nations Joint Investigative Mechanism*, 74.

repeatedly used chlorine barrel bombs in offensives and counter-offensives.[97] Although these attacks caused few fatalities, they led to large numbers of displaced civilians.[98] For the Syrian government who sought to drive civilians away from rebel areas, this looked like operational success, and the success was due to the psychological effect of chemical weapons.

Khan Shaykuhn

The town of Khan Shaykuhn sits on the M5, the main highway between Damascus and Aleppo in Idlib province. Before the war the road was responsible for moving around $25 million worth of trade a day.[99] Rebels seized the town during an offensive in 2014, providing the insurgency with a staging and logistic base for attacks into the government stronghold of Hama, some 40km to the south.[100]

In spring 2017, rebels launched an offensive from Khan Shaykuhn toward Hama. Tiger forces again led the counter-offensive.[101] On March 30, 2017 at Lataminah, and at Khan Shaykuhn on April 4, 2017, Syrian Air Force jets bombed the towns with sarin. At the time of both attacks, the front line was to the south of the target areas.[102] The attack on Khan Shaykuhn resulted in 100 fatalities and over 200 other casualties.[103]

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[97] Schneider, and Lutkefend, *Nowhere to Hide: The Logic of Chemical Weapons Use in Syria*, 19-20.

[98] Schneider, and Lutkefend, *Nowhere to Hide: The Logic of Chemical Weapons Use in Syria*, 30.

[99] Bethan McKernan, "The Highway That Determines the Future for Syria and Its Refugees," *The Guardian* (London), 19 February 2020, accessed 19 Sep 2020, https://www.theguardian.com/world/2020/feb/20/the-highway-that-determines-the-future-for-syria-and-its-citizens.

[100] Carter Center, *Countrywide Conflict Report: Syria No 4* (Atlanta, GA: Carter Center, 2017), 39-41. https://www.cartercenter.org/resources/pdfs/peace/conflict_resolution/syria-conflict/nationwideupdate-sept-18-2014.pdf.

[101] Andrew Illingworth, "Breaking: Elite Syrian Army Forces Expel Isis from 16 Towns in Lighting Dash across Northwest Syria," *Al Masdar News* (Beirut)2018, accessed 20 September 2020, https://www.almasdarnews.com/article/breaking-elite-syrian-army-forces-expel-isis-16-towns-lighting-dash-across-northwest-syria/.

[102] UNSC, *Seventh Report of the Organization for Prohibition of Chemical Weapons - United Nations Joint Investigation Mechanism* (New York: UN, 2017), 21.

[103] Ibid., 30.

In October 2017, the UN's joint investigative mechanism reported that the Syrian military was responsible, despite Syrian government denials.[104] Although Syria had reported the destruction of their chemical weapon stock and manufacturing capability in 2016, investigations linked the sarin to the same manufacturer as that used in Damascus in 2013.[105] In response to the attacks at Khan Shaykuhn, the US launched strikes at a Syrian base in Shayrat.[106] Further strikes by the US, UK, and France followed in 2018 in response to attacks in Damascus.[107] Following these strikes, observers have reported a significant reduction in the frequency of Syrian chemical attacks.[108] Five years after the first reported attacks, the international community's decisive action began to deter the Syrian government from continuing its use of chemical weapons.

Analyzing Key Factors of the Operational Environment

The Syrian government used chemical weapons to overcome what it perceived as an existential threat. In Damascus, rebel-held suburbs had become seemingly irrecoverable to government forces. Chemical weapons appeared to be the only capability available to the military to enable a ground force to gain the initiative and begin clearance of the area.[109] When rebels overran Syrian defenses in Idlib and Khan Shaykhun, threatening strategically important lines of communication, the Syrian military was concerned they would face further drawn-out battles for

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[104] UNSC, *Seventh Report of the Organization for Prohibition of Chemical Weapons - United Nations Joint Investigation Mechanism* (New York: UN, 2017), 33. https://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/s_2017_904.pdf.

[105] Eliot Higgins, A History of Sarin Use in the Syrian Civil War, *Bellingcat*, 6 September 2017, accessed 19 Nov 2020, https://www.bellingcat.com/news/mena/2017/09/06/history-sarin-use-syrian-conflict/.

[106] Kaszeta, *Toxic*, 228.

[107] Helene Cooper, Thomas Gibbons-Neff, and Ben Hubbard, "U.S., Britain and France Strike Syria over Suspected Chemical Weapons Attack," *New York Times* (New York) 13 April, 2018, accessed 10 February 2021, https://www.nytimes.com/2018/04/13/world/middleeast/trump-strikes-syria-attack.html.

[108] Daryll Kimball, "Timeline of Syrian Chemical Weapon Activity 2012-2020," *Arms Control Association*, 2020, accessed 9 February, 2021, https://www.armscontrol.org/factsheets/Timeline-of-Syrian-Chemical-Weapons-Activity.

[109] Szybala, *Assad Strikes Damascus: The Battle for Syria's Capital*, 26.

impenetrable suburban areas. Seizures of strategically important physical terrain presented political and economic threats to the Syrian government. When combined with an ineffective Syrian army, which lacked the combat power to conduct tactical counterinsurgency actions in urban areas, these threats became existential to the Syrian leadership.[110] The Syrian military was under pressure to resolve these threats but lacked the conventional means to do so.

The Syrian government perceived that chemical weapons gave their military a capability that led to tactical and operational level successes. Syrian rebels sought shelter and protection from fighting in congested urban areas, which they knew the Syrian military would find challenging to clear conventionally. The Syrian military's use of chemical weapons, which could penetrate into buildings and basements, negated the defensive advantage of urban terrain, enabling clearances with their limited forces to take place.[111]

Operationally, the Syrian approach sought to clear civilians from insurgent areas.[112] The government believed that the use of sarin had directly contributed to Operation Capital Shield's success. The shock effect on the population of Damascus caused a mass exodus of civilians, reducing support to insurgents operating in the area. The government continued to achieve this effect on the civilian populations of Idlib and Khan Shaykhun by targeting areas further and further into the rear to choke off popular support to the rebels.[113] The Syrian government perceived that their use of chemical weapons brought about tactical and operational success that conventional means could not have achieved.

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[110] Szybala, *Assad Strikes Damascus: The Battle for Syria's Capital*, 25.

[111] Kaszeta, *Toxic*. p229.

[112] Joseph Holliday, *The Assad Regime: From Counter Insurgency to Civil War* (Wasnington, DC: Institute for the Study of War, 2013), accessed 18 September 2020, http://www.understandingwar.org/sites/default/files/TheAssadRegime-web.pdf. p19.

[113] Schneider, and Lutkefend, *Nowhere to Hide: The Logic of Chemical Weapons Use in Syria*, p29-30.

In the eyes of the Syrian government, the lack of international reaction legitimized their approach. Although the UN did initiate a joint investigative mechanism to investigate allegations of chemical weapon use, Syria was confident that Russian support would prevent the UN from taking any multinational action. Unilaterally, the US failed to act on the 'redlines' it defined in 2012 despite evidence of the attacks in Ghouta. These acts emboldened Syria by suggesting that there was no appetite to use force against the state for its use of chemical weapons and that further Syrian escalation would go unpunished.

Syria did accede to the chemical weapons convention in 2013, and was declared free of chemical weapons in 2016, but its use of chlorine, which is easily manufactured and improvised into weapon form, undermined this hollow gesture. The overall lack of international reaction reinforced the Syrian perception that the rebels and their supporters were legitimate targets for chemical weapon use. This perception was built on the moral attitudes amongst the government, rebels, and civilians.

The Syrian government and military internally legitimized the use of chemical weapons through the employment of moral disengagement mechanisms President Assad's claim that sarin could be manufactured in a kitchen was a euphemistic attempt to diffuse chemical weapons' severity.[114] The euphemistic description of 'barrel bombs' rather than referring to their chlorine content also acts as a method to reduce the perception of weapons' severity to internal and external audiences.

Attempts by the Syrian government to displace responsibility following attacks also forms part of moral disengagement mechanisms. The Syrian government's use of disinformation and blaming rebel/insurgent activities for chemical release is an attempt to displace responsibility

[114] Bashar Assad, "Assad on Chemical Weapons: 'It's Not a Secret Anymore'," interview by Dennis Kucinich, *Fox News*, 2013, Fox News.

away from the Syrian military.[115] The military also displaced responsibility from their central command.[116] The Tiger force's leadership is associated with many other atrocities.[117] By devolving responsibility for chemical weapon use to Tiger force's leadership, the Syrian government devolved itself from the decision-making process to use chemical weapons.

Fear of an existential threat drove the Syrian government's initial decision to use chemical weapons. What followed was a normalization of their employment. The military perceived that chemical weapons provided military success. Ineffective international action and internal moral disengagement reinforced the military's continued use of chemical weapons.

[115] Bellingcat, "Chemical Weapons and Absurdity: The Disinformation Campaign against the White Helmets," *Bellingcat,* 18 December, 2018, accessed 9 February, 2021, https://www.bellingcat.com/news/mena/2018/12/18/chemical-weapons-and-absurdity-the-disinformation-campaign-against-the-white-helmets/.

[116] Schneider, and Lutkefend, *Nowhere to Hide: The Logic of Chemical Weapons Use in Syria*. p19.

[117] Gregory Waters, "Tiger Forces, Part 1: The War Crimes of the 'Cheetah Groups'," *International Review*, 2018, accessed 9 February, 2021, https://international-review.org/tiger-forces-part-1-the-war-crimes-of-the-cheetah-groups/.

Analysis of Commonalities across Operational Environments

There are four commonalities found in operational environments where chemical weapons are used. The first two are the presence of existential threats and a disinterested international community, which encourage the initial use of chemical weapons. The last two are past success and moral disengagement, which make continued employment more likely.

The first characteristic present in an operational environment is that an actor perceives an existential threat which their conventional capabilities cannot overcome. These existential threats are composed of two elements. Firstly, an asymmetry between actors. In the case of Iraq, the asymmetry was numerical. The Iraqi army were unable to deal with the scale of Iranian human wave attacks or well-resourced defenses. The Syrian army and the LTTE both found themselves with capability asymmetries. The regular Syrian army did not have the conventional means to clear urban areas as part of counter-offensive operations.[118] The LTTE meanwhile lacked heavy conventional arms to break into fortified outposts.

The second element is the threat's proximity in terms of either time or space. In Iraq, the early uses of chemical weapons took place to disrupt Iranian operational level exploitations inside Iraqi territory. The Syrian military chose to use chemical weapons within their capital to defeat what they perceived was an imminent insurgent uprising. The LTTE's objective in the East Kiran attack, while geographically isolated, had significant standing within the campaign narrative and the impending arrival of SLAF reinforcements pressed the Tiger's time for attack.

All actors believed they needed an immediate response to an adversary they had otherwise been unable to counter with conventional means. The actors believed they had exhausted all available conventional means and had no option other than chemical weapons. All

[118] Holliday, *The Assad Regime: From Counter Insurgency to Civil War*, 19

three actors used chemical weapons despite the potential for repercussions at the international level. These international reactions never materialized.

The second characteristic in an operational environment for chemical weapon use is an actor's perception that there will be little or no challenge by the international community. In all three cases, the first instance of chemical weapon use 'tested the water' in relation to the international community's will to react. In Sri Lanka, the low levels of international attention to the conflict before the attack on East Kiran suggested that even if chlorine had been successful, any escalation of the conflict by outside actors was unlikely. In the case of Syria, diplomatic maneuver by the government ensured that Russia prevented international organizations from taking action against further use of chemical weapons. Iraq not only fostered strong relationships with the US and USSR, but was able to capitalize on Iran's lack of a capable guardian in either the UN or the wider international community.[119] Without allies, Iran could not leverage support to deter Iraq from escalating its use of chemical weapons.

Aside from alliances, international conventions ought to provide this capable guardian to potential victims of chemical weapons. Despite both Iraq and Syria being signatories to international conventions against chemical weapons, their diplomatic relations proved more influential than the power of formal conventions and international law.

The decision to first use chemical weapons requires balancing the risk of an existential threat with unlikely strategic repercussions. Without repercussions, these 'test cases' build a perception that continued use would go without consequence. In all three cases, the lack of international reprisal set conditions for continued use. In two cases, the use of chemical weapons did not cease once the perceived existential threat had passed, and instead, the use of chemical weapons became the norm.

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[119] Marcus Felson, and Ronald B. Clarke, *Opportunity Makes the Thief* (London: Home Office Policing and Crime Reduction Unit, 1998), p4.

A principle of opportunity based crime theory is that one crime creates opportunities for another.[120] This phenomenon is present in cases where chemical weapons use becomes the norm. When an actor attributes some strategic or operational success to the use of chemical weapons, and the international community takes little or no action, the operational environment becomes permissive to further chemical weapon use. When two additional criteria, the perception of effectiveness and moral disengagement, exist within the operational environment, actors can normalize the use of chemical weapons from regime survival to routinely tactical.

The continued employment of chemical weapons occurs where they are perceived to provide a capability that conventional weapons cannot. In Sri Lanka, the failure to cause casualties, undermine morale, or lead to a breakthrough in the stalemate at East Kiran demonstrated to the LTTE the ineffectiveness of chemical weapons.

In Iraq, despite the limited casualties caused by the use of chemical weapons in the early stages of the war, the perception that their use led to the collapse of Iranian offensives when conventional means had failed validated their use. The Syrian government believed civilians' movement away from rebel areas following chemical weapon use could not have been achieved by their conventional armed forces. The Syrian government interpreted this movement as success when tied into their wider strategic objective of starving the insurgency of popular civil support.

Although literature attempts to treat chemical weapon effectiveness as an objective measure, the three cases indicate they are valued by more subjective indicators.[121] If an actor believes that their conventional means are ineffective, and that chemical weapons fit their broader strategy, chemical weapons become useful. Initial success, by whatever subjective criteria an actor chooses to define it, validates the use of chemical weapons and leads to their incorporation

[120] Felson, and Clarke, *Opportunity Makes the Thief*, p17.

[121] Geoffrey Chapman, Hassan Elbahtimy, and Susan B. Martin, "The Future of Chemical Weapons: Lessons from the Syrian Civil War," *Security Studies* 27, 4 (2018), 706. https://www.tandfonline.com/doi/abs/10.1080/09636412.2018.1483640?journalCode=fsst20.

in wider campaign strategies. A key influence on the design of these strategies, and the subjective criteria for measuring chemical weapon effectiveness, is the attitude between user and victim.

The final characteristic of the operational environment where chemical weapon use occurs is moral disengagement between adversaries. In all three cases, the actors using chemical weapons diffused responsibility for the conflict, and therefore the requirement to use chemical weapons, onto their opponent. Saddam Hussein blamed Iran for both the start, and the continuance, of the Iran-Iraq war. Bashar Al-Asad not only blamed outside actors, including the USA, for the Syrian civil war but directly threatened the use of chemical weapons in response to perceived outside interference.

Senior leadership also displaced responsibility for the use of chemical weapons by continually delegating down the responsibility for decision making regarding their use. In Iraq and Syria, the authority to employ chemical weapons worked its way down to operational and tactical commands. In all three cases, the responsibility for using chemical weapons lay with elite units. Whether through loyalty and family ties via the Iraqi Republican Guard, indoctrination in the LTTE cadres, or the ethnic solidarity found in the Syrian Tiger forces, those elite forces are given control of chemical weapons because the senior strategic leadership trusts them. This displacement has an additional impact in reducing the perceived severity of chemical weapons to internal audiences.

A further method to reduce the perceived severity of chemical weapon usage is through euphemistic language. The Iraqi and Syrian governments displayed a propensity to use euphemistic language when referring to chemical weapons. Both governments' official spokesmen publicly referred to chemical weapons in euphemistic terms, such as 'kitchen gas' and 'insecticide'. More euphemistic language is used at the lower operational and tactical levels, such as barrel bombs in Syria or special weapons in Iraq. Moral disengagement mechanisms are frequently identified in crimes committed by individuals, but the three case studies all feature elements at the organizational level. The use of these mechanisms to de-stigmatize the effects of

chemical weapons, while building the blame and responsibility narrative aimed at an opponent, serves to normalize and encourage the use of these weapons.

Chemical weapons and Syria researcher, Dr Geoffrey Chapman asserts that chemical weapons' future is limited, as they lack military utility and attract robust international condemnation.[122] However, all three cases reviewed show that the actors who did use chemical weapons believed they did provide utility in the context of their operational environments. All three actors saw military utility in the use of chemical weapons, and in two cases built continuing strategies around previous successes. All three actors were also able to manipulate the international community to prevent repercussions for both initial and subsequent chemical weapons use. While an actor may decide to abandon the pursuit of a chemical weapon strategy based on the failure to achieve success, the international community has a key role to play in deterring first use, and the normalization, of chemical weapons.

[122] Chapman, Elbahtimy, and Martin, "The Future of Chemical Weapons: Lessons from the Syrian Civil War.", 706.

Findings and Recommendations

Findings

This project set out to determine what, if any, commonalities exist among operational environments that saw the employment of chemical weapons. The breadth of cases analyzed led to the conclusion that these commonalities are not limited to specific forms of warfare, nor are they limited to state actors, nor does the use of chemical weapons require an expensive or technologically advanced capability program. This research determined that there are several commonalities including the presence of an existential threat, a perceived disinterest in the conflict from the international community, perceived effectiveness of chemical weapons, and moral disengagement between belligerents. The perception of an existential threat and a lack of international attention encouraged the initial use while continued international disinterest, the perception of effectiveness, and moral disengagement led to its continuation.

Although the breadth of cases was sufficient to identify these four commonalities, conducting further research would confirm whether denying one or more of them to an actor may successfully deter the initial or continued use of chemical weapons. The lack of effectiveness of chemical weapons in Sri Lanka, and the weight of international attention toward Iraq in 1991, removed at least one of the four elements in these operational environments, and these conflicts saw no further use of chemical weapons.

The threat from chemical weapons exists both in and out of LSCO. When backed into a corner, state and non-state actors may use chemical weapons if they feel they have no sufficient conventional capability. For the US and its allies, these findings present a warning. States whose military doctrine espouses rapid, overwhelming military victories develop conditions conducive to the use of chemical weapon by adversaries. An operational approach that does not consider this may inadvertently encourage an adversary to escalate to chemical weapons.

Recommendations

This monograph set out to support operational level planners in preventing or reducing chemical weapons use by their adversaries. Based on the findings explained above, there are several recommendations for planners and directions for future research.

When capability asymmetries exist, actors will go to extreme lengths to develop ways to overcome a conventionally stronger opponent. Chemical weapons represent one such asymmetry. Actors with limited research and development capabilities can improvise chemical agents with relative ease from available industrial materiel. States can seek to subvert and nullify international conventions and monitoring programs through effective diplomatic maneuver. All adversaries can develop and employ chemical weapons, and all adversaries are aware of the effects that chemical weapons can achieve. Operational planners cannot assume that a lack of industrial base, or a signatory status in an international agreement, prevent the employment of chemical weapons

Additionally, an actor may view chemical weapons as a last resort option when faced with an existential threat. Within the cases studied, the existential threats featured both an overwhelming capacity gap and an urgency for an actor to respond. Identifying decisive points within a campaign plan where these conditions are likely to exist would indicate where an adversary was likely to consider the use of chemical weapons in a conflict. Synchronizing counter-chemical weapon operations, through both kinetic and non-kinetic means, may deter or prevent an adversary from employing chemical weapons at these high-stress times.

A final recommendation to operational planners is that continued use of chemical weapons in a conflict relies on the ineffectiveness of international responses and the positive perception of the effectiveness of chemical weapon usage. As such, the US or its allies may encounter chemical weapons when intervening or providing assistance in ongoing conflicts. In these cases, early intervention could prevent escalation and normalization of chemical weapon use. The diplomatic efforts discussed within the cases failed due to a lack of tangible deterrent

effect. Any branch plans developed to counter continued chemical weapon use must consider kinetic effects against either prestigious targets or critical vulnerabilities within the chemical weapon employment system.

Alongside these recommendations to planners it is imperative that further research take place in several areas. First, it is necessary to confirm the findings of this project by a broader look at other cases. Along with this, the fourth finding of this project, the question of whether denying one of the criteria is sufficient to prevent chemical use necessitates further inquiry. Assessing cases where chemical weapon capabilities existed but actors did not employ them would help validate this finding and better support recommendations for operational planners.

Chemical weapons remain part of the character of modern conflict. Many states view chemical weapons as the 'poor man's atomic bomb', a capability that brings prestige and power at a regional level. It is crucial that operational planners account for chemical weapons in all theatres. Mass casualties and an escalation to nuclear weapons will be the consequence of a failure to do so.

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