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Title

The Sound of Drones Is the Sound of Death: Human Rights Violations and Supply Chain Disruptions

Permalink

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Journal

UCLA Journal of International Law and Foreign Affairs, 29(2)

ISSN

1089-2605

Author

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Publication Date

2026-04-21

Peer reviewed

THE SOUND OF DRONES IS THE SOUND OF DEATH: HUMAN RIGHTS VIOLATIONS AND SUPPLY CHAIN DISRUPTIONS

Clovia Hamilton^{1*}

ABSTRACT

Drones have become an increasingly integral part of twenty-first century warfare. This Article examines human rights violations and the supply chain disruptions resulting from drone warfare. Three case studies are analyzed: the Russia/Ukraine war, the Israel/Palestine war, and the Sudanese civil war. Modern warfare tactics can be seen in actions taken by the Houthis in West Yemen in response to the Israel/Palestine war, in which unmanned surface vessels, cruise missiles, unmanned underwater weapons, and drones are being used to stop, damage, and sink ships. Such conflicts result in supply chain disruptions. The Russia/Ukraine war has resulted in significant disruptions to the supply chains for energy, wheat, and oil. In addition, it is a basic tenet of international humanitarian law that innocent civilians should not be targeted, yet fully autonomous robots may not be able to distinguish military

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targets from civilians. There is an urgent need for intervention. This Article provides five recommendations for how to address human rights violations and supply chain disruptions.

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INTRODUCTION

“You wake up to the sound of drones and you go to sleep listening to the sound of drones. It is hell on earth, to be honest with you”

Matthew Hollingworth, GAZA Director
World Food Programme (WFP)²

Principles governing honorable conduct in war were initiated with the Geneva Conventions.³ In 1864, the First Geneva Convention was adopted for the amelioration of the condition of the wounded and sick in armed forces in the field.⁴ In 1906, the Second Geneva Convention was adopted for the amelioration of the condition of wounded, sick and, shipwrecked members of armed forces at sea.⁵ In 1929, the Third Geneva Convention was adopted regarding the treatment of prisoners of war.⁶ In 1949, a new Geneva Convention was adopted, expanding protections for victims of armed conflict, and the First, Second, and Third were revised and adopted as new treaties.⁷ The Fourth Geneva Convention specifically addressed the protection of civilians in war-time, including those in occupied territories.⁸

2. UK Parliament, *Oral Evidence: Humanitarian Situation in Gaza, HC 110*, House of Commons International Development Committee (2024), <https://committees.parliament.uk/oralevidence/14345/pdf/>. For more from Matthew Hollingworth on the “apocalyptic conditions” in Gaza, see Natalie Barr et al., *UN Food Agency Can’t Feed Enough Gazans in “Apocalyptic” Rafah as IDF Pushes into City*, CABLE NEWS NETWORK (CNN) (May 31, 2024), <https://www.cnn.com/2024/05/31/middleeast/wfp-rafah-gaza-food-aid-intl-hnk> [<https://perma.cc/39W8-GY9R>].

3. Melissa Morgan, *Understanding the Rules of War in the Context of the Israel–Hamas Conflict*, STANFORD (Dec. 6, 2023), <https://fsi.stanford.edu/news/understanding-rules-war-context-israel-hamas-conflict> [<https://perma.cc/3TME-TV9E>].

4. *Historical Timeline—ICRC, Geneva Conventions and the Republic of Korea*, INT’L COMM. OF THE RED CROSS (Aug. 2, 2024), <https://www.icrc.org/en/article/historical-timeline-icrc-geneva-conventions-korea> [<https://perma.cc/ZTH2-CR4B>].

5. *Id.*

6. *Id.*

7. The convention documents are available in the ICRC Database. Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, 6 U.S.T. 3114, 75 U.N.T.S. 31, Aug. 12, 1949 [hereinafter *Amelioration of the Condition of the Wounded and Sick*]; Geneva Convention for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea, Aug. 12, 1949, 6 U.S.T. 3217; 75 U.N.T.S. 85 [hereinafter *Amelioration of the Condition of Wounded, Sick and Shipwrecked*]. The ICRC shows—through its own treaty database and historical explanations—that the 1949 First, Second, and Third Geneva Conventions are separate, newly adopted treaties, not amendments of the 1906/1929 conventions. The ICRC’s official treaty database lists the First Geneva Convention (1949), Second Geneva Convention (1949) and the Third Geneva Convention (1949). Each appears as a distinct treaty, adopted on 12 August 1949, with its own ratification list, status, and text. If they were *revisions* of earlier treaties, the ICRC would list them as *amendments* or *protocols* to the 1906/1929 conventions.

8. The convention document is available in the ICRC Database. Geneva Convention Relative to the Protection of Civilian Persons in Time of War, Aug. 12, 1949, 6 U.S.T. 3516, 75 U.N.T.S. 287 [hereinafter *Relative to the Protection of Civilian Persons in Time of War*].

The Diplomatic Conference for the Establishment of International Conventions for the Protection of Victims of War occurred between April and August of 1949.⁹ This Conference established the following four Conventions on August 12, 1949: Convention I for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field; Convention II for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea; Convention III regarding the Treatment of Prisoners of War (echoing the three that had existed prior); and Convention IV regarding the Protection of Civilian Persons in Time of War.¹⁰

Modern rules of war have existed since the 1949 Geneva Conventions were established. State obligations under the Geneva Conventions “are non-reciprocal, meaning that they apply irrespective of what the other side has done.”¹¹ Thus, violations such as indiscriminate or disproportionate bombardment of cities, which intentionally attack civilian populations or use methods that cannot distinguish civilians from combatants, cannot be justified by pointing to another party’s wrongdoings, injustices, or imbalances in power.¹²

Three key principles in the laws of war are: (1) war strategies may not target civilians; (2) military leaders must consider the proportionality of their operations and weigh the advantage of attacking a target compared to civilian harm; and (3) military commanders must limit civilian damage by taking adequate precautions.¹³ Although the 1977 Additional Protocols of the Geneva Convention were not adopted by Israel nor the United States, “both countries accept that some of the foundational principles codified on the Protocols constitute customary international law.”¹⁴ Further, how military targets are defined is important. In 1993, the U.S. Pentagon’s Joint Division published a doctrine on targeting development, planning, and assessment.¹⁵ The Pentagon classifies its military targets

9. Relative to the Protection of Civilian Persons in Time of War, *supra* note 8.

10. Amelioration of the Condition of the Wounded and Sick, *supra* note 7. *Geneva Conventions of 1949, Additional Protocols, and Their Commentaries*, INT’L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/ihl-treaties/geneva-conventions-1949additional-protocols-and-their-commentaries> [https://perma.cc/6ERG-WJJM].

11. Clive Baldwin, *How Does International Humanitarian Law Apply in Israel and Gaza?*, NEW ARAB (Oct. 27, 2023), <https://www.hrw.org/news/2023/10/27/how-does-international-humanitarian-law-apply-israel-and-gaza> [https://perma.cc/UZ9F-EL6N].

12. *Id.*

13. Morgan, *supra* note 3.

14. *Id.*

15. Joint Division Pentagon, JOINT PUB 3–55 Doctrine for Reconnaissance, Surveillance, and Target Acquisition Support for Joint Operations (RSTA). Cover memorandum available at <https://irp.fas.org/doddir/dod/jp3–55/3–55mm.htm>. Chapter 4 Targeting available at <https://irp.fas.org/doddir/dod/jp3–55/3–55ch4.htm>.

based on their strategic, operational, and tactical significance: operational targets are critical to an enemy's ability to conduct campaigns, whereas tactical targets directly affect battlefield operations.¹⁶

During World War II, Nazi Germany used buzz bombs against the Allies.¹⁷ People knew that once the buzzing stopped, they had seconds to take cover.¹⁸ The year 2024 "marked the rise of drone warfare," with drone manufacturing reaching record numbers.¹⁹ Today, with the use of advanced drone weaponry, the "ominous buzzing" remains.²⁰

This Article begins by surveying Israel's war with Hamas. Here, the war will be referred to as the Israel/Palestine war rather than the Israel/Hamas war because this study uses countries, not factions, to describe war locations.²¹ In the Israel/Palestine war, a World Central Kitchen (WCK) convoy of three vehicles coordinated with the Israeli military to deliver food to Gaza.²² Nonetheless, seven WCK workers were killed on April 1, 2024, by an airborne drone attack.²³ WCK CEO Erin Gore characterized the strike as "targeted attack" on the

16. *Id.*

17. Annika Burgess, 2024: *A Year Marked by the Rise of Drone Warfare*, AM. BROAD. CO. NEWS (Dec. 31, 2024), <https://www.abc.net.au/news/2025-01-01/year-of-drones-2024-warfare-ukraine-russia-middle-east-conflict/104736648> [<https://perma.cc/K9MA-NFLL>].

18. *Id.*

19. *Id.*

20. *Id.*

21. Note that the legal distinction between Israel's war with Hamas and Israel's conflict with Palestinians depends on how international law classifies armed conflicts. Ayesha Malik, *Classification of the Israel-Palestine Conflict Under the Laws of War*, OPINIO JURIS (Nov. 24, 2023), <https://opiniojuris.org/2023/11/24/classification-of-the-israel-palestine-conflict-under-the-laws-of-war/> [<https://perma.cc/3FQF-WUWJ>]. After the October 7, 2023, attack by Hamas on Israel, there was debate over whether to call the attack a non-international armed conflict or international armed conflict. *Id.* Some view Hamas as a non-state actor, and some opine that Hamas's governance over Gaza qualifies it to be a state actor. *Id.* Further, Israel is an occupying power in Palestinian territories and has greater legal obligations under the Fourth Geneva Convention to protect those citizens. *Id.* One scholar has pointed out that there is a "State of Palestine," widely recognized to include the West Bank, Gaza, and East Jerusalem, which is a ratified party to the four Geneva Conventions. David J. Scheffer, *What International Law Has to Say About the Israel-Hamas War*, COUNCIL ON FOREIGN RELS. (Oct. 19, 2023), <https://www.cfr.org/article/what-international-law-has-say-about-israel-hamas-war> [<https://perma.cc/CL6U-4T5Z>] (noting that regardless of ongoing discussions about Palestinian statehood, treaty interpretations, and Israel's status in Gaza, Israel must ensure its actions align with the strong mandates of customary international law while defending against Hamas and working to free hostages).

22. Steve Hendrix et al., *How Israeli Strikes on a World Central Kitchen Convoy in Gaza Unfolded*, WASH. POST (Apr. 2, 2024), <https://www.washingtonpost.com/world/2024/04/02/israel-strike-wck-humanitarian-convoy/> (last visited Feb. 12, 2026).

23. Larry Lewis & Daphné Richemond-Barak, *Could Emerging Technologies Have Helped to Avoid the Tragic Killing of Humanitarian Workers in Gaza?*, MOD. WAR INST. (Apr. 25, 2024), <https://mwi.westpoint.edu/could-emerging-technologies-have-helped-to-avoid-the-tragic-killing-of-humanitarian-workers-in-gaza/> [<https://perma.cc/6ZPJ-TJP5>].

organization's civilian personnel.²⁴ However, it is worth noting that a delivery vehicle carrying supplies may be classified as an operational military target depending on what is known about its operations and objectives, at least according to the Pentagon.²⁵ When we apply the three key principles in the laws of war and the classifications of military targets, we get the following: (1) the WCK civilian workers seemed to be targeted; (2) attacking a military target of low importance (i.e., a convoy with humanitarian aid therein) with a high potential of collateral damage is a violation; and (3) there is no evidence that the Israeli militia used precaution to limit civilian damage by attacking these WCK vehicles.

Stanford University legal scholars Scott Sagan and Allen Weiner have advocated that while Israel has a right to target Hamas for the October 7, 2023, attack on Israel, scale and proportionality are important.²⁶ Destroying Hamas should not come at the cost of causing excessive damage.²⁷ It is true that Hamas took hostages—a war crime—and killed 1,200 Israelis on October 7, 2023.²⁸ In return, by January 2024, Israel had killed 25,000 Palestinians.²⁹ By October 13, 2023, Israel cut off water and food to civilians in Gaza.³⁰ By November 2023, about 200,000 Palestinian homes were destroyed.³¹ By May 2024, it was estimated that 34,900 Palestinians and 1,200 Israelis had been killed,³² with more than 260 humanitarian worker casualties.³³ By January 2025, over 45,000 Palestinians had been killed, over 100,000

24. Hendrix et al., *supra* note 22.

25. Joint Division Pentagon, *supra* note 15.

26. Morgan, *supra* note 3.

27. Morgan, *supra* note 3.

28. Michael Peel, *Rules of War: International Law and the Israel-Hamas Conflict*, FIN. TIMES, (Oct. 13, 2023) <https://www.ft.com/content/0f7886df-e70e-4b7d-a4b2-03d7553949d1> (last visited Feb. 12, 2026).

29. Scott Neuman, *As Houthi Attacks on Ships Escalate, Experts Look to COVID Supply Chain Lessons*, NAT'L PUB. RADIO (NPR) (Jan. 20, 2024), <https://www.npr.org/2024/01/20/1225716149/houthis-yemen-redsea-ships-israel-hamas> [<https://perma.cc/E4X2-ACVK>].

30. Peel, *supra* note 28.

31. Seán Kinane, *NPR's Aya Batrawy on What She Has Seen and Heard in the Israel-Hamas War*, WMNF TUESDAY CAFÉ (Nov. 7, 2023), <https://www.wmnf.org/nprs-aya-batrawy-on-what-she-has-seen-and-heard-in-the-israel-hamas-war/>.

32. Brian Bennett, *What We Know About the Death Toll in Gaza*, TIME (May 17, 2024), <https://time.com/6979208/israel-gaza-death-toll/> [<https://perma.cc/7KRL-TDJX>].

33. Rashida Yosufzai, *"Total Disregard for the Laws of War": Top Aid Chief Calls on Australia to Sanction Israel*, SPEC. BROAD. SERV. NEWS (May 28, 2024), <https://www.sbs.com.au/news/article/total-disregard-for-the-laws-of-war-top-aid-chief-calls-on-australia-to-sanction-israel/60b1028me> [<https://perma.cc/8B2V-89LY>].

injured, 90 percent internally displaced, and more than 300,000 were likely experiencing catastrophic hunger.³⁴

Sagan and Weiner noted that revenge, human impulses, and emotions play an impactful role in the strategic and ethical decisions made during war.³⁵ Paul Wise, Professor of Pediatrics and Health Policy at Stanford University's School of Medicine, teaches that most civilian casualties are due to destroying access to food, water, shelter, and health care.³⁶ Wise argues that the use of armed drones allows for protracted wars, and, when war conditions are extended, so is the lack of access to the basic necessities for survival, accordingly driving the civilian casualty rate up.³⁷

Besides the atrocities in the Israel/Palestine war, the United Nations (UN) is also concerned about the Russia/Ukraine war, describing it as "a horror story of violations perpetrated against civilians."³⁸ As of July 31, 2025, the UN High Commissioner for Human Rights verified 49,431 civilians harmed in Ukraine, with 13,883 killed and 35,548 injured.³⁹

There is also a civil war raging in Sudan. The UN has reported that, as of April 2025, more than 20,000 people have been killed and 15 million displaced.⁴⁰ However, U.S. scholars estimate the death toll is actually

34. Jonathan Dumont, *First Person: Gaza, Where Starving People Are Trapped in a Land Reduced to Rubble*, UNITED NATIONS (UN) (Jan. 6, 2025), <https://news.un.org/en/story/2025/01/1158761> [<https://perma.cc/83UP-6CRR>]; see also Daniel Estrin, *Israel Plans New Control of Food and Supplies in Gaza*, NPR (May 5, 2025), <https://www.npr.org/2025/05/05/nx-s1-5386511/israel-gaza-food-supplies-hamas-palestinians> [<https://perma.cc/5JFQ-FYK9>] (reporting that by May 2025, more than 52,000 Palestinians were killed).

35. Morgan, *supra* note 3.

36. Paul H. Wise, *The Epidemiologic Challenge to the Conduct of Just War: Confronting Indirect Civilian Casualties of War*, 146 DAEDALUS 139, 139 (2017).

37. *Id.* at 148. See also Benjamin Jensen, *Fewer Soldiers, More Drones: What Ukraine's Military Will Look Like After the War*, CTR. FOR STRATEGIC INT'L STUD. (Apr. 28, 2025), <https://www.csis.org/analysis/fewer-soldiers-more-drones-what-ukraines-military-will-look-after-war> [<https://perma.cc/JY8M-V4RE>] (pointing out that the declining cost and increased range of drones is causing drone warfare to be a new form of war that "will only accelerate and create entirely new campaigns" and that such an acceleration might extend war conditions and lack of access to necessities).

38. Natalie Musumeci, *UN Human Rights Office Calls Russia's War Against Ukraine "A Horror Story of Violations Perpetrated Against Civilians"*, BUS. INSIDER (Apr. 22, 2022), <https://www.businessinsider.com/russias-war-on-ukraine-a-horror-story-of-violations-un-2022-4> [<https://perma.cc/Z6JQ-F9EL>].

39. STATISTA, *Number of Civilian Casualties in Ukraine During Russia's Invasion Verified by OHCHR from February 24, 2022 to December 31, 2025*, (Feb. 4, 2026), <https://www.statista.com/statistics/1293492/ukraine-war-casualties/> [<https://perma.cc/3DNN-6EEG>].

40. AL JAZERRA, *Sudan Doctors Network Accuses RSF of "War Crimes" After 31 Killed*, (Apr. 27, 2005), <https://www.aljazeera.com/news/2025/4/27/sudan-doctors-network-accuses-rsf-of-war-crimes-after-31-killed> (last visited Feb. 13, 2026).

130,000.⁴¹ Human rights violations during this conflict include rape and child conscription.⁴² Some of the killings are ethnically motivated as evidenced by witness accounts and video footage of “troops parading with decapitated heads in the street while chanting ethnic slurs.”⁴³

How many of these civilian casualties are caused by drone strikes? It is difficult to tell; for example, in the United States, this head count issue was much debated regarding the Obama administration’s use of drone strikes.⁴⁴ The U.S. government reported that 2,500 terrorists and 64–100 civilians were killed with drones; however, these figures have been challenged by many as being too low.⁴⁵ In Pakistan, for example, while the U.S. government reported single digits of civilian casualties by drone strikes, independent researchers estimated that 150–900 civilians were killed by drone strikes.⁴⁶

Given the “ease” of use of force by drone warfare,⁴⁷ this study focuses on the related ethical and legal issues in the Israel/Palestine war, the Russia/Ukraine war, and the Sudanese civil war. Drones are a new, formidable challenge because they are small, easy to assemble, and easy to operate.⁴⁸ In fact, there are concerns that some states around the world are “find[ing] it too easy to use force.”⁴⁹ One concern is that the ease of use, accessibility, and low cost lowers the barriers for entry into warfare by violent extremist organizations,⁵⁰ which has resulted in civilian casualties and business supply chain disruptions.

41. *Id.*

42. See generally UNITED NATIONS HUM. RTS., SUDAN: HORRIFIC VIOLATIONS AND ABUSES AS FIGHTING SPREADS—REPORT (2004), <https://www.ohchr.org/en/press-releases/2024/02/sudan-horrific-violations-and-abuses-fighting-spreads-report> [<https://perma.cc/CK5J-DB55>].

43. *Id.*

44. See Scott D. Sagan, *Ethics, Technology & War*, 145 DAEDALUS 6 (2016).

45. *Id.* at 10.

46. Michael Walzer, *Just & Unjust Targeted Killing & Drone Warfare*, 145 DAEDALUS 12, 15–16 (2016); see also Jo Becker & Scott Shane, *Secret “Kill List” Tests Obama’s Principles*, N.Y. TIMES (May 29, 2012), <https://www.nytimes.com/2012/05/29/world/obamas-leadership-in-war-on-al-qaeda.html> [<https://perma.cc/L3LW-G478>] (reporting that the U.S. government counted all military-age males as combatants whether they were actually combatants or not, doing so to make a case for the numbers killed being proportional to the value gained in eliminating threats).

47. *Drone Warfare Reaches Deeper into Sudan as Peace Talks Stall*, ARMED CONFLICT LOCATION & EVENT DATA (ACLED) (Aug. 23, 2024) [hereinafter *Drone Warfare Reaches Deeper*], <https://acleddata.com/2024/08/23/drone-warfare-reaches-deeper-into-sudan-as-peace-talks-stall-august-2024/> [<https://perma.cc/EVZ3-NCV9>].

48. *Id.*

49. Sagan, *supra* note 44, at 6.

50. The relatively low cost of drones could allow extremist organizations to rapidly scale up their collection of drones. Don Rassler & Yannick Veilleux-Lepage, *On the Horizon: The Ukraine War and the Evolving Threat of Drone Terrorism*, 18 COMBATTING TERRORISM CTR. SENTINEL 1, 7 (2025). The ease of operating a drone—which requires limited training and experience—permit these large-scale acquisitions to prove deadly in a war context. *Id.*

This Article addresses the following research question: *considering how the rising use of drones in warfare impacts human rights violations and business supply chains, how should the rules of war be amended?* Part I engages in three case studies of wars between Israel and Hamas in Palestine, Russia and Ukraine, and the civil war in Sudan. Part II discusses *jus cogens*, fundamental norms of international law that states are obligated not to derogate from, such as the norm which prohibits crimes against humanity. Part III discusses the international rules of just war concepts of *jus ad bellum* and *jus in bello*. Part IV provides a legal analysis of drone warfare. Part V of this Article reviews the impact of sanctions and embargoes against sanctioned and embargoed parties. Currently, there is an unprecedented proliferation of drones used in war with devastating impacts on civilian lives. Thus, whether there should be a ban on drones is considered. Part VI reviews prior weaponry bans, including the ban of certain landmine weapons and cluster munitions. Then, Part VII explores the ethical implications of artificial intelligence (AI) enhanced drones. Considering the findings in this study, Part VIII provides recommendations.

I. CASE STUDIES

This Part provides a discussion of the supply chain disruptions and human rights violations caused by drone warfare in the Israel/Palestine war, Russia/Ukraine war, and Sudanese civil war. This Article points out that, while there are human casualties, injuries, and humanitarian violations in these wars, there are also supply chain disruptions caused by drone warfare that impact individuals not only in these warring states, but globally as well. Just as humanitarian violations adversely impact lives, so do the supply chain disruptions.

The use of drones has had devastating ethical and legal implications. There are allegations of human rights violations in all three wars. There are also supply chain issues related to semiconductor chips and oil in the Israel/Palestine war. There are supply chain concerns related to energy, wheat and oil in the Russia/Ukraine war. Further, supply chain disruptions in Sudan are causing food insecurity and starvation.

A. Israel/Palestine War

1. Historical Background

After the Arab-Israeli war of 1948, the Gaza Strip was controlled by Egypt until 1967.⁵¹ In 1967, the Six-Day War was fought between

51. Julia Frankel, *A Timeline of the Gaza Strip in Modern History*, PUB. BROAD. SERV. (PBS)

Israel and a coalition of Arab states (Egypt, Syria, and Jordan) from June 5 to June 10, 1967, resulting in a swift Israeli victory and territorial gains including the Golan Heights, West Bank, Gaza Strip, and Sinai Peninsula.⁵² After the 1967 Six-Day War, Israel took control of that land⁵³ and has occupied the West Bank, including East Jerusalem and Gaza, since 1967.⁵⁴

In December 2003, the UN General Assembly passed a resolution to request an advisory opinion from the International Court of Justice (ICJ) on the legal consequences arising from the Israeli construction of a wall in the Occupied Palestinian Territory, “considering the rules and principles of international law, including the Fourth Geneva Convention of 1949, and relevant Security Council and General Assembly resolutions.”⁵⁵ The Court noted that the route of the wall encompassed some 80 percent of the settlers living in the Occupied Palestinian Territory.⁵⁶ The Court concluded that “the construction of the wall, along with measures taken previously, severely impeded the exercise by the Palestinian people of its right to self-determination and was thus a breach of Israel’s obligation to respect that right.”⁵⁷ The ICJ also concluded “that the construction of the wall and its associated régime were contrary to the relevant provisions of the Hague Regulations of 1907 and of the Fourth Geneva Convention” since it impeded the inhabitants’ liberty of movement, right to work, right to health, rights to education, and rights to an adequate standard of living.⁵⁸

In 2005, Israel unilaterally withdrew all ground troops and settlements from the Gaza Strip as part of its disengagement plan, which was proposed by Prime Minister Ariel Sharon.⁵⁹ There were concerns about the cost of occupying the Gaza Strip and the rising amount of casualties among soldiers who were defending Israeli settlements.⁶⁰ “Contrary to what the Israeli government claims, Israel’s withdrawal of its ground

(Feb. 5, 2025), <https://www.pbs.org/newshour/world/a-timeline-of-the-gaza-strip-in-modern-history?> [<https://perma.cc/UBU2-9GSA>].

52. ENCYC. BRITANNICA, *Arab-Israeli Wars*, (Sep. 29, 2025), <https://www.britannica.com/event/Arab-Israeli-wars> [<https://perma.cc/Y34G-NZ57>].

53. Morgan, *supra* note 3.

54. Baldwin, *supra* note 11.

55. *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory Overview of the Case*, INT’L COURT. JUST. (July 9, 2004), <https://www.icj-cij.org/case/131> [<https://perma.cc/JZ7Y-BFYT>].

56. *Id.*

57. *Id.*

58. *Id.*

59. ENCYC. BRITANNICA, *Israel’s Disengagement from Gaza in 2005*, <https://www.britannica.com/event/Israels-disengagement-from-Gaza> [<https://perma.cc/XN86-DUAF>].

60. *Id.*

forces from Gaza in 2005 did not end its occupation of Gaza[.]”⁶¹ With the exception of Gaza’s border with Egypt, “Israel has maintained effective control over Gaza, including its territorial waters and airspace, [and] the movement of [its] people and goods.”⁶² Israel blockaded Gaza after Hamas took over in 2007.⁶³ Israeli forces have blockaded the impoverished Gaza enclave, which had a population of 2.3 million Palestinians, for fifteen years.⁶⁴ Israel used drones above Gaza to collect intelligence data 24 hours a day, making them an integral part of the blockade.⁶⁵ Though “not always harbingers of destruction,” they represent “omnipresen[ce], like patrolling prison guards.”⁶⁶ The buzzing sound of the drones triggers conflict trauma, thwarts sleep, and leads to poor concentration, fear, and anxiety.⁶⁷

In 2009, Human Rights Watch (HRW) reported that Israel launched missiles into Gaza using drones.⁶⁸ HRW reported that the drones had advanced camera capabilities and the operator should have been able to tell the difference between a legitimate target and a civilian.⁶⁹ The HRW accused Israel of violating rules of war because they

61. Baldwin, *supra* note 11.

62. *Id.*

63. Peel, *supra* note 28.

64. Guillaume Lavalée & Adel Zaanoun, “Worry and Fear”: Incessant Israeli Drones Heighten Gaza Anxiety, RFI (Jan. 10, 2022), <https://www.rfi.fr/en/international-news/20221001-worry-and-fear-incessant-israeli-drones-heighten-gaza-anxiety> [<https://perma.cc/MQ7M-48SN>]

65. *Id.*

66. Wasseem El-Sarraj, *The Sounds in Gaza City*, NEW YORKER (Nov. 19, 2012), <https://www.newyorker.com/news/news-desk/the-sounds-in-gaza-city> [<https://perma.cc/US2M-UYX5>]; see Arthur Holland Michel, *What’s That Sound?*, BARD COLL. CTR. FOR STUDY OF THE DRONE (May 9, 2013), <https://dronecenter.bard.edu/whats-that-sound/> [<https://perma.cc/4H6J-XC2S>] (reporting that a resident expressed how people of all ages scream in terror in response to the sound of drones). See also Sean Rupka & Bianca Baggiarini, *The (Non) Event of State Terror: Drones and Divine Violence*, 11 CRITICAL STUDIES ON TERRORISM 342, 342–47 (2018) (advocating that there are two views to the use of high-tech weaponry such as drones: one narrative is that it is great for protecting and enhancing life, the other view is that they serve to obliterate life). Interviewees reported that the sound of drones is the sound of imminent death, causing individuals to live in constant fear due to being constantly surveilled. See generally *id.* Eminent scholar Michael Walzer stated that in interviews of Pakistani villagers, they reported that drones hovered overhead for days at a time and the buzz terrified the villagers. Walzer, *supra* note 46, at 16. They were in constant fear. *Id.*

67. See Lavalée & Zaanoun, *supra* note 64. See also Kinane, *supra* note 31 (discussing Journalist Batrawy’s reports that children are traumatized from hearing bombs and the constant sound of drones humming overhead).

68. *Precisely Wrong: Gaza Civilians Killed by Israeli Drone-launched Missiles*, HUM. RTS. WATCH (June 30, 2009) [hereinafter *Precisely Wrong*], <https://www.hrw.org/report/2009/06/30/precisely-wrong/gaza-civilians-killed-israeli-drone-launched-missiles> [<https://perma.cc/MQP7-QQEX>].

69. *Id.*; see generally Meredith Hagger & Tim McCormack, *Regulating the Use of Unmanned Combat Vehicles: Are General Principles of International Humanitarian Law Sufficient?*, J.L. INFO. & SCI. 1, 12 (2011) (discussing the 2009 Human Rights Watch report).

“either failed to take all feasible precautions to verify that the targets were combatants . . . or they failed to distinguish between combatants and civilians and to target only the former.”⁷⁰ The HRW called for the Israeli Defense Forces to review Israeli drone-launched missiles which resulted in civilian harm or casualties,⁷¹ reporting in 2009 that the Israeli government had not conducted a credible investigation.⁷²

In the Israel/Palestine war, there have been war crimes by both Israel and Hamas. The 2023 October 7 killing of Israeli civilians and taking of hostages is a war crime by Hamas. Israel has engaged in continued bombardment of drones and missiles into the 2.3 million civilian-occupied Gaza Strip. Targeting civilians with criminal intent in a deliberate or reckless manner is a war crime.⁷³

In December 2022, a United Nations General Assembly resolution requested an ICJ advisory opinion on the legality of Israel’s occupation. The ICJ ruled in July 2024 that Israel’s occupation, settlement expansion, and resource exploitation were illegal under international law and violated the International Convention on the Elimination of All Forms of Racial Discrimination.⁷⁴ The Court also determined that Israel must pay full reparations to the Palestinian people for damages caused by the occupation.⁷⁵

In 2024, Annanya Singhal, affiliated with the department of law at Christ Academy Institute of Law in India,⁷⁶ discussed the role of the United Nations (UN) in the Israel-Palestine war.⁷⁷ She highlighted the UN’s efforts to promote peace and security but also pointed out its

70. *Precisely Wrong*, *supra* note 68.

71. *Id.*

72. *Israel: Misuse of Drones Killed Civilians in Gaza*, HUM. RTS. WATCH (June 30, 2009), <https://www.hrw.org/news/2009/06/30/israel-misuse-drones-killed-civilians-gaza> [<https://perma.cc/S9XG-EX5E>]. On April 22, the Israeli military released an internal investigation’s results, stating that its forces had adhered to international law and that only a small number of unavoidable incidents occurred due to intelligence or operational mistakes. *Id.* Meanwhile, the United Nations Human Rights Council, led by jurist Richard Goldstone, was investigating war crime allegations against both Israel and Hamas. *Id.* Israel refused to cooperate, citing bias, while Hamas has expressed willingness to participate. *Id.*

73. Baldwin, *supra* note 11.

74. *See generally* Legal Consequences Arising from the Policies and Practices of Israel in the Occupied Palestinian Territory, Including East Jerusalem, Advisory Opinion, 2024 I.C.J. 15 (July 19), <https://www.icj-cij.org/sites/default/files/case-related/186/186-20240719-adv-01-00-en.pdf>

75. *Id.*

76. CHRIST ACAD. INST. L., *Christ Academy Institute of Law MCC*, (Apr. 26, 2023), <https://lawinternships.in/christ-academy-institute-of-law-mcc/> [<https://perma.cc/R7B4-TYJF>].

77. *See generally* Annanya Singhal, *The Role of UN in the Israel and Palestine Conflict*, 6 INT’L J. OF L., POL’Y & SOC. REV. 69 (2024).

shortcomings in effectively resolving the war.⁷⁸ Although the UN has made efforts by passing resolutions and decisions,⁷⁹ the war continues on. This failure has forced neighboring countries, like Egypt, to bear the burden of assisting displaced Palestinians.⁸⁰ Singhal concluded that the UN has struggled to fulfill its role due to its inability to stop the war or bring the conflicting parties to an agreement.⁸¹ Singhal lists recommendations such as a two-state solution and incremental conflict management with “confidence-building measures, small-scale agreements, and improv[ement] plans for the] living conditions for Palestinians.”⁸²

2. Supply Chain Disruptions

In addition to the difficulties in reaching a peace agreement and providing assistance in the interim, there are also supply chain issues. For example, semiconductor chip supplies were an issue during COVID-19.⁸³ Post-COVID-19, U.S. President Joe Biden led the enactment of the CHIPS and Science Act as an attempt to regain the United States’s leadership in semiconductor manufacturing.⁸⁴ This Act includes a commitment to invest \$53 billion in semiconductor chip manufacturing.⁸⁵ Israel is a small country that plays a big role in semiconductor chip production. The region is home to several leading tech companies, including Intel, Nvidia, Apple, Amazon, and Microsoft, all of which are engaged in chip design and manufacturing.⁸⁶ Global supply chains are

78. *Id.* at 69–71.

79. See, e.g., Vibhu Mishra, *UN General Assembly Demands Israel end ‘Unlawful Presence’ in Occupied Palestinian Territory*, U.N. NEWS (Sep. 18, 2024), <https://news.un.org/en/story/2024/09/1154496> [<https://perma.cc/FV2U-AQGJ>] (reporting that the UN General Assembly overwhelmingly passed a resolution urging Israel to immediately cease its illegal occupation of Palestinian territories). See also U.N. DIGITAL LIBRARY, “Palestinian,” 91 results (Nov. 17, 2025) (time period “Last 5 years”). U.N. NEWS, *Israel-Gaza Crisis: US Vetoes Security Council Resolution*, (Oct. 18, 2023), <https://news.un.org/en/story/2023/10/1142507> [<https://perma.cc/Z34M-8Q5N>] (reporting on how the United States vetoed a UN Security Council resolution that would have called for “humanitarian pauses” to deliver lifesaving aid to millions in Gaza, resulting in a failure by the Council to make its first public intervention on the Israel-Gaza crisis).

80. Singhal, *supra* note 77, at 70.

81. *Id.* at 71.

82. *Id.*

83. Clovia Hamilton, *Identifying Sources of COVID-19 Pandemic Supply Chain Fragility*, 29 AM. SOC’Y FOR ENG’G MGMT. INT’L ANN. CONF. 1, 3 (2021).

84. Antony J. Blinken, U.S. Sec’y of State, Technology and the Transformation of U.S. Foreign Policy, Address Before the RSA Conference (May 6, 2024), transcript available at U.S. Dep’t State, <https://2021–2025.state.gov/technology-and-the-transformation-of-u-s-foreign-policy/> [<https://perma.cc/H2FW-5DLR>].

85. *Id.*

86. BLOOMBERG, *How the Israel-Palestine Conflict Impacts the Global Chip Supply Chain for Semiconductors*, CONSUMER NEWS & BUS. CHANNEL (CNBC) (Oct. 16, 2023), <https://www.cnbc.tv/18.com/world/israel-hamas-war-palestine-conflict-gaza-global-chip-supply-chain->

vulnerable to geopolitical events occurring thousands of miles apart. Given Israel's big role in semiconductor chip production, the Israel/Palestine war arguably places the entire global supply chain at risk.

Further, there are also concerns about the stability of the International North-South Transport Corridor, which connects India, the Middle East, and Europe. Since the maritime trade between Europe and Asia can make use of the Suez Canal, with goods passing through the Middle East, maritime experts are closely monitoring this route.⁸⁷ The Red Sea serves as the sole passageway to the Suez Canal, connecting major trade hubs in Europe and Asia.⁸⁸ Thirty percent of the world's container traffic, valued at \$1 trillion annually, pass through the Red Sea and the Suez Canal.⁸⁹ Moreover, about 15 percent of the world's trade passes through the Red Sea.⁹⁰ In retaliation for Israel's war against Hamas in Palestine, Houthi rebels in Yemen attacked shipping vessels in the Strait of Hormuz with drones and missiles.⁹¹ The Houthis claim that they engaged in these attacks out of solidarity with the Palestinians in Gaza,⁹² attacking to pressure Israel to end the war against Hamas in the Gaza Strip.⁹³ One ripple effect of this is an increase in freight rates.⁹⁴ Given these events, it is important for shippers to become more resilient

semiconductor-intel-apple-amazon-18061221.htm [https://perma.cc/38LT-VBRA].

87. Rachayita Sidharth, *The Impact of the Israel-Hamas War on Global Logistics and Supply Chain*, LOGISTIC INSIDER (Nov. 10, 2023), <https://www.logisticsinsider.in/the-impact-of-the-israel-hamas-war-on-global-logistics-and-supply-chain/> [https://perma.cc/5UFN-WNXV].

88. Paul Wallace & Alex Longley, *How Red Sea Crisis Raises, Inflation, Supply Chain Worries Anew*, BLOOMBERG (Jan. 24, 2024), <https://www.bloomberg.com/news/articles/2024-01-24/red-sea-crisis-how-houthi-attacks-raise-inflation-supply-chain-worries> [https://perma.cc/CUP9-VYXZ].

89. Zera Zheng et al., *Charting the Course: How the Shipping Industry is Adapting to Tensions in the Red Sea*, WORLD ECON. F. (Feb. 23, 2024), <https://www.weforum.org/stories/2024/02/red-sea-crisis-global-shipping-industry-adapting-maersk/> [https://perma.cc/6YV2-35JG].

90. Neuman, *supra* note 29.

91. Pieter Balcaen, *Beyond Sanctions: Economic Warfare and Modern Military Conflict*, MOD. WAR INST. (Nov. 20, 2024), <https://mwi.westpoint.edu/beyond-sanctions-economic-warfare-and-modern-military-conflict/> [https://perma.cc/YU9B-W5PF].

92. Matthew Karnitschnig, *How China Ended up Financing the Houthis' Red Sea Attacks*, POLITICO (Mar. 28, 2024), <https://www.politico.eu/article/china-finance-houthi-red-sea-attacks-iran-oil/> [https://perma.cc/46VL-EAGY].

93. Samy Magdy, *US Military Says It Destroyed Houthi Drones over the Red Sea and in Yemen*, ASSOCIATED PRESS (Mar. 31, 2024), <https://apnews.com/article/houthis-yemen-airstrikes-military-us-red-sea-de8430938b907a1cddc906e491dca96d> [https://perma.cc/EKP9-8KXQ].

94. Kiran Tare, *Israel-Hamas War: Ripple Effect on Global Supply Chains*, NEWS NINE LIVE (Oct. 11, 2023) (quoting Amit Maheshwari, Founder & CEO of Softlink Global), <https://www.news9live.com/world/israel-hamas-war-ripple-effect-on-global-supply-chains-2316643> [https://perma.cc/6Z2K-GJFZ].

by diversifying their supply sources, finding viable alternative routes, and investing in technology to monitor supply chains.⁹⁵

For an example of re-routing, consider Maersk, a Danish shipping and logistics company.⁹⁶ In December 2023, Maersk first told its vessels to “pause their journey until further notice,”⁹⁷ announcing later that it would re-route some of its vessels around Africa’s Cape of Good Hope.⁹⁸ Germany’s Hapag-Lloyd, a leading global shipping company,⁹⁹ rerouted in the same manner.¹⁰⁰ In total, the attacks on merchant vessels resulted in a 66 percent decrease in the number of ships traveling along the Suez Canal.¹⁰¹ Recall that COVID-19 resulted in pretty severe supply chain disruptions,¹⁰² thus the shipping industry has gotten quicker at assessing risks.¹⁰³ The Maersk re-route adds up to 14 days to the journey, which adds to the prices consumers pay.¹⁰⁴

The U.S. Central Command destroyed some Houthi drones over the Red Sea in Yemen.¹⁰⁵ Generally, drones “compress the so-called kill chain, shortening the time from when a target is detected to when it is destroyed[.]”¹⁰⁶ making them impactful.¹⁰⁷ In November and December 2023, U.S. Navy destroyers shot down 38 Houthi drones and several missiles.¹⁰⁸ The Houthi drones are \$2000 drones, comparing this to

95. *Id.*

96. MAERSK, *The History and Heritage of A.P. Moller—Maersk*, <https://www.maersk.com/about/our-history> [<https://perma.cc/A2K9-XDZM>].

97. Edward Segal, *Attacks on Ships in Red Sea Could be First Sign of a Supply Chain Crisis*, FORBES (Dec. 21, 2023), <https://www.forbes.com/sites/edwardsegal/2023/12/17/attacks-on-ships-in-red-sea-could-be-first-sign-of-a-supply-chain-crisis/> [<https://perma.cc/DBH2-WD38>].

98. Nick Edser, *Fears of Higher Oil Prices After Red Sea Attacks*, BRIT. BROAD. CO. (BBC) (Dec. 19, 2023), <https://www.bbc.com/news/business-67758126> [<https://perma.cc/7F97-5THG>].

99. HAPAG-LLOYD, *About Us—Our Company*, <https://www.hapag-lloyd.com/en/company.html> [<https://perma.cc/68WB-LH7W>].

100. Neuman, *supra* note 29.

101. *Israel Raw Materials Supply Chain Affected by Israel-Hamas Conflict*, INT’L TRADE ADMIN. (Sep. 26, 2024) [hereinafter *Israel Raw Materials Supply Chain Affected*], <https://www.trade.gov/market-intelligence/israel-raw-materials-supply-chain-affected-israel-hamas-conflict> [<https://perma.cc/83LN-5F8K>].

102. Hamilton, *supra* note 83, at 7.

103. Neuman, *supra* note 29.

104. Karnitschnig, *supra* note 92.

105. Magdy, *supra* note 93.

106. Patrick Griffin, *Enter the Killweb: A Concept for Drone Warfare*, U.S. NAVAL INST. (Mar. 2023), <https://www.usni.org/magazines/proceedings/2023/march/enter-killweb-concept-drone-warfare> (last visited Feb. 13, 2026).

107. Kristen D. Thompson, *How the Drone War in Ukraine Is Transforming Conflict*, COUNCIL ON FOREIGN RELS. (Jan. 16, 2024), <https://www.cfr.org/article/how-drone-war-ukraine-transforming-conflict> [<https://perma.cc/7XBB-GKDM>].

108. Lara Seligman & Matt Berg, *A \$2M Missile Vs. a \$2,000 Drone: Pentagon Worried Over Cost of Houthi Attacks*, POLITICO (Dec. 20, 2023), <https://www.politico.com/news/2023/12/19/missile-drone-pentagon-houthi-attacks-iran-00132480> [<https://perma.cc/B86N-CLCB>].

the astounding \$2 million price point of U.S. missiles, Mick Mulroy, a former U.S. CIA and Department of Defense official, shared that the inexpensive cost of drones make them appealing to the United States as an option to keep the U.S. defense costs down.¹⁰⁹ In other words, fight fire with the same inexpensive fire.

In January 2025, after months of painstaking negotiations led by Egypt, Qatar, and the United States, Israel and Hamas agreed to a ceasefire.¹¹⁰ The Israelis that Hamas captured as hostages were to be exchanged for some Palestinians that Israel has imprisoned.¹¹¹ The deal included delivery of 600 trucks of aid, but Palestinians who lived in Gaza are returning to 60–70 percent of their buildings in need of costly reconstruction.¹¹² However, by March 2025, the ceasefire deal fell through.¹¹³

The cascading effects of conflict in the Middle East reveal how deeply interconnected global supply chains have become. Disruptions to semiconductor production, maritime trade routes, and shipping security demonstrate that geopolitical instability can quickly translate into economic strain far beyond the region. As drone attacks in the Red Sea and re-routing decisions show, even brief periods of uncertainty force industries to absorb higher costs and adapt under pressure. Ultimately, strengthening resilience through diversification, technological investment, and strategic planning is essential to mitigating the farreaching consequences of future crises.

109. *Id.*

110. Raffi Berg, *Is the War Starting Again in Gaza?*, BBC (Mar. 18, 2025), <https://www.bbc.com/news/articles/cy5klgv5zv0o> [<https://perma.cc/852G-J9Q5>].

111. *Id.*

112. *Id.*

113. The ceasefire deal had two stages. Emir Nader, *Why Has Israel Bombed Gaza and What Next for Ceasefire Deal?*, BBC (Mar. 18, 2025), <https://www.bbc.com/news/articles/cq6yp5d5v9jo> [<https://perma.cc/FB4J-36VJ>]. The first phase was completed March 1, 2025, with Hamas releasing some of the Israeli hostages. *Id.* The parties agreed that in the second phase “negotiations would include the release of all remaining hostages as well as a full withdrawal of Israeli forces.” *Id.* There was no progress on these negotiations, and Israel halted all aid to Gaza. *Id.* Hamas will not release the remaining hostages until Israel withdraws its forces. *Id.* Additionally, Israel plans to restrict food supply to an Israeli military guarded area in southern Gaza and isolate Hamas from the food distribution. *See* Estrin, *supra* note 34. Estrin quoted the United Nations’ statement that this “contravenes fundamental humanitarian principles and appears designed to reinforce control over life-sustaining items as a pressure tactic.” *Id.* The author of this study, Dr. Clovia Hamilton, notes that this food distribution plan seems odd and infeasible given that Israeli forces have not been able to retrieve their hostages from Hamas after seventeen months at war and have killed innocent civilians while allegedly targeting Hamas members. So, logically, would it not be difficult for Israeli forces to distinguish civilians from Hamas members and use that difficulty to refuse food to non-Hamas members?

B. Russia/Ukraine War

1. Historical Background

As Russia's neighboring country, Ukraine has had a long relationship with Russia. In the late 1700s, Ukraine's land became part of the Russian Empire under Catherine the Great.¹¹⁴ Ukraine sought independence from Russia in the early twentieth century but lost, becoming part of the Soviet Union.¹¹⁵ After the Soviet Union collapsed in 1991, Ukraine declared its independence from Russia.¹¹⁶ Russian President Vladimir Putin took over in 2000 and views the 1991 collapse of the Soviet Union as a disaster.¹¹⁷ President Putin described the collapse of the Soviet Union as the "disintegration of historical Russia" and claimed that modern Ukraine is a creation by communist Russia.¹¹⁸

It is helpful to understand the history of why President Putin does not want Ukraine—its neighbor—to become a North Atlantic Treaty Organization (NATO) member. It is important to note the significance of the expansion of NATO. University of Chicago political science Professor John Mearsheimer advocates that "great powers are always sensitive to potential threats near their home territory."¹¹⁹ He teaches that, in the mid-1990s, the Clinton administration pushed NATO to expand, which eventually led to Ukraine's war with Russia.¹²⁰ First, NATO added Poland, Hungary, and the Czech Republic in 1999.¹²¹ Slovenia, Romania, Slovakia, Lithuania, Latvia, Estonia, and Bulgaria joined NATO in 2004.¹²² Ukraine has undergone "Western social engineering" which worries Russia as it could contribute to the demise of Russian ideology.¹²³

114. Tucker Reals & Alex Sundby, *Russia's War in Ukraine: How It Came to This*, COLUMBIA BROADCASTING SYSTEM (CBS) (Mar. 23, 2022), <https://www.cbsnews.com/news/ukraine-news-russia-war-how-we-got-here/> [<https://perma.cc/8N5A-FJUU>].

115. *Id.*

116. *Id.*

117. *Id.*

118. Paul Kirby, *Why is Russia Invading Ukraine and What Does Putin Want?*, BBC (Mar. 8, 2022), [<https://perma.cc/X9WH-S5S7>].

119. John J. Mearsheimer, *Why the Ukraine Crisis Is the West's Fault: The Liberal Delusions that Provoked Putin*, 93 FOREIGN AFFS. 1, 5–6 (2014).

120. *See id.* at 2–3.

121. *Id.* at 2.

122. *Id.*

123. *Id.* at 4; *see also* Carl Gershman, *Former Soviet States Stand Up to Russia. Will the U.S.?*, WASH. POST (Sep. 26, 2013), https://www.washingtonpost.com/opinions/former-soviet-states-stand-up-to-russia-will-the-us/2013/09/26/b5ad2be4-246a-11e3-b75d-5b7f66349852_story.html [<https://perma.cc/2QHH-HABQ>] (quoting Carl Gershman, president of the National Endowment for Democracy, who states, "Ukraine's choice to join Europe will accelerate the demise of the ideology of Russian imperialism that Putin represents.").

Russia invaded Ukraine in 2014 after pro-Russia President of Ukraine Viktor Yanukovich was ousted, accusing Ukraine of being taken over by a new government of neo-fascists that was pro-Western and anti-Russian.¹²⁴ President Putin further reasoned that Russia's 2014 attack on Ukraine was in defense of ethnic Russians living in the eastern Donbas region who never supported Ukraine's pro-Western government.¹²⁵ In retaliation, Russia seized Crimea.¹²⁶ Although Russia annexed the Crimean Peninsula, the annexation is not recognized by other countries.¹²⁷ Professor Mearsheimer opines that Western leaders need to abandon plans to westernize Ukraine since Western leaders cannot support an anti-Russian regime there to stand up to President Putin's vociferous opposition.¹²⁸ In 2014, he opined that Ukraine should be a neutral buffer.¹²⁹ In 2021, President Putin invaded Ukraine, blaming NATO's eastward expansion.¹³⁰ President Putin describes Ukraine as a state with plans to westernize and with the potential of being a "western stronghold on Russia's doorstep," describing the West as seeking to remove Ukraine out of Russia's orbit.¹³¹ NATO Ambassador Ivo Daalder opines that President Putin is motivated by the view that "a functioning, successful, prosperous democracy in Ukraine poses a direct threat to his rule, because it will give people in Russia the idea that they, too, could enjoy what Ukraine enjoys, and rise up against his autocratic rule."¹³²

There is another reason Ukraine is of interest to Russia: Ukraine is a major global raw material supplier to green energy, aerospace, defense, and high-tech industries.¹³³ In the last five years, the market

124. Mearsheimer, *supra* note 119 at 1, 4–5; Paul Kirby, *Why Did Putin's Russia Invade Ukraine?*, BBC (Aug. 13, 2025), <https://www.bbc.com/news/articles/cj0q964851po> [<https://perma.cc/3HA3-EUV4>] (reporting that President Putin stated that Ukraine had neo-Nazis and drug addicts running the country).

125. Reals & Sundby, *supra* note 114.

126. Kirby, *supra* note 118; *see also* Mearsheimer, *supra* note 119, at 1; Sheelah Kolhatkar, *Will Sanctions Against Russia End the War in Ukraine?*, NEW YORKER (Oct. 24, 2022), <https://www.newyorker.com/magazine/2022/10/31/will-sanctions-against-russia-end-the-war-in-ukraine> [<https://perma.cc/Z9PM-VVDS>] (reporting that Viktor Yanukovich's decision to pull out of a major trade agreement with the EU revealed how loyal he was to Putin, which triggered tens of thousands of Ukrainians to protest in Kyiv and Yanukovich to flee Ukraine).

127. Reals & Sundby, *supra* note 114.

128. Mearsheimer, *supra* note 119, at 10.

129. *Id.*

130. Kirby, *supra* note 118.

131. *Id.* at 1–2, 10.

132. Reals & Sundby, *supra* note 114.

133. Nataliya Katser-Buchkovska, *The Future of Critical Raw Materials: How Ukraine Plays a Strategic Role in Global Supply Chains*, WORLD ECON. F. (July 9, 2024), <https://www.weforum.org/stories/2024/07/the-future-of-critical-raw-materials-how-ukraine-plays-a-strategic-role-in-global-supply-chains/> [<https://perma.cc/9W3T-43ME>].

for critical minerals such as Ukraine's lithium, aluminum, and nickel has reached \$320 billion.¹³⁴ Further, Ukraine has the largest titanium reserves in Europe, which is critical to several industries.¹³⁵ With regard to supply chain disruptions, disruptions to the production of lithium and nickel needed for electric vehicles has caused price increases.¹³⁶

Amid the ongoing challenges of global inflation, rising costs of food and energy, and supply chain disruptions caused by the COVID-19 pandemic, the conflict between Russia and Ukraine is further intensifying the imbalance between supply and demand.¹³⁷ COVID-19 resulted in semiconductor chip and food shortages.¹³⁸ COVID-19 adversely impacted global supply chains by causing shortages in production and increasing prices. By March 2022, it was expected that the Russia/Ukraine war would cause global chip shortages and the resulting pressures would cause consumer prices to increase and complicate inflationary pressures.¹³⁹ Further, Russia used its naval fleet to "conduct economic warfare" by blocking the flow of goods to and from Ukraine; and striking Ukraine's energy infrastructure with drones.¹⁴⁰ However, Ukraine fought back with drones and forced Russia to relocate its Black Sea naval fleet.¹⁴¹

134. *Id.* It is important to note that Western banks and investment funds have acquired stakes in Ukrainian agribusinesses. See generally FRÉDÉRIC MOUSSEAU & EVE DEVILLERS, OAKLAND INST., *WAR AND THEFT: THE TAKEOVER OF UKRAINE'S AGRICULTURAL LAND* (2023), <https://www.oaklandinstitute.org/sites/default/files/files-archive/takeover-ukraine-agricultural-land.pdf> [<https://perma.cc/Z2VY-JE3L>]. In 2020, President Zelensky enacted a land reform law that allowed the sale of agricultural land, despite opposition from the majority of Ukrainians who feared it would exacerbate corruption, oligarchic control, and land ownership by European and North American owners, see generally *id.* Further, in 2025, the United States entered a minerals agreement with Ukraine to share in future revenue earned from Ukraine's critical mineral reserves, see also Heidi E. Crebo-Rediker, *What's the Deal with Trump's Ukraine Mineral Agreement?*, COUNCIL ON FOREIGN RELS. (May 1, 2025), <https://www.cfr.org/article/whats-deal-trump-ukraine-mineral-agreement> [<https://perma.cc/X7RD-D4YB>] (stating that under the America First approach to diplomacy, the "the Trump administration wants to get paid back for any future support" provided to Ukraine).

135. Katser-Buchkovska, *supra* note 133.

136. *Id.*; see also KENNETH KIM ET AL., KPMG, *ECONOMIC ANALYSIS: RUSSIA-UKRAINE WAR IMPACT ON SUPPLY CHAINS AND INFLATION 2* (2022), <https://kpmg.com/kpmg-us/content/dam/kpmg/pdf/2022/economic-analysis-russia-ukraine-war-impact-supply-chains-inflation.pdf> [<https://perma.cc/MBJ8-DMDY>] (noting that Russia supplies 20% of the nickel globally).

137. Holly Ellyatt, *From Soaring Food Prices to Social Unrest, the Fallout from the Russia-Ukraine War Could Be Immense*, CNBC (Apr. 21, 2022), <https://www.cnbc.com/2022/04/21/from-food-to-inflation-the-russia-ukraine-war-has-a-global-impact.html> [<https://perma.cc/R92X-WB8T>].

138. Hamilton, *supra* note 83, at 3–5.

139. Matt Egan, *Russia-Ukraine Crisis Replaces Covid as Top Risk to Global Supply Chains*, *Moody's Says*, CNN (Mar. 4, 2022), <https://www.cnn.com/2022/03/04/business/russia-ukraine-supply-chain-oil> [<https://perma.cc/V8VA-357A>].

140. Balcaen, *supra* note 91.

141. *Id.*

Prior to Russia's invasion of Ukraine in 2022, less than half of the NATO allies provided military aid to Ukraine.¹⁴² Yet, by August 2023, all but two assisted Ukraine. Turkey provided armed drones.¹⁴³ The supply of drone weaponry "ensured Kyiv did not fall to Russian forces."¹⁴⁴ Further, in 2023, Ukraine produced 300,000 drones.¹⁴⁵ The total number used varies, but it is estimated that "Ukraine has been losing 10,000 drones per month, more than 100,000 drones per year."¹⁴⁶ Ukraine is relying heavily on drones to replace soldiers due to a population decline, so they are substituting small, cheap killer drones for soldiers.¹⁴⁷ The humanitarian implication is that Ukraine's drone usage is resulting in a need for fewer soldiers in combat duty and, logically, fewer casualties and injuries to people who may have been called on to serve.

One news account was that, by October 2024, Ukraine had produced 1.5 million drones and was capable of ramping up to 4 million a year.¹⁴⁸ However, a December 2024 report from the Center for Strategic and International Studies (CSIS) states that China leads in drone production.¹⁴⁹ Ukraine relies heavily on pre-assembled Chinese components, which are crowdfunded because of Ukraine's lack of funding for production expansion.¹⁵⁰ Though by April 2025, CSIS reported that Ukraine is on its way toward producing 2.5 million drones a year.¹⁵¹

142. Rita Floyd & Mark Webber, *Making Amends: Emotions and the Western Response to Russia's Invasion of Ukraine*, 100 INT'L AFFS. 1149, 1158–59 (2024) (noting that while Germany has a long history of not supplying arms to countries at war, by May 2023, it was the second largest donor of military aid to Ukraine).

143. *Id.*

144. *Id.*

145. Burgess, *supra* note 17.

146. Ressler & Veilleux-Lepage, *supra* note 50, at 7.

147. Jensen, *supra* note 37.

148. *Id.* In late 2023, President Volodymyr Zelensky announced a goal to provide its forces with one million FPV drones in 2024. C.J. Chivers, *How Suicide Drones Transformed the Front Lines in Ukraine*, N. Y. TIMES (July 10, 2025), <https://www.nytimes.com/2024/12/31/magazine/drones-weapons-ukraine-war.html> [<https://perma.cc/VSC5-WQPF>]. FPV drones have aerial agility and blend "the power of anti-tank projectiles, the range of mortars and the accuracy of sniper fire." *Id.* By fall 2024, President Zelensky had a new branch of armed forces dedicated to unmanned weapons, 2,000 drone specialists, and plans to ramp up to 10,000 specialists by the end of 2025. *Id.*

149. Aosheng Pusztaszeri, *Why China's UAV Supply Chain Restrictions Weaken Ukraine's Negotiating Power*, CSIS (Dec. 16, 2024), <https://www.csis.org/analysis/why-chinas-uav-supply-chain-restrictions-weaken-ukraines-negotiating-power> [<https://perma.cc/ZR79-9GZ8>] (commenting also that, in 2023, China supplied Russia with \$14.5 million in drone shipments and only \$200,000 in drone shipment to Ukraine).

150. *Id.*

151. Jensen, *supra* note 37.

Both Ukraine and Russia use long-range kamikaze drones to strike each other's industrial, military, and energy targets.¹⁵² These are called dual-use objects because they are useful to both civilians and combatants.¹⁵³ Further, they are both racing to develop drones guided by AI, as AI-powered drones can autonomously detect and engage their targets without relying on direct communication with a pilot, rendering them resistant to signal jamming.¹⁵⁴ The use of this technology could foster endless wars, or it can result in a battle of innovation where the country with the best technology wins. Although political science Professor John Mearsheimer opined in 2014 that the West could not support an anti-Russia regime in Ukraine,¹⁵⁵ drone warfare is leveling the playing field. The Russia/Ukraine war has highlighted the significant impact and evolving capabilities of drone technology.¹⁵⁶

2. Supply Chain Disruptions

Beyond the challenges of cheap drone usage fostering a potentially endless war between Russia and Ukraine, supply chain disruptions are a significant concern. For example, in April 2022, Daniel Aminetzah, leader of McKinsey's Chemicals and Agriculture Practices, stated that "we clearly see this conflict shaking important pillars of [the global food supply chain] in an already disturbed context."¹⁵⁷ Ukraine's economy is heavily dependent on its exports of wheat, barley, and other agricultural products.¹⁵⁸ Ukraine is known as the "breadbasket of the world"; however, the Russian invasion resulted in a dramatic decline in crops planted by farmers in the spring of 2022.¹⁵⁹ Interestingly, both

152. Burgess, *supra* note 17.

153. In a podcast interview, international law scholar Oona Hathaway explains that the Geneva Convention does not mention dual-use objects: there are either military targets or civilian objects, with no in-between. Kate Brannen, *Gaza and the Breakdown of International Law: A Conversation with Oona Hathaway*, FOREIGN AFFS. (May 16, 2024), <https://www.foreignaffairs.com/podcasts/gaza-and-breakdown-international-law-oona-hathaway> [<https://perma.cc/K7LU-FV89>]. However, there is a lot of infrastructure that is important to both the military and civilians, such as electric grids, oil infrastructure, financial centers, and humanitarian aid convoys. *Id.*

154. Burgess, *supra* note 17.

155. Mearsheimer, *supra* note 119.

156. Pustaszzeri, *supra* note 149; *see also* Kolhatkar, *supra* note 126 (reporting that "rather than send American troops into battle and risk a third world war, [President Biden] committed billions of dollars in weapons and military support to Ukraine").

157. Ellyatt, *supra* note 137.

158. Hanna Arhirova & Susie Blann, *Russian Drones Attack Ukrainian Grain Depots After Moscow Leaves Shipping Deal*, PBS (Aug. 16, 2023), <https://www.pbs.org/newshour/world/russian-drones-attack-ukrainian-grain-depots-after-moscow-leaves-shipping-deal> [<https://perma.cc/85F6-NYEN>].

159. Tom Levitt & Chris McCullough, *Global Food Price Fears as Ukraine Farmers Forced to Reduce Crop Planting*, GUARDIAN (Apr. 2, 2022), <https://www.theguardian.com/>

Russia and Ukraine supply wheat and corn globally, accounting for 29 percent of the wheat exports and 17 percent of the corn exports.¹⁶⁰ According to senior economist Ken Kim, the supply chain disruptions increased inflationary pressures in 2022.¹⁶¹

The Russian invasion of Ukraine threatens global grain supplies due to Ukraine's reduction in production and exports as well as the increased costs associated with trade.¹⁶² For example, although Africa's trade with both Russia and Ukraine is small, Africa relies heavily on their wheat and other grains for food security; further, increases in food prices add to already inflationary pressures.¹⁶³ By May 2022, President Biden blamed Russia's war for food supply shortages and price increases since millions of tons of Ukrainian crops were not being exported due to the invasion.¹⁶⁴ In response, the U.S. federal government took actions to bolster domestic food production and lower food costs by supporting farming efforts such as double cropping, which involves harvesting two crops from the same field within a single year.¹⁶⁵

By April 2022, logistics and supply chains were broken down, and suppliers could not provide inputs.¹⁶⁶ In August 2023, Russian drones attacked grain storage facilities and port terminals that Ukraine relied on.¹⁶⁷ Attacks on ports along with sea mines make shipping voyages risky, and shipping insurance costs have, consequentially, increased.¹⁶⁸ Wheat importers find it difficult to ship across the Middle East and North Africa partly because of this. Two countries facing such hardships are Egypt, which bought 80 percent of its wheat from Russia and Ukraine,¹⁶⁹ and Lebanon, which received 75 percent of its grain from

environment/2022/apr/02/global-food-price-fears-as-ukraine-farmers-forced-to-reduce-crop-planting [https://perma.cc/UVY9-CVE2].

160. KIM ET AL., *supra* note 136, at 1.

161. *Id.*

162. Dana Hassani et al., *A Multiperiod, Multicommodity, Capacitated International Agricultural Trade Network Equilibrium Model with Applications to Ukraine in Wartime*, 59 TRANSP. SCI. 143, 144 (2024).

163. See generally LACINA BALMA ET AL., KIEL INST. FOR WORLD ECON., LONG-RUN IMPACTS OF THE CONFLICT IN UKRAINE ON FOOD SECURITY IN AFRICA (2022).

164. Maegan Vazquez & Sam Fossum, *Biden Blames Russia's War in Ukraine for Food Supply Shortages and Price Hikes*, CNN (May 11, 2022), <https://www.cnn.com/2022/05/11/politics/biden-food-supply-russia-ukraine> [https://perma.cc/VR3E-ZLQB].

165. *Id.*

166. Levitt & McCullough, *supra* note 159; see also Vasily Korovkin et al., *Supply Chain Disruption and Reorganization: Theory and Evidence from Ukraine's War*, REV. ECON. STUD. 1–2 (2025) (finding that the 2014 invasion of Ukraine disrupted production in the conflict area as well as the reorganization of supply chain linkages within and outside the conflict areas).

167. Arhirova & Blann, *supra* note 158.

168. *Id.*

169. Sarah El Safty & Hadeel Al Sayegh, *Ukraine Crisis Jeopardises Middle East's Black*

Ukraine.¹⁷⁰ On December 2, 2025, global wheat prices were pushed higher after “a Russian-flagged tanker reported a drone attack, an incident that was quickly followed by Russian President Vladimir Putin’s threat to sever Ukraine’s sea access in retaliation for Ukrainian attacks on Russian vessels.”¹⁷¹

In summary, the war between Russia and Ukraine has severely disrupted global food supply chains, especially because both countries are major exporters of wheat and corn. Ukraine’s agricultural output has fallen sharply due to the invasion, driving up global food prices and contributing to inflation. Many regions—particularly parts of Africa and the Middle East—have faced heightened food insecurity as shipping risks, port attacks, and rising insurance costs make grain transport difficult. Continued attacks on grain infrastructure and threats to Ukraine’s sea access have further pushed global wheat prices higher.

C. Sudanese Civil War

1. Historical Background

In 2019, a power-sharing agreement was set up in Sudan which was ended by a military coup in October 2021.¹⁷² The agreement was

Sea Wheat Supply, REUTERS (Mar. 7, 2022), <https://www.reuters.com/markets/europe/ukraine-crisis-jeopardises-middle-east-black-sea-wheat-supply-2022-03-07/> [https://perma.cc/XZ4L-CZT7]. Further, given the war between Russia and Ukraine, Egypt has faced a food crisis that is an existential threat to its economy, see Michaël Tanchum, *The Russia-Ukraine War Has Turned Egypt’s Food Crisis into an Existential Threat to the Economy*, MIDDLE E. INST. POLICY CTR. (Mar. 3, 2022), <https://mei.edu/ar/publication/russia-ukraine-war-has-turned-egypts-food-crisis-existential-threat-economy/> [https://perma.cc/M4EA-2BP2] (recommending that Egypt’s “long-term solution is to increase its agricultural output by expanding its arable land and further modernizing its farming sector through advanced agri-tech, water management, and green energy technologies.”). Egypt has made adjustments such as diversifying its suppliers and increasing its domestic production. See generally USDA FOREIGN AGRIC. SERV., *DECLINE IN UKRAINE WHEAT IMPORTS DRIVES EGYPT TO DIVERSIFY ITS SUPPLIERS* (2022), https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Decline%20in%20Ukraine%20Wheat%20Imports%20Drives%20Egypt%20to%20Diversify%20its%20Suppliers%20_Cairo_Egypt_EG2022-0015.pdf.

170. Emily McGarvey, *Ukraine War: Wheat Prices Soar After Russia Threatens Ships*, BBC (July 20, 2023), <https://www.bbc.com/news/world-europe-66253143> [https://perma.cc/99PY-CG5J].

171. MARKETMINUTE, *Wheat Futures Surge Amid Black Sea Tensions and Robust Demand, but Ample Global Supply Looms*, WRAL (Dec. 2, 2025), <https://markets.financialcontent.com/wral/article/marketminute-2025-12-2-wheat-futures-surge-amid-black-sea-tensions-and-robust-demand-but-ample-global-supply-looms> [https://perma.cc/3ZLP-BN6S].

172. Ahmed Idris Hassan, *Sudan’s Economic and Supply Chain Problems Continue to Escalate*, INST. SUPPLY MGMT. (Mar. 28, 2022), <https://www.ismworld.org/supply-management-news-and-reports/news-publications/inside-supply-management-magazine/blog/2022/2022-03/sudans-economic-and-supply-chain-problems-continue-to-escalate/> [https://perma.cc/WQ39-R5AB].

signed between the Transitional Military Council and the Forces of Freedom and Change, making it an alliance of opposition groups.¹⁷³ This agreement aimed to establish a joint military-civilian Sovereign Council to govern the country during a transitional period of just over three years, after which the next round of elections would occur.¹⁷⁴ By March 2022, Sudan faced political, economic, and security crises, including high inflation and energy costs.¹⁷⁵ High fuel prices were blamed on Russia's invasion of Ukraine.¹⁷⁶ Supply chain disruptions ensued as this strife led to the closure of Port Sudan on the Red Sea by a tribal group blockade and, therefore, a lack of imported products including medicine, wheat, and other basic commodities in the capital city Khartoum.¹⁷⁷ Where Port Sudan once handled 90 percent of shipments, trade re-routed to Egypt, and crime began to rise, including smuggling.¹⁷⁸

By 2022, the Middle East and North Africa were following Turkey's lead in importing, producing, and selling drones to protect their foreign policy interests.¹⁷⁹ The United Arab Emirates (UAE) is developing a drone industry "to support its allies and proxies in Libya, Yemen, and Ethiopia."¹⁸⁰ This region is on track to become a major global center for drone technology. Free from the legal and ethical restrictions tied to United States and other Western systems, states in the Middle East and North Africa will leverage domestically-produced drones and loitering munitions to lessen their reliance on Western manufacturers.¹⁸¹ Two examples of U.S. limitations and ethical obligations can be found in the U.S. Arms Export Control Act and U.S. Department of Defense Directive 3000.09 Autonomy in Weapon Systems.¹⁸² Being

173. AL JAZEERA, *Sudan: What Have Military and Opposition Coalition Agreed to?*, (July 17, 2019), <https://www.aljazeera.com/news/2019/7/17/sudan-what-have-military-and-opposition-coalition-agreed-to> [https://perma.cc/7PL8-QYZR].

174. News Agencies, *Sudan's Ruling Generals, Protest Leaders Sign Power-sharing Deal*, AL JAZEERA (July 17, 2019), <https://www.aljazeera.com/news/2019/7/17/sudans-ruling-generals-protest-leaders-sign-power-sharing-deal> [https://perma.cc/X2WP-ZVLD].

175. Hassan, *supra* note 172.

176. *Id.*

177. *Id.*

178. *Id.*

179. Frederico Borsari, *Tools of Influence: Drone Proliferation In the Middle East and North Africa*, EUR. COUNCIL ON FOREIGN RELS. (May 27, 2022), <https://ecfr.eu/article/tools-of-influence-drone-proliferation-in-the-middle-east-and-north-africa/> [https://perma.cc/CT3H-73LV].

180. *Id.*

181. *Id.*

182. Some limitations include the 22 U.S.C. § 2778(a)(2) requirement that decisions on issuing export licenses must take into account the possibility of contributing to an arms race, supporting international terrorism, increasing the possibility of outbreak or escalation of conflict, or prejudicing arms control arrangements. U.S. Arms Export Control Act, 22 U.S.C. § 2778(a)

a drone hub mitigates the risk of supply chain disruptions to the Middle East and North Africa.¹⁸³

A civil war began in April 2023 in Sudan between the Sudan Armed Forces (SAF), led by General Addel Fatah Al Burhan, and the paramilitary Rapid Support Forces (RSF), led by General Mohamed Hamdan Dagalo.¹⁸⁴ The RSF wants to avoid integration into the SAF army.¹⁸⁵ Formed by former President Omar al-Bashir's regime,¹⁸⁶ the SAF and RSF now compete for military power and resources¹⁸⁷ while clashing over the terms of a political transition from military rule to free elections.¹⁸⁸ The SAF had a monopoly over the skies in this war at first, but, by mid-June 2023, the RSF began using drones in attacks,¹⁸⁹ which began to level the playing field.

By September 2023, the RSF were mostly using drones for surveillance purposes while the SAF were actively carrying out strikes using light armed drones.¹⁹⁰ The SAF began using kamikaze suicide

(2). Department of Defense (DoD) Directive 300.09 sets guidelines for autonomous weapons, requiring human control over lethal decisions. U.S. OFF. OF THE UNDER SEC'Y OF DEF. FOR POL'Y, DOD DIRECTIVE 3000.09: AUTONOMY IN WEAPON SYSTEMS 4-16 (2023), <https://media.defense.gov/2023/Jan/25/2003149928/-1/-1/0/DOD-DIRECTIVE-3000.09-AUTONOMY-IN-WEAPON-SYSTEMS.PDF>. It also requires that autonomous and semi-autonomous weapons "employ A.I. capabilities in autonomous and semi-autonomous weapon systems consistent with the DoD A.I. Ethical Principles and the DoD Responsible Artificial Intelligence Strategy and Implementation Pathway." *Id.*

183. Borsari, *supra* note 179.

184. Dame Rosalind Marsden, *Sudan's Forgotten War: A New Diplomatic Push is Needed*, CHATHAM HOUSE (Mar. 14, 2024), <https://www.chathamhouse.org/2024/03/sudans-forgotten-war-new-diplomatic-push-needed> [<https://perma.cc/WGJ8-HQBE>].

185. Mohammed Amin & Oscar Rickett, *What is the Future of the Sudanese Armed Forces?*, MIDDLE E. EYE (Apr. 4, 2024), <https://www.middleeasteye.net/news/sudan-crisis-saf-army-future> [<https://perma.cc/243H-Y49F>].

186. *Id.* ("Bashir ruled Sudan from 1989 until 2019, when he was removed by army general Abdul Fattah al-Burhan and [Rapid Support Forces] RSF leader Mohamed Hamdan Dagalo, better known as Hemeti, in response to a popular revolution demanding his exit. Both Burhan and Hemeti had been close to Bashir.").

187. Marsden, *supra* note 184.

188. Khalid Abdelaziz & Aidan Lewis, *Sudan's Army Chief Vows to Push on After Advance in Embattled Capital*, REUTERS (Mar. 13, 2024), <https://www.reuters.com/world/africa/sudans-army-chief-vows-push-after-advance-embattled-capital-2024-03-13/> [<https://perma.cc/T88E-5GUG>].

189. Abdolgader Mohamed Ali, *Will RSF Drones Tip the Balance of Sudan's War?*, NEW ARAB (Jun. 26, 2023), <https://www.newarab.com/analysis/will-rsf-drones-tip-balance-sudans-war> [<https://perma.cc/X7CL-2UXA>] (stating that the RSF drones were suspected to be provided by Libya, Eritrea, and the United Arab Emirates).

190. Sudan War Monitor & Rahal Abu Digin, *U.S. Sanctions Companies Supplying RSF with Drones*, SUDAN WAR MONITOR, (Sep. 28, 2023), <https://sudanwarmonitor.com/p/us-sanctions-companies-supplying> [<https://perma.cc/RBG3-J534>]; *see also* Abdelaziz & Lewis, *supra* note 188 (stating that by March 2024, the RSF had the upper hand in the battle and the Sudan Armed Forces (SAF) was boosted by a deployment of drones).

drones, also known as loitering munitions, against the RSF.¹⁹¹ They loiter by hovering over an area for a long time while using sensors to identify, track, and strike targets with precise accuracy.¹⁹² However, by March 2024, the RSF used its Special Task Battalion to launch drone strikes targeting army artillery in Shendi.¹⁹³ At this time, the SAF controlled the east and northeast, and the RSF controlled the capital and the west.¹⁹⁴ By May 2024, 15,550 lives were lost, and 18 million faced acute food insecurity.¹⁹⁵ Although eight million people have been displaced, the war is getting little high-level international media or political attention.¹⁹⁶ While this war is called “the forgotten war” due to the low level of attention it is receiving,¹⁹⁷ it is also called the “Sudan drone war.”¹⁹⁸

The SAF’s use of artillery batteries, fighter jets, and older drones in the first months of the war did not thwart the RSF, so the SAF acquired Iranian-made drones for surveillance and pinpointed artillery

191. Kazim Abdul, *Sudan Forces Adopts Kamikaze Drones for Combat*, MILITARY AFR. (Sep. 15, 2023), <https://www.military.africa/2023/09/sudan-forces-adopts-kamikaze-drones-for-combat/> [<https://perma.cc/S3JR-B3DG>].

192. *Id.*

193. Amin & Rickett, *supra* note 185. It is interesting to note that Iran has had influence over Sudan’s supply of drones and the United States’s attempts to protect the Red Sea maritime traffic, see Parker Hempel, *Remembering a Forgotten War: United States Policy Options to Resolve Sudan’s Civil War*, GEO. SEC. STUD. REV. (May 1, 2024), <https://gssr.georgetown.edu/the-forum/regions/africa/remembering-a-forgotten-war-united-states-policy-options-to-resolve-sudans-civil-war/> [<https://perma.cc/2LM3-P9WS>]. Hempel states that Iran supplied the SAF with Mohajer-6 drones and tried to strike a deal to build a naval base at the port on the Red Sea—the port construction deal failed. *Id.* Hempel advocates that the potential for Iran’s influence over Sudan could adversely impact the United States’s attempts to protect maritime traffic in the Red Sea and regional stability. *Id.*

194. Renad Mansour & Ahmed Soliman, *How a Transnational Approach Can Better Manage the Conflict in Sudan*, CHATHAM HOUSE (Jan. 3, 2024), <https://www.chathamhouse.org/2023/12/how-transnational-approach-can-better-manage-conflict-sudan> [<https://perma.cc/3SFQ-DVCV>].

195. Hempel, *supra* note 193.

196. Marsden, *supra* note 184; see also Mansour & Soliman, *supra* note 194 (publishing that “Sudan is now the country with the largest number of displaced people in the world—more than 11 million people.”) See also Jan Egeland, *War in Sudan Displaces over 500,000 to South Sudan*, NORWEGIAN REFUGEE COUNCIL (Jan. 29, 2024), <https://www.nrc.no/news/2024/january/sudan-refugees-to-south-sudan> [<https://perma.cc/YMY3-9BBH>] (stating that “we are appalled by the global inaction as countless defenseless civilians are killed and displaced within and from Sudan. We witness a total disregard for civilian life and heinous atrocities committed by the parties of the conflict . . . We cannot look away while unspeakable violations are taking place in Sudan and neighbouring countries shoulder a burden they cannot bear.”).

197. GOAL, *Two Years On: Sudan’s Forgotten War Escalates into the World’s Largest Displacement and Humanitarian Crisis* (Apr. 13, 2025), <https://www.goalglobal.org/stories/two-years-on-sudans-forgotten-war-escalates-into-the-worlds-largest-displacement-and-humanitarian-crisis> [<https://perma.cc/4UD8-9SHE>].

198. Robert Bociaga, *Sudan’s Drone War: Can They Turn the Tide?*, ARAB NEWS (June 17, 2023), <https://www.arabnews.com/node/232321/middle-east> [<https://perma.cc/3DDU-AMY5>].

strikes.¹⁹⁹ In turn, the RSF increased their drone targets and “civilians are frequently caught in the middle.”²⁰⁰ In May 2024, the president of Doctors Without Borders reported that civilians were unable to access healthcare.²⁰¹ By August 2024, there were more than 20,000 fatalities in Sudan, most occurring in Khartoum and North Darfur.²⁰² What is notable is the reach and threat of drone warfare when they are used to target military bases, government buildings, and gatherings.²⁰³ “Sudan had previously manufactured weapons with the help of Iran, and had repurposed drones already in its possession to make them more effective during the war.”²⁰⁴ By October 2024, both the SAF and RSF operated loitering drones in swarms.²⁰⁵

Although the United States sanctioned the Russian and Sudanese companies Aviatrade and GSK Advance, Egypt and the UAE have been backing opposite sides and co-facilitated diplomatic talks in January 2024 along with the United States, Saudi Arabia, and Bahrain.²⁰⁶ “In its pursuit to control the supply chain of gold, the RSF has extended its economic operations beyond Sudan’s borders, selling primarily to the [UAE],” which consequently became a key supporter.²⁰⁷ The SAF has support from Port Sudan taxes on exports and imports and income from sales of gold and livestock to Egypt, Qatar, and Turkey.²⁰⁸ Further, there is an incentive for the war to continue because both sides are profiting from the sale of looted goods and smuggling.²⁰⁹ Smuggled Sudanese gold has predominantly been transported to Egypt and the

199. Khalid Abdelaziz et al., *Sudan Civil War: Are Iranian Drones Helping the Army Gain Ground?*, REUTERS (Apr. 10, 2024), <https://www.reuters.com/world/middle-east/are-iranian-drones-turning-tide-sudans-civil-war-2024-04-10/> [https://perma.cc/9H56-9SBU].

200. *Iranian Drones Add to Lethality of Sudanese Civil War*, AFR. DEF. F. (Apr. 30, 2024), <https://adf-magazine.com/2024/04/iranian-drones-add-to-lethality-of-sudanese-civil-war/#:~:text=Drones%20have%20been%20a%20consistent,the%20addition%20of%20Iranian%20technology> [https://perma.cc/PA7P-VE64].

201. Yosufzai, *supra* note 33. (reporting about the president of Doctors Without Borders’s experience with lawlessness in Sudan, such as when a patient was shot while being operated on by a doctor).

202. *Drone Warfare Reaches Deeper*, *supra* note 47.

203. *Id.*

204. Abdelaziz et al., *supra* note 199.

205. MILITARY AFR., *Swarm Drones: A New Phase in the Sudan Conflict*, (Sep. 29, 2025), <https://www.military.africa/2024/10/swarm-drones-a-new-phase-in-the-sudan-conflict/> [https://perma.cc/3VR8-SZGP].

206. Marsden, *supra* note 184; U.S. DEP’T OF THE TREASURY, *Treasury Designates Entities and Individual Exacerbating Sudan’s Instability* (Sep. 28, 2023), <https://home.treasury.gov/news/press-releases/jy1769> [https://perma.cc/LQY4-HVRM].

207. Mansour & Soliman, *supra* note 194.

208. *Id.*; see *infra* tbl. 1

209. Amin & Rickett, *supra* note 185.

UAE.²¹⁰ Chatham House research fellows Renad Mansour and Ahmed Soliman assert that these countries seem distant but have stakes in this war and can fuel conflict; for example, the UAE and Qatar are rivals.²¹¹ Mansour and Soliman advocate that more country advisors and experts should be involved in analyzing this war.²¹² While Egypt was involved in the January 2024 talks, Mansour and Soliman advocate that Egypt should be involved alongside the Horn of Africa, Turkey and Iran.²¹³ So, gathering input from all the important transnational actors is important. In March 2024, the UN Security Council adopted a UK drafted resolution calling for an immediate cessation of hostilities in Sudan during the month of Ramadan.²¹⁴ The UN Security Council was joined by the UN Secretary-General, the African Union, and the League of Arab States to increase pressure on the warring parties.²¹⁵ However, the SAF signaled it would not cease fire unless the RSF agreed to withdraw.²¹⁶ The war is still well underway.

Table 1. SAF and RSF supporters.

Sudan Armed Forces (SAF)	Rapid Support Forces (RSF)
Egypt	Russian Aviatrade
Turkey	Sudanese GSK Advance
Iran	
Qatar	UA

2. Supply Chain Disruptions

While efforts to secure a peace deal and offer interim support to civilians continue, hurdles in Sudan’s supply chain further complicate the situation. By January 2024, more than 500,000 people fled to South Sudan from the war in Sudan.²¹⁷ At the time of this Article, South Sudan had nine million people in need of humanitarian aid.²¹⁸ “Decades of conflict in South Sudan have made the country one of the most logistically challenging environments supported by the USAID Global Health Supply Chain Program—Procurement and Supply Management [GHSC – PSM] project.”²¹⁹ In 2020, this program reported that the environment

210. Hempel, *supra* note 193.
211. Mansour & Soliman, *supra* note 194.
212. *Id.*
213. *Id.*
214. Marsden, *supra* note 184.
215. *Id.*
216. Abdelaziz & Lewis, *supra* note 188.
217. Egeland, *supra* note 196.
218. *Id.*
219. *Practical Solutions to Complex Supply Chain Challenges Make a Big Impact in*

lacks a fully functional central warehouse, has weak infrastructure, and has low local staff capacity.²²⁰ Fortunately, the GHSC – PSM was able to open a call center to collect data on the visibility of donor commodity deliveries and identify supply risks, both with the goal of achieving uninterrupted access to medicines.²²¹ However, a 2025 USAID funding freeze by the current U.S. federal administration has had a “devastating impact on Sudan humanitarian response.”²²²

The Integrated Food Security Phase Classification (IPC) is a tool used to classify the severity and magnitude of food insecurity and malnutrition.²²³ IPC Phase 3 indicates a crisis situation.²²⁴ Despite this progress, by July 2024 an estimated 7.1 million people in South Sudan were estimated to face IPC Phase 3 malnutrition.²²⁵ Further, donations were cut by 40–50 percent due to rising needs elsewhere globally.²²⁶ In addition, due to the Russia/Ukraine war, South Sudan experienced soaring food and fuel prices.²²⁷ With regard to supply chains, there is severe damage to agricultural grain production and trade, both contributing to the food crisis.²²⁸ Further, according to the UN’s Food and Agriculture Organization in Sudan, “livestock owners are facing a severe shortage of vaccines and medications which directly stems from the destruction of the country’s vaccine manufacturing capacity as well as the

South Sudan, U.S. GOV’T GLOB. HEALTH SUPPLY CHAIN PROGRAM (Jan. 24, 2020), <https://www.ghsupplychain.org/news/practical-solutions-complex-supply-chain-challenges-make-big-impact-south-sudan> [<https://perma.cc/U74H-B36L>].

220. *Id.*

221. *Id.*

222. *Brief: Sudan Crisis: US Funding Freeze Devastating Impact*, SUDANESE WOMEN RTS. ACTION (Feb. 4, 2025), <https://suwra.org/blog/2025/02/04/brief-sudan-crisis-us-funding-freeze-devastating-impact/> [<https://perma.cc/JH4R-7VD9>]; *see also* ASSESSMENT CAPACITIES PROJECTS, SUDAN] IMPLICATIONS OF THE US AID FUNDING CUTS (Mar. 13, 2025), https://www.acaps.org/fileadmin/Data_Product/Main_media/20250313_ACAPS_Implications_of_the_USAID_freeze_in_Sudan_.pdf.

223. *IPC Overview and Classification System*, INTEGRATED FOOD SEC. PHASE CLASSIFICATION, <https://www.ipcinfo.org/ipcinfo-website/ipc-overview-and-classification-system/en/> [<https://perma.cc/7XHB-J7RD>].

224. *Id.*

225. Egeland, *supra* note 196; *see also* Abdelaziz & Lewis, *supra* note 188 (reporting that the charity Save the Children estimates that 220,000 severely malnourished children and over 7,000 mothers could die unless there is more funding for humanitarian relief).

226. Egeland, *supra* note 196.

227. Benjamin Takpiny, *South Sudan Grapples with Spiraling Food Prices Due to Ukraine War*, ANADOLU AJANSI NEWS (Nov. 8, 2022), <https://www.aa.com.tr/en/middle-east/south-sudan-grapples-with-spiraling-food-prices-due-to-ukraine-war/2659163> [<https://perma.cc/H7TV-DQN3>]; *see also* AFRICANEWS & CGTN, *Sudan: As Fighting Rages, Food Kitchens Barely Maintain Supply*, AFRICANEWS (Oct. 21, 2024), <https://www.africanews.com/2024/10/21/sudan-as-fighting-rages-food-kitchens-barely-maintain-supply/> [<https://perma.cc/J65M-7T9E>].

228. AFRICANEWS & CGTN, *supra* note 227.

significant damage inflicted upon the veterinary drug supply chain. Failure to address these issues could result in deteriorating livestock conditions, leading to heightened mortality rates and reduced income for livestock owners.”²²⁹

In the Sudanese Forgotten War, there have been drone attacks on critical infrastructure, including power stations, fuel depots, the Merowe hydroelectric dam, and water stations.²³⁰ These attacks disrupt electrical supply, which is vital for irrigation, grain storage, and transport logistics—essential components of agricultural productivity and trade.²³¹ It is estimated that 17 to 18 people could have been fed for one year from the 2.6 million metric tons of sorghum and millet in lost production.²³² In addition, fighting spread into food-producing farmlands in central and southeastern Sudan, forcing many agricultural workers from their homes.²³³ In particular, the RSF’s interruption of the grain trade and agricultural supply chains resulted in “soaring prices of agricultural machinery, fertilizers, seeds, and insufficient agricultural production inputs, ultimately leading to a significant reduction in agricultural output.”²³⁴

In summary, South Sudan faces overwhelming humanitarian strain as people fleeing the war in Sudan have entered a country already struggling with weak infrastructure, limited supplychain capacity, and nine million residents in need of *aid*. USAID’s GHSC – PSM program has attempted to stabilize medical supply flows, but a U.S. funding freeze and global donation cuts have severely undermined relief efforts. Food insecurity has escalated sharply, with people reaching IPC Phase 3 crisis levels amid soaring prices, damaged agricultural production, and shortages of livestock vaccines and medications. Ongoing attacks on critical infrastructure and disruptions to grain trade and farming have

229. FOOD AND AGRIC. ORG. (FAO) U.N., THE SUDAN| IMPACT OF SHOCKS ON LIVESTOCK INPUTS, FOOD SUPPLY CHAINS AND LIVESTOCK LIVELIHOODS (July 2024), <https://openknowledge.fao.org/server/api/core/bitstreams/4897ce09-eb28-4a1f-b274-3ab5173f4163/content> [<https://perma.cc/Y89C-FSV3>].

230. SUDAN TRIB., *Drone Attacks Reshape Sudan War, Targeting Infrastructure and Civilians*, (Apr. 17, 2025), https://sudantribune.com/article/299867#google_vignette [<https://perma.cc/R3EM-SSST>].

231. See FAO U.N., SUDAN| DAMAGE AND LOSS IN THE AGRICULTURAL SECTOR: PRELIMINARY ANALYSIS APRIL 2023–MARCH 2024 (Dec. 9, 2024), <https://data.unhcr.org/en/documents/details/113042> [<https://perma.cc/KVW4-BTHS>].

232. *Id.*

233. Reuters, *Prolonged Conflict Worsens Food Crisis in Sudan*, SABC: NEWS (Aug. 11, 2024, 11:40 SAST), <https://www.sabcnews.com/sabcnews/prolonged-conflict-worsens-food-crisis-in-sudan/> [<https://perma.cc/UL8J-W5VW>].

234. *Id.*

further reduced food output, deepening the crisis and driving up the cost of essential agricultural inputs.

In summary, the wars in Israel/Palestine, Russia/Ukraine, and Sudan are having devastating humanitarian impacts. The use of drones exacerbates threats to civilians in all three war zones and incite supply chain disruptions, causing adverse impacts regionally and globally. Thus, threats to civilians include both humanitarian rights violations and supply chain disruptions. Next, related to the international prohibitions against crimes against humanity, genocide, and excessive use of force, Part III discusses *jus cogens* norms. In international law, these norms are used to establish accountability and guide responses to violations of the norms.

II. THE CONCEPT OF *JUS COGENS* NORMS

This Article is a study of human rights violations and business supply chain disruptions caused by drone warfare. With regard to human rights, drone warfare cannot be discussed without the concept of *jus cogens* norms, which are vital in regard to rules of war and related human rights. For human rights violations, the concept of *jus cogens* norms includes prohibitions against slavery, genocide, torture, piracy, and other crimes against humanity.²³⁵ The concept and status of *jus cogens* rules are enshrined in the Vienna Convention on the Law of Treaties 1969 (VCLT), and the international community treats the *jus cogens* norms as fundamental principles of international law.²³⁶ The concept of *jus cogens* is found in Article 53 of the VCLT, which read as follows:

Treaties conflicting with a peremptory norm of general international law (“*jus cogens*”)

[A] peremptory norm of general international law is a norm accepted and recognized by the international community of States as a whole as a norm from which no derogation is permitted and which can be modified only by a subsequent norm of general international law having the same character.²³⁷

The 1863 Lieber Code and the Hague Conventions of 1899 and 1907 played significant roles in shaping the laws of war, particularly regarding the treatment of civilians. The Lieber Code was issued during the American Civil War as a set of instructions for the Union Army;

235. Salahuddin Mahmud & Shafiqur Rahman, *The Concept and Status of Jus Cogens: An Overview*, INT’L J. OF L., Nov. 2017, at 111, 113.

236. *Id.* at 112–13.

237. Vienna Convention on the Law of Treaties, art. 53, May 23, 1969, 8 I.L.M. 679, 1155 U.N.T.S. 331 (entered into force Jan. 27, 1980).

it was one of the first formal codifications of the laws of war and addressed the treatment of prisoners, guerrilla fighters, and civilians.²³⁸ While it permitted harsh measures against irregular combatants,²³⁹ it also emphasized the protection of civilians and prohibited unnecessary destruction and cruelty.²⁴⁰ Prior to World War II and the killing of 30 million civilians, killing civilians was permissible and there were few limitations on what states could do in combat.²⁴¹ The laws of war were still evolving, and their enforcement was inconsistent. The Hague Conventions of 1899 and 1907 were among the first multilateral treaties to regulate warfare. They built upon the principles of the Lieber Code²⁴² and sought to establish rules for the humane treatment of civilians and prisoners of war.²⁴³ The conventions prohibited certain forms of violence, such as the use of poison gas and attacks on undefended towns.²⁴⁴ If civilian casualties were due to military strategies that did not fully adhere to these principles, they were scrutinized.²⁴⁵ While the Hague Conventions set guidelines for protecting civilians, violations still occurred.²⁴⁶

The way *jus cogens* embody and safeguard the fundamental values of the international community is directly tied to the specific content of each norm.²⁴⁷ For example, in 1951, well before the adoption of the 1969 VCLT, the International Court of Justice (ICJ) linked the prohibition of genocide to fundamental values, noting that the prohibition was inspired by the commitment “to condemn and punish genocide as ‘a crime under international law’ involving a denial of the right of existence of entire human groups, a denial which shocks the conscience of

238. See *Instructions for the Government of Armies of the United States in the Field (Lieber Code)*, INT'L HUMANITARIAN L. DATABASES (April 24, 1863), <https://ihl-databases.icrc.org/en/ihl-treaties/liebercode-1863> [https://perma.cc/6UF8-69ZZ].

239. See *id.* at arts. 81–85. (reflecting the harsh stance taken by the Lieber Code toward irregular warfare, emphasizing strict military discipline and deterrence against guerrilla tactics).

240. See, e.g., *id.* at arts. 16, 19, 23, 31, 33–38, 44, 148.

241. Brannen, *supra* note 153.

242. See *id.*

243. See Howard S. Levie, *1907 Hague Convention IV with Respect to the Laws and Customs of War on Land (with Annexed Regulations)*, 60 INT'L L. STUD. 76, 76 (1979), <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1907&context=ils>.

244. See, e.g., TELFORD TAYLOR, *THE ANATOMY OF THE NUREMBERG TRIALS: A PERSONAL MEMOIR* 5 (1992) (describing the use of poison gas in violation of the Declaration (IV, 2) of 1899 and Convention (IV) of the Hague Convention of 1907, which explicitly forbade the use of poison or poisoned weapons).

245. *Id.*

246. *Id.*; see also *History: Looking Back Helps Us Look Forward*, ORG. FOR THE PROHIBITION OF CHEM. WEAPONS, <https://www.opcw.org/about-us/history> [https://perma.cc/6REM-T6P6].

247. *Report of the International Law Commission*, U.N. Doc. A/74/10, ch. V at 151 (2019), <https://legal.un.org/ilc/reports/2019/english/chp5.pdf>.

mankind and results in great losses to humanity, and which is contrary to moral law and to the spirit and aims of the United Nations.”²⁴⁸

The United Nations (UN) prohibited genocide.²⁴⁹ Some examples of prosecutions of war crimes and crimes against humanity were the trials of some Axis leaders at Nuremberg and Tokyo in 1948.²⁵⁰ That year, the UN introduced the Universal Declaration of Human Rights (UDHR).²⁵¹ Next, in 1966, the International Covenant on Civil and Political Rights (ICCPR) was introduced.²⁵² In addition, on December 16, 1966, the United National General Assembly adopted the International Covenant on Economic, Social and Cultural Rights (ICESCR), which entered into force on January 3, 1976.²⁵³ The ICESCR is part of the International Bill of Human Rights, alongside the UDHR and the ICCPR. The ICESCR commits its parties to granting economic, social, and cultural rights to individuals, including labor rights, the right to health, the right to education, and the right to an adequate standard of living.²⁵⁴

All of these covenants have been declared universal norms and are the parts of *jus cogens*.²⁵⁵ During the 1950s and 1960s, the two key aspects of the postwar human rights movement—multilateral conventions and peremptory norms—came together in a significant way, as the UN International Law Commission (ILC) worked on drafting the Vienna Convention on the Law of Treaties of 1969.²⁵⁶ Regarding the relationship between human rights and *jus cogens*, “they inherently possess an extraordinary force of social attraction that has an almost magical character.”²⁵⁷ *Jus cogens*, or peremptory norms of international law, are fundamental principles that cannot be violated or overridden by treaties or agreements. Several articles within the following documents are considered *jus cogens*:

248. Reservations to Convention on Prevention and Punishment of Crime of Genocide, Advisory Opinion, 1951 I.C.J. 15, 23 (May 28), <https://www.icj-cij.org/sites/default/files/case-related/12/012-19510528-ADV-01-00-EN.pdf>.

249. See generally Convention on the Prevention and Punishment of the Crime of Genocide, Dec. 9, 1948, 102 Stat. 3045, 78 U.N.T.S. 277, <https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-prevention-and-punishment-crime-genocide>.

250. Mahmud & Rahman, *supra* note 235, at 113.

251. LAURI HANNIKAINEN, PEREMPTORY NORMS (JUS COGENS) IN INTERNATIONAL LAW: HISTORICAL DEVELOPMENT, CRITERIA, PRESENT STATUS 150 (1988).

252. Evan J. Criddle & Evan Fox-Decent, *A Fiduciary Theory of Jus Cogens*, 34 YALE J. INT’L L. 331, 364 n.124 (2009).

253. See generally International Covenant on Economic, Social and Cultural Rights, Dec. 16, 1966, 6 I.L.M. 360, 993 U.N.T.S. 3, <https://www.ohchr.org/sites/default/files/cescr.pdf>.

254. *Id.*

255. Mahmud & Rahman, *supra* note 235, at 113.

256. *Id.*; Criddle & Fox-Decent, *supra* note 252, at 336.

257. Mahmud & Rahman, *supra* note 235, at 113.

- Convention on the Prevention and Punishment of the Crime of Genocide (1948)
 - Article I: Confirms that genocide is a crime under international law.
 - Article II: Defines genocide and its prohibited acts.
 - Article III: Lists punishable acts related to genocide, including conspiracy and incitement.
 - Article IV: Establishes accountability for genocide, regardless of official status.
- UDHR (1948): While the UDHR itself is not legally binding, certain rights within it are considered *jus cogens*, such as:
 - Article 3: Right to life, liberty, and security.
 - Article 5: Prohibition of torture and cruel, inhuman, or degrading treatment.
 - Article 9: Protection against arbitrary arrest, detention, or exile.
- ICCPR (1966)
 - Article 6: Right to life, prohibiting arbitrary deprivation.
 - Article 7: Prohibition of torture and cruel, inhuman, or degrading treatment.
 - Article 8: Prohibition of slavery and servitude.
 - Article 15: No one shall be held guilty for acts that were not crimes at the time they were committed.
- ICESCR (1966): While economic and social rights are generally not considered *jus cogens*, some principles have been argued to hold preemptory status, such as:
 - Article 1: Right to self-determination
 - Article 2: Prohibition of discrimination

In 2004, Pamela J. Stephens, now Professor Emerita of international human rights at Vermont Law School,²⁵⁸ examined the concept of *jus cogens* as a limitation on the enforcement of human rights claims when used in U.S. domestic court cases.²⁵⁹ Stephens discussed the evolving interpretation of *jus cogens* norms in federal courts, particularly under the Alien Tort Claims Act (ATCA).²⁶⁰ The ATCA at 28 U.S.C. § 1350 gives U.S. federal district courts original jurisdiction over any civil action where an alien sues for a tort that violates the

258. Pamela J. Stephens, *A Categorical Approach to Human Rights Claims: Jus Cogens as a Limitation on Enforcement?*, 22 WIS. INT'L L.J. 245 (2004).

259. See generally *id.*

260. *Id.* at 256–65.

law of nations or a U.S. treaty.²⁶¹ Thus, it is a statutory instrument for gaining jurisdiction over violations of international law.²⁶² Due to misunderstandings of international law and misapplications of *jus cogens* in U.S. domestic law,²⁶³ Professor Stephens raised the issue of whether a *jus cogens* violation is necessary to state a claim under the ATCA, finding that, from the district court decision in *Doe v. Unocal*, it is not necessary.²⁶⁴

The UN Charter prohibits the use of force between states.²⁶⁵ In 2007, Ulf Linderfalk, professor of law at Lund University, explored the far-reaching implications of *jus cogens* norms in international law.²⁶⁶ Professor Linderfalk echoed Professor Stephens's sentiments, stating that *jus cogens* is a perplexing concept that is—perhaps incorrectly—assumed to be known by legal practitioners when it is not.²⁶⁷ He argued that the concept of *jus cogens*, while powerful, has consequences that were not fully anticipated by its creators.²⁶⁸ Linderfalk pointed out that since *jus cogens* norms lack limits on what content is included, applying it can conflict with other international laws.²⁶⁹ For example, if *jus*

261. CORNELL L. SCH. LEGAL INFO. INST., *Alien Tort Statute* [hereinafter *Alien Tort Statute*] https://www.law.cornell.edu/wex/alien_tort_statute [<https://perma.cc/N23W-5PG4>]. Note that during the 1980s and 1990s, courts expanded Alien Tort Claims Act's (ATCA) authority, allowing foreign plaintiffs to sue individuals and corporations for human rights violations committed outside the United States, as seen in cases like *Filártiga v. Peña-Irala* (1980) and *Wiwa v. Royal Dutch Petroleum* (1995), see ENCYC. BRITANNICA, *Alien Tort Claims Act*, <https://www.britannica.com/topic/Alien-Tort-Claims-Act> (last visited Feb. 12, 2026). However, in *Sosa v. Alvarez-Machain* (2004), the U.S. Supreme Court ruled that the ATCA could only be applied to violations of well-defined and universally recognized international norms, significantly limiting its scope, see Anthony J. Sebok, *The Supreme Court Confronts the Alien Tort Claims Act: Should the Court Gut the Law, as the Administration Suggests?*, FINDLAW (Mar. 22, 2004), <https://supreme.findlaw.com/legal-commentary/the-supreme-court-confronts-the-alien-tort-claims-act.html> (last visited Feb. 12, 2026). Further restrictions came with *Kiobel v. Royal Dutch Petroleum* (2013), where the Court held that the ATCA does not apply to cases without a strong connection to the United States, making it difficult for foreign plaintiffs to sue corporations for overseas abuses, see generally *Kiobel v. Royal Dutch Petroleum Co.*, 569 U.S. 108 (2013). Finally, in *Jesner v. Arab Bank* (2018) and *Nestle USA, Inc. v. Doe* (2021), the Court ruled that foreign corporations cannot be sued under the ATCA, effectively making it impossible to use the statute for human rights litigation, see generally *Jesner v. Arab Bank, PLC*, 584 U.S. 241 (2018); *Nestle USA, Inc. v. Doe*, 593 U.S. 628 (2021).

262. *Alien Tort Statute*, *supra* note 261.

263. Stephens, *supra* note 258, at 271–72.

264. *Id.* at 259, 265, 271–72.

265. Brannen, *supra* note 153. In this podcast interview, Professor Oona Hathaway explains that the UN Charter has been successful because the number of wars between states has gone down significantly since World War II. *Id.*

266. See generally Ulf Linderfalk, *The Effect of Jus Cogens Norms: Whoever Opened Pandora's Box, Did You Ever Think About the Consequences?*, 18 EUR J. INT'L L. 853 (2007).

267. *Id.* at 854.

268. *Id.* at 855 (stating that it is not clear what content is included in the *jus cogens* norms).

269. See *id.* at 860–62. Linderfalk questioned how to apply *jus cogens* to the UN Charter

cogens includes the principle of non-use of force, this could conflict with a UN member state's use of self-defense or with a UN Security Council decision to use force in order to achieve peace and security.²⁷⁰ Linderfalk states that the amount of force that does not conflict with a treaty is not clear and that the enforcement of *jus cogens* needs limitations.²⁷¹

In 2020, Dire Tladi, professor of international law at the University of Pretoria and a judge at the ICJ,²⁷² pondered the concept of *jus cogens* norms. He discussed the legal consequences of recognizing crimes against humanity as peremptory norms (*jus cogens*) of general international law, stating that *jus cogens* are now mainstream.²⁷³ He highlighted the ILC's adoption of the texts affirming the *jus cogens* norm which prohibits crimes against humanity,²⁷⁴ though these texts did not address the issue of a state claiming immunity and amnesties.²⁷⁵ Judge Tladi advocates that these texts could have addressed this issue.²⁷⁶ Tladi argues that recognizing crimes against humanity as a *jus cogens* norm challenges the traditional concept of state immunity, as these norms are considered non-derogable and binding on all states.²⁷⁷ This recognition implies that individuals responsible for such crimes cannot claim immunity from prosecution, and states have an obligation to prosecute or extradite those accused of committing these crimes.²⁷⁸

Article 2(4), which states that members shall refrain from use of force and, if they do use force, whether a member would be in violation of *jus cogens*, see U.N. Charter art. 2, ¶ 4. Linderfalk compares this non-use of force norm to UN Charter Article 42 which states that the UN Security Council can decide to take action by air, sea, or land forces as may be necessary to maintain or restore international peace and security. Linderfalk, *supra* note 266, at 860–62. Linderfalk seems to argue that given these contradictions in the UN Charter, it is difficult to know when a member is in violation of *jus cogens*. *Id.* Note that there is a legal analysis for establishing whether a norm is *jus cogens*, see *Report of the International Law Commission*, U.N. Doc. A/77/10, ch. IV (2022), <https://legal.un.org/ilc/reports/2022/english/chp4.pdf>.

270. Linderfalk, *supra* note 266, at 859–61, 863.

271. *Id.* at 867–71.

272. Professor Dire Tladi: *South Africa's Candidate for Election to the International Court of Justice*, DEP'T OF INT'L RELS. & COOP. (S. Afr.), <https://www.dirco.gov.za/wp-content/uploads/2023/06/PROFESSOR-DIRE-TLADI-Digital2.pdf>.

273. Dire Tladi, *Crimes Against Humanity as a Peremptory Norm of General International Law (Jus Cogens): There Really Is No Doubt! But So What?*, 2020 AFR. Y.B. INT'L HUMANITARIAN L. 1, 4 (2020).

274. *Id.* at 2. The texts Judge Tladi references are the Draft Articles on the Prevention and Punishment of Crimes Against Humanity (A/74/10) and the Annex to the Draft Conclusions on Peremptory Norms of General International Law (*Jus Cogens*) in the ILC's 2019 Report of the International Law Commission, Seventy-First Session, General Assembly (A/74/10).

275. *Id.* at 3, 11–14.

276. *Id.* at 14.

277. *Id.* at 3–4, 12–13.

278. *Id.* at 13.

The International Criminal Court (ICC) has consistently ruled that heads of state and government cannot claim immunity for crimes such as genocide, war crimes, and crimes against humanity, reinforcing the principle that rank does not shield individuals from accountability. Some key cases include the prosecution of Sudanese President Omar Al-Bashir for his crimes in Sudan, in which the ICC issued arrest warrants for his arrest in 2009 and 2010 for genocide, war crimes, and crimes against humanity in Darfur.²⁷⁹ The court ruled that sitting heads of state are not immune from prosecution, and ICC member states were obligated to arrest him despite his official position.²⁸⁰

In addition, in 2023, the ICC issued an arrest warrant for Russian President Vladimir Putin for alleged war crimes related to the deportation of Ukrainian children.²⁸¹ Despite Russia not being a party to the Rome Statute, the ICC reaffirmed that head-of-state immunity does not apply to international crimes.²⁸² Further, in 2024, the ICC issued an arrest warrant for Israeli Prime Minister Benjamin Netanyahu and former Defense Minister Yoav Gallant for alleged war crimes and crimes against humanity in Gaza.²⁸³ The ICC's Pre-Trial Chamber I ruled that official capacity does not exempt individuals from criminal responsibility.²⁸⁴ The ICC's stance aligns with Nuremberg Principle III, which affirms that individuals cannot escape responsibility for international crimes based on their official position.²⁸⁵ Some legal scholars argue that the ICC's rejection of immunity challenges traditional notions

279. Prosecutor v. Al-Bashir, ICC-02/05-01/09-3, Situation in Darfur, Sudan, ¶ 237 (Mar. 4, 2009), https://www.icc-cpi.int/sites/default/files/CourtRecords/CR2009_01517.PDF (on file with author).

280. *Id.*

281. Prosecutor v. Putin, ICC01/22-90, Decision on the Prosecutor's Application for Warrants of Arrest, ¶ 1 (Oct. 24, 2024), <https://www.icc-cpi.int/sites/default/files/CourtRecords/0902ebd1809d1971.pdf> (on file with author). This document notes that President Putin's arrest warrant is secret. *Id.* In addition, see *Situation in Ukraine: ICC Judges Issue Arrest Warrants Against Vladimir Vladimirovich Putin and Maria Alekseyevna Lvova-Belova*, INT'L CRIM. CT. (Mar. 17, 2023), <https://www.icc-cpi.int/news/situation-ukraine-icc-judges-issue-arrest-warrants-against-vladimir-vladimirovich-putin-and> (last visited Feb. 12, 2026).

282. *Prosecutor v. Putin*, ICC-01/22-90 at ¶ 27.

283. Prosecutor v. Netanyahu, ICC-01/18-374, Situation in the State of Palestine, ¶ 6 (Nov. 21, 2024), <https://www.icc-cpi.int/sites/default/files/CourtRecords/0902ebd180a0ebd8.pdf> (on file with author). See also UN NEWS, *ICC Issues Arrest Warrants for Netanyahu, Gallant and Hamas Commander* (Nov. 21, 2024), <https://news.un.org/en/story/2024/11/1157286> [<https://perma.cc/KA7N-26HZ>].

284. See generally *Prosecutor v. Netanyahu*, ICC-01/18-374.

285. See Chile Eboe-Osuji, *The Absolute Clarity of International Legal Practice's Rejection of Immunity Before International Criminal Courts*, JUST SEC. (Dec. 8, 2022) (citing *Principles of International Law Recognized in the Charter of the Nürnberg Tribunal and in the Judgment of the Tribunal*, U.N. Doc. A/1316 (1950), reprinted in [1950] 2 Y.B. Int'l L. Comm'n 374, ¶ 97, U.N. Doc. A/CN.4/SER.A/1950/Add.1).

of sovereignty and diplomatic protection, creating tensions between international justice and state interests.²⁸⁶

Also based in South Africa, Melissa Hendrickse, a legal adviser at the International Secretariat of Amnesty International, published her opinions about the ILC's Draft Articles on Prevention and Punishment of Crimes Against Humanity.²⁸⁷ Hendrickse wrote that, in light of conflicts in Ukraine, Israel and occupied Palestinian territories, Ethiopia, Myanmar, Venezuela, and China, "[t]he need for an international treaty that offers new possibilities for both preventing crimes against humanity and ensuring justice, truth and reparation for victims remains as urgent as ever."²⁸⁸ She also stated that the prohibition of crimes against humanity constituting a *jus cogens* norm was recognized in the 2019 Draft Articles.²⁸⁹

In addition, Law for Palestine, a nonprofit human rights organization of young professionals, has a mission to address gaps in the application of international law to the question of Palestine, namely how to support the Palestinian people in realizing their inalienable right to self-determination.²⁹⁰ In 2024, Law for Palestine held the ICJ's Advisory Opinion that reaffirms the right to self-determination as a *jus cogens* norm as binding on all states, providing a legal foundation for unseating Israel's government from the UN General Assembly due to its violations of Palestinian self-determination.²⁹¹ The ICJ Advisory

286. See Chile Eboe-Osuji, *supra* note 285. While Eboe-Osuji supports the ICC's rejection of immunity, he argues that the rejection of immunity has been applied in court hearings since post-World War II and has been supported by prominent legal scholars. *Id.* One scholar states that the African Union is a vociferous critic of the ICC's rejection of immunity for heads of state. See generally Christa-Gaye Kerr, *Sovereign Immunity, the AU, and the ICC: Legitimacy Undermined*, 41 MICH. J. INT'L L. 195 (2020). Kerr argues that one solution is for the ICC to distance itself from the UN Security Council (UNSC) and the perception of Western influence. *Id.*

287. Note that the draft states that it was "adopted by the [ILC] in 2019 already." Melissa Hendrickse, *Closing a Legal Gap on Crimes Against Humanity*, OPINIO JURIS (Apr. 16, 2023), <https://opiniojuris.org/2023/04/16/closing-a-legal-gap-on-crimes-against-humanity/> [<https://perma.cc/2K27-PWTC>]. See also *Draft Articles on Prevention and Punishment of Crimes Against Humanity*, 71 U.N. GAOR Supp. No. 10 at 1, U.N. Doc. A/74/10 (2019) ("[a]dopted by the International Law Commission at its seventy-first session, in 2019, and submitted to the General Assembly as a part of the Commission's report covering the work of that session (A/74/10). The report will appear in *Yearbook of the International Law Commission, 2019*, vol. II, Part Two.").

288. *Id.*

289. *Id.*

290. L. FOR PALESTINE, *About Us*, <https://law4palestine.org/about-us/> [<https://perma.cc/RP8B-92H9>].

291. L. FOR PALESTINE, *Preparatory Material* | *The International Court of Justice Advisory Opinion on Israel in Action: Reconstituting Apartheid Frameworks, Unseating from the UNGA and Enforcing State Accountability*, (Dec. 16, 2024), <https://law4palestine.org/preparatory-material-the-international-court-of-justice-advisory-opinion-on-israel-in-action-reconstituting-apartheid-frameworks-unseating-from-the-unga-and-enforcing-state-accountability/> [<https://perma.cc/2K27-PWTC>].

Opinion addressed concerns about politicization and conflicts with the UN Charter regarding denial of self-determination.²⁹² Article 5 of the UN Charter states that if a member of the UN is subjected to preventive or enforcement action by the UN Security Council, they may be suspended “from the exercise of the rights and privileges of membership by the General Assembly upon the recommendation of the Security Council.”²⁹³ Article 6 states that if a member persistently violates principles of the UN Charter, they may be expelled with the recommendation of the Security Council.²⁹⁴

In May 2024, Yale University international law Professor Oona Hathaway participated in an interview with Kate Brannen, Deputy Editor of *Foreign Affairs*, shedding light on how international law has broken down in Gaza.²⁹⁵ Professor Hathaway discussed how there has been a breakdown in the law of war in Gaza, with Hamas violating international law with its October 7 attack and Israel violating international law with its response.²⁹⁶ Why is Israel defending itself by using

perma.cc/VF27-S923]; see generally Policies and Practices of Israel in the Occupied Palestinian Territory, 2024 I.C.J., *supra* note 74.

292. For an English language summary of materials prepared for a webinar hosted by the organization Law for Palestine, see L. FOR PALESTINE, *supra* note 291. Regarding the issue of self-determination, see Rabea Eghbariah, *Toward the Nakba as a Legal Concept*, 124 COLUMBIA L. REV. 939, 940–41 (2024) (discussing how the absence of self-determination and Israel’s desire to control Palestinian land adversely impacts Palestinian life). Please note that the Arabic word “Nakba” means catastrophe. See also Jonathan Guyer, *Why Are America’s Elite Universities So Afraid of This Scholar’s Paper?*, GUARDIAN (June 9, 2024), <https://www.theguardian.com/world/article/2024/jun/09/columbia-law-review-rabea-eghbariah-palestine-censorship-controversy> [<https://perma.cc/EX8N-TT8E>] (interviewing Eghbariah regarding censorship of his research).

293. UNITED NATIONS, *Repertory of Practice of United Nations Organs: Charter of the United Nations*, ch. II, art. 5, (1954), <https://legal.un.org/repertory/art5.shtml> [<https://perma.cc/39XN-LKFK>].

294. UNITED NATIONS, *Repertory of Practice of United Nations Organs: Charter of the United Nations*, ch. II, art. 6, (1954), <https://legal.un.org/repertory/art6.shtml> [<https://perma.cc/NJ5Q-NGA2>].

295. See generally Brannen, *supra* note 153.

296. *Id.* Also note that prior to October 7, 2023, several international humanitarian laws (IHL), international laws, international human rights laws (IHRL), and international criminal laws applied to Israel. *Id.* These laws include: (1) The Fourth Geneva Convention of 1949: governing the treatment of civilians in occupied territories and prohibiting forced displacement, collective punishment, and destruction of property; (2) The Hague Regulations of 1907: outlining the responsibilities of occupying powers, including maintaining public order; and (3) customary IHL rules: including the prohibition of targeting civilians and the obligation to ensure humanitarian access. *Id.* In the IHRL arena, there is: (1) the International Committee of the Red Cross (ICRC), which affirmed that Israel remains bound to human rights obligations in the Occupied Palestinian Territory, including protections against arbitrary detention, and that Israel has a presence in the West Bank and East Jerusalem, prohibiting annexation laws; and (2) Article 49(6) of the Fourth Geneva Convention, specifically prohibiting the transfer of an occupying power’s civilian population into occupied territory—which has been a point of contention. *Id.* The ICRC has stated that unilateral annexations, such as Israel’s annexation of East Jerusalem, do not change the legal

drones and bombs in Gaza outside of its sovereign territory? Israel claims that its tactics are the same as those used by the United States in response to the 9/11 attacks.²⁹⁷ Professor Hathaway teaches that the U.S. response to 9/11 weakened the international law of wars.²⁹⁸ The UN Charter permits self-defense under Article 51.²⁹⁹ She explains that there has been a concerted effort to expand the idea of self-defense:

[L]ed by the United States, lots of states are claiming the right to act in self-defense against nonstate actor groups, which are almost always located outside their own territory. And so that initiates this whole flood of these conflicts, with states acting outside their own territory against nonstate actor groups located abroad.³⁰⁰

What is troublesome to *jus cogens* norms is that Israel seems to be violating the principles of proportionality and distinction. They are not to intentionally target civilians. While Israel says they target Hamas,³⁰¹ Hamas may be in the same location as an innocent civilian, co-located in an apartment, tent encampment, or hospital. On a strike-by-strike basis, in a proportionality assessment, Israel is supposed to ask itself if targeting one Hamas combatant or a group of them is worth the civilian casualties that will result.³⁰²

Using a system that created target kill lists and deployed dumb bombs without applying the principle of proportionality have killed targets in their homes and wiped out thousands of innocent Palestinians, mostly women and children.³⁰³ Journalist Yuval Abraham's investigation reveals that the system used by Israel provides names with little or no human assessment, review, and control.³⁰⁴ Dumb bombs, which are unguided and lack precision, often strike up to 30 meters (approximately 100 feet) from their intended target, and their reduced accuracy

status of the occupied territory. *Id.* Regarding protection of civilians, the ICRC has condemned attacks against civilians and stressed that such acts violate IHL. *Id.* This reinforces the principle that civilians must be protected. Future research should include a comprehensive investigation on whether Israel complied with these laws prior to October 7 and compare that to the current state of its compliance.

297. *Id.*

298. *Id.*

299. United Nations Gen. Assembly, *Decisions Adopted by the General Assembly During Its Fifty-First Session*, U.N. Doc. A/51/49 (Vol.II) (1997), <https://digitallibrary.un.org/record/233901?v=pdf>.

300. Brannen, *supra* note 153.

301. *Id.*

302. *Id.*

303. Yuval Abraham, "Lavender": The AI Machine Directing Israel's Bombing Spree in Gaza, +972 MAG. (Apr. 3, 2024), <https://www.972mag.com/lavender-ai-israeli-army-gaza/>.

304. *Id.*

significantly increases the likelihood of civilian casualties during unguided bombing operations.³⁰⁵

Abraham also provides evidence of how Brigadier General Y.S.'s 2021 proposed design for the machine processing of massive amounts of data to generate military targets has come to fruition.³⁰⁶ The Israeli army uses an AI-based program called "Lavender" to mark all suspected operatives in Hamas and the Palestinian Islamic Jihad.³⁰⁷ Lavender was trained with data on the 2.3 million residents in Gaza through a system of mass surveillance.³⁰⁸ Individuals' phone numbers and other identifying information was entered into the data training set.³⁰⁹ Individuals are rated on how likely they are a militant.³¹⁰ However, it is 90% accurate.³¹¹

Thus, when the Israeli Defense Forces (IDF) use Lavender, there is the 10% margin of error that even a meticulously deployed drone will kill civilians in close proximity.³¹² The IDF denies using Lavender to incriminate targets, emphasizing their use of it as an auxiliary tool to assist officers in the process of incrimination.³¹³ In addition, the IDF has modified commercial drones to carry explosive payloads for military operations in Gaza.³¹⁴ Israel's use of algorithmic warfare and AI-driven targeting systems in Gaza, with minimal human oversight, highlights the ethical, legal, and strategic challenges associated with military AI.³¹⁵

Israel is an occupying power of the Occupied Palestinian Territory and, thus, has obligations under the laws of belligerent occupation.³¹⁶

305. Menal Elmaliki, *Israel's Use of Dumb Bombs on the Gaza Strip Tells a Different Story, One with an Intent to Kill*, ARAB AM. (Jan. 31, 2024), <https://www.arabamerica.com/israels-use-of-dumb-bombs-on-the-gaza-strip-tells-a-different-story-one-with-an-intent-to-kill/> [https://perma.cc/SU5S-Z3KM].

306. Abraham, *supra* note 303.

307. *Id.*

308. *Id.*

309. *Id.*

310. *Id.*

311. *Id.*

312. *Id.*

313. *Id.*

314. AL JAZERRA, *Israel Retrofitting DJI Commercial Drones to Bomb and Surveil Gaza*, (May 8, 2025), <https://www.aljazeera.com/news/2025/5/8/israel-retrofitting-dji-commercial-drones-to-bomb-and-surveil-gaza> [https://perma.cc/TH32-WRVA].

315. Raluca Csernaton, *Governing Military AI Amid a Geopolitical Minefield*, CARNEGIE ENDOWMENT FOR INT'L PEACE (July 17, 2024), <https://carnegieendowment.org/research/2024/07/governing-military-ai-amid-a-geopolitical-minefield?lang=en¢er=europe> (last visited Feb. 12, 2026).

316. Policies and Practices of Israel in the Occupied Palestinian Territory, 2024 I.C.J. *supra* note 74, at 15; see also Peter S. Konchak, *The Nature and Implications of Israeli Occupation of the Palestinian Territory: Part I*, OPINIO JURIS (Feb. 25, 2025), <https://opiniojuris.org/2025/02/25/the-nature-and-implications-of-israeli-occupation-of-the-palestinian-territory-part-i/> [https://perma.cc/R6B2-JE7U].

The International Committee of the Red Cross has noted that “Israel has the obligation to protect the Palestinian civilian population against settler’s violence and to punish crimes committed against Palestinians.”³¹⁷ Israel has a number of obligations, including: (1) ensuring public order and safety; (2) setting law enforcement standards that assert a gradation on the use of force, limit the use of firearms and other weapons—in accordance to principles of legality, necessity, proportionality, precaution, and accountability—to the most exceptional of circumstances to avoid loss of human life and prevent a further escalation of violence; (3) complying with Article 55 of the Fourth Geneva Convention to ensure that the basic needs of the population of Gaza are met, including: food, medical supplies and other basic goods needed to allow the population to live under adequate material conditions; and (4) complying with Article 27 of the Fourth Geneva Convention which requires unconditional obligation of humane treatment towards the occupied population and respect for the principle of proportionality in all circumstances.³¹⁸ The nature and extent of the restrictions on the flow of goods must be justifiable based on security considerations.³¹⁹

In addition, Professor Hathaway notes that the Geneva Convention rules of war do not address the rise of civil wars.³²⁰ The “Geneva Convention were really not aimed at trying to regulate those kinds of wars.”³²¹ However, in the 1970s, Protocols I and II were written to provide more detailed rules³²²—these apply to the current Sudanese civil war. Professor Hathaway advocates that the United States should not miss the opportunity to lead by example by not supporting violations against humanity that decimate the rules of law.³²³

Next, Part IV discusses just war theory and its criteria, which include the concepts of *jus ad bellum* and *jus in bello*.

317. *What Does the Law Say About the Responsibilities of the Occupying Power in the Occupied Palestinian Territory?*, INT’L COMM. OF THE RED CROSS (July 26, 2024) [hereinafter *Responsibilities of the Occupying Power in the Occupies Palestinian Territory*], <https://www.icrc.org/en/document/ihl-occupying-power-responsibilities-occupied-palestinian-territories> [<https://perma.cc/5UNM-S69G>].

318. *Id.*

319. *Id.*

320. Brannen, *supra* note 153, at 5:24–5:40.

321. *Responsibilities of the Occupying Power in the Occupied Palestinian Territory*, *supra* note 317.

322. *Id.*

323. Brannen, *supra* note 153, at 34:30–35:13.

III. THE CONCEPTS OF *JUS AD BELLUM* AND *JUS IN BELLO*

This Part begins with a brief history of drones and then a description of the Obama administration's drone policies. A critique of the Obama administration's drone policies follows with an application of the just war theory. This theory includes definitions of the concepts of *jus ad bellum* and *jus in bello*.

Drones have been around since 1917; the first that were tested were small radio-controlled aircrafts called Britain's Aerial Target.³²⁴ Modern drones are more lethal, smaller, easier to operate, and more readily available to anyone.³²⁵ The abundance of drone use in the Russia/Ukraine war provides Ukraine with "better battlespace awareness and capability to hit targets."³²⁶ Thus, drone warfare changes the balance of power in air defense. Aforementioned herein, Ukraine has forged a drone supply chain and increased its drone manufacturing.³²⁷ In contrast, due to sanctions against Russian supply chains, Russia has turned to Iran for drones and has partnered with Iran to construct a drone factory in Tatarstan.³²⁸ Given Russia's superior air power, most military analysts expected that Russia would quickly seize control of the airspace early in the Russia/Ukraine war; however, with Western systems, Ukraine was able to repel and deter Russian aircraft.³²⁹

Starlink, owned by SpaceX, has been crucial for Ukraine's military and civilian communications, making its potential shutoff a serious strategic risk.³³⁰ However, Ukraine's heavy dependence on Starlink raises several legal and strategic concerns. Since Starlink is a privately-owned service controlled by SpaceX, its operational decisions (including potential restrictions or service interruptions) are subject to corporate discretion rather than international agreements, creating

324. *A Brief History of Drones*, IMPERIAL WAR MUSEUM, <https://www.iwm.org.uk/history/a-brief-history-of-drones> [https://perma.cc/B62V-4NL3].

325. Julian Nettlefold, *Drone Dangers: Speed, Range, Lethality of Small Attack Drones Massively Improve*, WARRIOR MAVEN, (Nov. 25, 2024), <https://sofrep.com/news/dangers-small-attack-drones-improve/> (last visited Feb. 12, 2026).

326. Thompson, *supra* note 107.

327. Chivers, *supra* note 148.

328. Thompson, *supra* note 107.

329. *Id.*

330. Ariana Baio, U.S. Threatened to Cut Off Musk's Starlink to Ukraine in Mineral Negotiations, Says Report, INDEPENDENT (Feb. 22, 2025), https://www.aol.com/news/u-threatened-cut-off-musk-160644922.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLnMn-vbS8&guce_referrer_sig=AQAAANpdPOvqMtE06wdHJ4wRZztudgA7UroNXloISfSfJBfssm-Sp8Vd_pOrfVAP8p_jVwZX2X6Y8oQ9NX0v4NirmIy4GGXs0s2GP0xmXL1Oh5rB0ncw3yXT-pleQW1aDoAmlJJOilDv23qQFCZC5H5PCTuxaCcdx1KLve7uTS6bZHowH [https://perma.cc/KF9U-HKQC].

vulnerabilities for Ukraine's military and civilian infrastructure.³³¹ The reliance on a single private entity for critical wartime communications exposes Ukraine to geopolitical risks, as SpaceX could limit or withdraw services based on external pressures—such as supply chain disruptions—or business interests.³³² Additionally, the absence of formalized international regulations governing private satellite networks in armed conflicts complicates accountability and legal recourse in the case of disruptions.³³³ In 2025, the United States, under the Trump administration, threatened to cut Ukraine off from Starlink as leverage in negotiations over access to Ukraine's critical minerals.³³⁴

The Obama administration has been blamed for the United States's current drone policies, as it established them.³³⁵ Other countries may well adopt similar policies. In 2012, John Brennan, then assistant to the president for homeland security and counterterrorism, reported that the Obama administration justified the use of remote warfare with drones as an ethical means of combatting terrorism.³³⁶ In 2015, political science scholar Michael J. Boyle published an article stating that the Obama policy had the potential to “lower the traditional barriers to the use of force.”³³⁷ Boyle argued that the novelty of drones arises not just from the technology itself, but from the Obama administration's articulation

331. LVIV HERALD, *Starlink and the Ukrainian Armed Forces: A Political and Legal Analysis*, (Mar. 11, 2025), <https://www.lvivherald.com/post/starlink-and-the-ukrainian-armed-forces-a-political-and-legal-analysis> [https://perma.cc/VTF4-GTZJ].

332. Marek Grzegorzczak, *Ukraine's Starlink Dependency: Satellite Salvation and Strategic Risk*, BEYOND EMERGING EUR. (Mar. 14, 2025), <https://emerging-europe.com/analysis/ukraines-starlink-dependency-satellite-salvation-and-strategic-risk/> [https://perma.cc/PDZ6-NBAF].

333. Roman Kot & Liliana Oleniak, *Europe Instead of Musk: Will Ukraine Be Able to Find Alternative to Starlink*, RBC-UKR. (Apr. 17, 2025), <https://newsukraine.rbc.ua/analytics/europe-instead-of-musk-will-ukraine-be-able-1744879703.html> [https://perma.cc/4HEL-ADL5].

334. Baio, *supra* note 330.

335. Francis N. Okpaleke, *Obama's Drone Wars and US Grand Strategy*, in DRONES AND US GRAND STRATEGY IN THE CONTEMPORARY WORLD 103 (2023); see also *DoD Announces Strategy for Countering Unmanned Systems*, U.S. DEP'T OF WAR (Dec. 5, 2024), <https://www.defense.gov/News/Releases/Release/Article/3986597/dod-announces-strategy-for-countering-unmanned-systems/> [https://perma.cc/6BE8-394G]; *Fact Sheet: Department of Defense Strategy for Countering Unmanned Systems*, U.S. DEP'T OF DEF., <https://media.defense.gov/2024/Dec/05/2003599149/-1/-1/0/FACT-SHEET-STRATEGY-FOR-COUNTERING-UNMANNED-SYSTEMS.PDF>; *Counter-Small Unmanned Aircraft Systems Strategy*, U.S. DEP'T OF DEF., <https://media.defense.gov/2021/Jan/07/2002561080/-1/-1/1/DEPARTMENT-OF-DEFENSE-COUNTER-SMALL-UNMANNED-AIRCRAFT-SYSTEMS-STRATEGY.PDF>.

336. *Transcript of John Brennan on The Efficacy and Ethics of U.S. Counterterrorism Strategy*, WILSON CTR. (Apr. 30, 2012), <https://www.wilsoncenter.org/event/the-efficacy-and-ethics-us-counterterrorism-strategy> [https://perma.cc/Y4FZ-KW8U].

337. Michael J. Boyle, *The Legal and Ethical Implications of Drone Warfare*, INT'L J. HUM. RTS. 105, 105 (2015).

of a presumptive right of anticipatory self-defense.³³⁸ This allows the United States to conduct drone strikes anywhere in the world where al-Qaeda and its allies are present.³³⁹ Additionally, Boyle contends that the thousands of lethal drone strikes conducted since 2001 violate the International Covenant on Civil and Political Rights, particularly the right to life.³⁴⁰ The use of drones and autonomous robots was advocated for to reduce collateral damage in war due to the ability to target strikes; however, there are concerns over how “some states find it too easy to use force today.”³⁴¹

Scholars at the Stimson Center, an international security think tank,³⁴² have raised concerns about the Obama administration’s drone program, arguing that its secrecy may have led to violations of the just war theory principles regarding proportionality, appropriate use of lethal force, and legitimate targeting.³⁴³ In 2017, Shannon Dick, a former Stimson Center research associate,³⁴⁴ believed that the Obama administration may have overstepped principles of the just war theory in that war is to be waged with proportionality, appropriate lethal force decisions, and legitimate targets—rather than innocent civilians.³⁴⁵ Dick states that the Obama administration operated the U.S. drone program with secrecy and a lack of clarity over decisions (i.e., a lack of methods and metrics used to determine appropriateness).³⁴⁶ Dick opined that greater transparency could assure adherence to the just war theory.³⁴⁷ Citing Stimson Center senior associate Rachel Stohl, Dick stated that “greater transparency could lend to the establishment of an appropriate

338. *Id.*

339. *Id.* at 111 (highlighting five new legal and ethical dimensions related to the Obama administration’s drone policy which may lower traditional barriers to the use of force if other actors follow similar practices).

340. *Id.* at 119–20; see also Micah Zenko, *Obama’s Final Drone Strike Data*, COUNCIL ON FOREIGN RELS. (Jan. 20, 2017), <https://www.cfr.org/blog/obamas-final-drone-strike-data> [<https://perma.cc/D2L5-KN67>] (publishing data showing that “542 drone strikes that Obama authorized killed an estimated 3,797 people, including 324 civilians.”) Consider that President Biden was President Obama’s Vice President, potentially lending to some insight into why the Biden administration supported Israel strikes on Palestine.

341. Sagan, *supra* note 44, at 6.

342. HENRY L. STIMSON CTR., *Mission & Vision*, <https://www.stimson.org/about/stimson/mission-vision/> [<https://perma.cc/52YU-WW75>].

343. STIMSON CTR., *THE RECOMMENDATIONS AND REPORT OF THE TASK FORCE ON DRONE POLICY* 9, 19 (2d ed. 2015). See also Boyle, *supra* note 337, at 105, 118, 119, 121.

344. HENRY L. STIMSON CTR., *Shannon Dick*, <https://www.stimson.org/ppi/shannon-dick/> [<https://perma.cc/ECY3-MJA7>].

345. Shannon Dick, *Evaluating the U.S. Drone Program in a Just War Context*, 5 GEO. SEC. STUD. REV. 64, 68 (2017).

346. *Id.*

347. *Id.* at 75.

international standard to guide the use of armed drones in such a way that adheres to [United States] values and interests, particularly as more countries seek to acquire drone technology.”³⁴⁸ Dick describes the just war theory as follows:

The theory is used as a means to differentiate between justifiable and unjustifiable uses of force, and is broadly concerned with two central questions—namely, when is it appropriate to go to war (*jus ad bellum*) and how should wars be fought (*jus in bello*). The theory rests on the notion that even in the most extreme situations of warfare, certain principles should guide countries’ behaviors. More specifically, *jus ad bellum* provides conditions under which countries may resort to the use of force. These conditions include the presence of a proper, responsible authority to make the decision to go to war; a just cause; right intention; a reasonable likelihood of success; and only using force as a last resort . . . and *jus in bello* governs how combatants employ force during war.³⁴⁹

In 2015, Kinga Tibori-Szabo, a former post-doctoral researcher of public international law at the University of Amsterdam,³⁵⁰ analyzed the legality and implications of the United States’s policy on drone usage under the concept of self-defense.³⁵¹ Tibori-Szabo outlined the evolution of the legal concept of self-defense in international law.³⁵² Traditionally, self-defense is justified only in the face of an armed attack;³⁵³ however, recent U.S. policy has stretched this notion. The United States argues that drone strikes are a lawful means of self-defense—both anticipatory and reactive—against non-state actors like terrorist groups.³⁵⁴

348. *Id.*; see also Rachel Stohl, *Drones: A Challenge to the Law of Armed Conflict*, CIPHER BRIEF (Nov. 21, 2016), <https://www.thecipherbrief.com/drones-a-challenge-to-the-law-of-armed-conflict> [<https://perma.cc/2BTM-JZGZ>]; CHRISTOPHER ROGERS, CENTER FOR CIVILIANS IN CONFLICT, CIVILIAN HARM AND CONFLICT IN NORTHWEST PAKISTAN 63 (2010) (stating that terrorist attacks with drones in northwest Pakistan have directly targeted civilians); *Id.* at 82 (stating “[t]he lack of US transparency about the drone program as well as the Pakistani government’s duplicity—public criticism while offering clandestine support—means civilians’ losses are entirely ignored. Civilian victims interviewed by the Center demanded an end to the drone strikes and compensation for their losses.”).

349. Dick, *supra* note 345.

350. ST PHILLIPS BARRISTERS, *Kinga Tibori-Szabo*, https://st-philips.com/our_people/kinga-tibori-szabo/ [<https://perma.cc/SWZ2-799C>] (recording that Dr. Tibori-Szabo is also currently an investigations team leader for the Iraq-based UN Investigative Team to Promote Accountability for Crimes Committed by Da’esh/ISIL).

351. Kinga Tibori-Szabó, *Self-Defence and the United States Policy on Drone Strikes*, 20(3) J. CONFL. & SEC. L. 381, 382–86 (2015).

352. *Id.* at 387.

353. U.N. Charter art. 51.

354. Tibori-Szabó, *supra* note 351, at 385; see also Ben Saul, *Defining Terrorism in International Law*, GLOBALEX (Nov./Dec. 2021), https://www.nyulawglobal.org/globalex/defining_terrorism_international_law.html [<https://perma.cc/5PFP-LMDJ>] (stating that it is important to note that “the international community has repeatedly failed to define [terrorism] as

One of the key issues Tibori-Szabo discusses is the “unwilling or unable” test, which suggests that a state can justify self-defense against non-state actors in another country if the host country is unwilling or unable to prevent the threat themselves.³⁵⁵ Tibori-Szabo scrutinizes this interpretation, arguing that it lacks solid grounding in international law, potentially destabilizing the legal framework governing the use of force.³⁵⁶ Tibori-Szabo further explores the implications of drone strikes for sovereignty and human rights, questioning the proportionality and necessity of these strikes when considering their impact on civilian populations and their frustration of other states’ territorial sovereignty.³⁵⁷

Additionally, Tibori-Szabo emphasizes the geopolitical impact of this policy. She notes that the reliance on drone strikes by the United States can lead to an erosion of international norms and set a dangerous precedent where other countries might adopt similar policies with less restraint,³⁵⁸ echoing Dr. Oona Hathaway’s stance.³⁵⁹ This poses a significant risk to global peace and security, as it can justify increased militarization under the guise of self-defense.³⁶⁰ As an alternative, Tibori-Szabo advocates for strengthening international cooperation to deal with threats posed by non-state actors.³⁶¹ Tibori-Szabo provides a critical perspective on the United States’s drone strike policy: while recognizing the necessity to combat terrorism, she warns against undermining international law and principles of state sovereignty, calling for a balanced approach that upholds both security and international rules of war.³⁶²

In 2015, Michael Stokes Paulsen, distinguished university chair and professor of law at St. Thomas University,³⁶³ explored the constitutional authority of the U.S. President to use drone strikes against U.S. citizens who are deemed active enemy combatants.³⁶⁴ Paulsen argues that the President, as the Commander in Chief, has the plenary power to

a legal category”).

355. Tibori-Szabó, *supra* note 351, at 391–92, 396.

356. *Id.* at 411–12.

357. *Id.* at 398, 402, 408.

358. *Id.* at 412.

359. Brannen, *supra* note 153.

360. Tibori-Szabó, *supra* note 351, at 385, 408–11.

361. *Id.* at 392 (stating that the UN Security Council could be called in if a state is unable to handle a non-state actor’s threats).

362. *Id.* at 386–92.

363. UNIV. OF ST. THOMAS, *Michael Paulsen*, <https://law.stthomas.edu/about/faculty-staff/directory/michael-paulsen/> [https://perma.cc/B6QW-LQR7].

364. See generally Michael Stokes Paulsen, *Drone On: The Commander in Chief Power to Target and Kill Americans*, 38 HARV. J.L. & PUB. POL’Y 43 (2015).

target and kill enemy combatants, regardless of their nationality, during times of constitutionally-authorized war.³⁶⁵ He emphasizes that this power extends to drone technology³⁶⁶ and does not require additional judicial approval or adherence to international law constraints.³⁶⁷ This is contrary to Tibori-Szabo's position.

To illustrate, Paulsen discusses the case of Anwar al-Awlaki, a U.S. citizen and al-Qaeda operational commander who was targeted and killed by a drone strike in Yemen in 2011.³⁶⁸ Paulsen posits that the targeted killing of al-Awlaki was constitutionally valid as it was a lawful measure under the president's war powers.³⁶⁹ Paulsen addresses potential objections—such as violations of due process rights and harm to civil liberties—but maintains that, in wartime, the president's authority permits decisive action against national security threats without adhering to traditional legal procedures.³⁷⁰ In conclusion, Paulsen asserts that the constitutional powers of the president during wartime include the ability to target and eliminate enemy combatants, even if they are U.S. citizens, using modern technologies like drones.³⁷¹ Once used for reconnaissance, rapidly evolving drone usage has targeted enemy combatants since the early 2000s.³⁷² The first successful use as a strategic weapon was by Azeris' offensive in the second Nagorno-Karabakh war, but drones "can be successfully used defensively, too."³⁷³

In 2016, Jaume Saura, professor of international law and international relations at the University of Barcelona³⁷⁴ and former president of the Human Rights Institute of Catalonia,³⁷⁵ examined the legal and ethical ramifications of drones in the context of international law.³⁷⁶ Saura's analysis focuses on the evolving landscape of warfare, human rights, and state sovereignty. Saura begins by defining drones, or unmanned

365. *See generally id.*

366. *See generally id.*

367. *Id.* at 43–44.

368. *Id.* at 44.

369. *Id.*

370. *Id.* at 54–58.

371. *Id.* at 43.

372. Richard Shultz, *How Drones Are Changing Warfare*, FLETCHER SCH. OF L. & DIPL. (Jan. 21, 2025), <https://sites.tufts.edu/hitachi/how-drones-are-changing-warfare/> [<https://perma.cc/B8GZ-WN57>].

373. *Id.*

374. Jaume Saura *Etapà*, UNIV. OF BARCELONA, <https://webgrec.ub.edu/webpages/000002/cat/jsaura.ub.edu.html> [<https://perma.cc/YT32-D3G6>].

375. Jaume Saura, *On the Implications of the Use of Drones in International Law*, 12 J. INT'L L. & INT'L RELS. 120, 120 (2016).

376. *Id.*

aerial vehicles, and outlines their various applications.³⁷⁷ Initially, drones were primarily used for reconnaissance and surveillance.³⁷⁸ However, their role has expanded to include targeted killings and direct combat missions, significantly altering traditional concepts of warfare and combat operations.³⁷⁹

One of the primary legal concerns Saura addresses is the principle of sovereignty.³⁸⁰ Similar to Tibori-Szabo's concern, Saura opines that the use of drones often involves the breach of another state's airspace without explicit consent, violating the international norms and treaties that uphold territorial integrity.³⁸¹ This becomes particularly contentious when drones are used for targeted killings in countries like Pakistan³⁸² and Yemen,³⁸³ where the sovereignty of these states is overtly compromised.³⁸⁴ Furthermore, Saura examines the notion of self-defense and how it is applied to drone strikes, finding that, according to international law, self-defense is justified in response to an imminent armed attack.³⁸⁵ However, the interpretation of what constitutes an "imminent" threat has been broadened to justify preemptive strikes. This raises questions about the proportionality and necessity of using lethal force via drones.³⁸⁶

Saura also delves into the implications for international humanitarian law (IHL) and human rights.³⁸⁷ He emphasizes that drones, like any other weapon, must comply with IHL principles such as distinction, proportionality, and avoidance of civilian harm.³⁸⁸ Nevertheless, drone strikes have often resulted in significant civilian casualties,³⁸⁹ undermining these legal standards and prompting the complaint that a lack of transparency makes scrutiny unfeasible.³⁹⁰ Saura also highlights ethical issues surrounding the use of drones: the relative ease and low risk for the operator have led to concerns about the potential for misuse

377. *Id.* at 122–28.

378. *Id.* at 124–26.

379. *Id.* at 124–32; *see also* Shultz, *supra* note 372.

380. Saura, *supra* note 375, at 132–35.

381. *Id.* at 134–35.

382. *Id.* at 132, 137, 140, 142–48.

383. *Id.* at 137, 145–48.

384. *Id.* at 132.

385. *Id.* at 135–39.

386. *Id.* at 137, 148.

387. *Id.* at 123, 131–48.

388. *Id.* at 142, 149.

389. *Id.* at 129 (stating that, for example, 32% of those killed in Pakistan by drone strikes were civilians).

390. *Id.* at 149.

and the normalization of extrajudicial killings.³⁹¹ Further, the detachment provided by remote operation might desensitize decisionmakers to the human costs of their actions, leading to moral and ethical dilemmas in contemporary warfare.³⁹² In conclusion, Saura calls for stricter adherence to existing laws to ensure that the use of drones in warfare is conducted in a manner consistent with international law and respect for human rights.³⁹³

Further, with regard to *jus in bello* and how wars should be fought, scholar Thompson Chengeta,³⁹⁴ sought to clarify what constitutes “Meaningful Human Control” (MHC) in the context of Autonomous Weapon Systems (AWS).³⁹⁵ Chengeta acknowledges the remote operations of drones, defining AWS as robotic weapons that do not need human intervention.³⁹⁶ As the automation of military technology progresses, there is a growing need to address the legal and ethical concerns surrounding the use of AWS. Chengeta began by acknowledging the historical evolution of control over weapons. Initially, weapons were tools directly controlled by humans. However, advancements in technology, such as drones, have introduced remote control and significantly automated many aspects of weapon operations. The development of AWS poses new challenges, raising concerns about the degree and nature of human control required to ensure accountability.³⁹⁷

Highlighting the concerns raised by various states, non-government organizations, and scholars, Chengeta emphasizes that many scholars urge that there needs to be a legal requirement mandating that MHC be maintained over AWS.³⁹⁸ Chengeta advocates that MHC needs to be defined and is necessary to address accountability issues and ensure that human

391. *Id.* at 126.

392. *Id.* (stating that drone operators might take on a “Playstation mentality to killing”).

393. *Id.* at 150.

394. Thompson Chengeta, UNIV. OF OXFORD, <https://www.law.ox.ac.uk/people/thompson-chengeta> [<https://perma.cc/TP5F-5837>] (reporting that Thompson Chengeta is a fellow in international law at the University of Johannesburg, adjunct senior lecturer at Midlands State University, and a non-resident fellow at the Institute of International and Comparative Law in Africa at the University of Pretoria).

395. Thompson Chengeta, *Defining the Emerging Notion of Meaningful Human Control in Weapon Systems*, 49 N.Y.U. J. INT'L L. & POL. 833, 833 (2017); *see also* U.S. DEP'T OF DEF., DIRECTIVE 3000.09, AUTONOMY IN WEAPON SYSTEMS (DoD 2023) (defining autonomous weapon system as “[a] weapon system that, once activated, can select and engage targets without further intervention by an operator. This includes, but is not limited to, operator-supervised autonomous weapon systems that are designed to allow operators to override operation of the weapon system, but can select and engage targets without further operator input after activation.”).

396. Chengeta, *supra* note 395, at 833.

397. *See generally id.* at 836–89.

398. *Id.* at 834.

responsibility persists.³⁹⁹ He also explored the different actors involved in AWS operations, including manufacturers, programmers, and individuals who deploy the weapons, suggesting that responsibility should be shared collectively among these stakeholders.⁴⁰⁰

Further, Chengeta stresses that human control should focus on the critical functions of AWS, particularly those related to decision-making.⁴⁰¹ He argues that by ensuring human oversight over key decisions, the legal and ethical concerns surrounding the use of AWS can be mitigated.⁴⁰² Chengeta highlights the potential for AWS to create a legal responsibility vacuum if not properly regulated.⁴⁰³ He references international law jurisprudence on the notion of “direct control”⁴⁰⁴ and suggests that MHC should be designed to ensure that human operators remain potentially accountable for the actions of autonomous systems.⁴⁰⁵

In addition, Chengeta addresses disagreements within the AWS debate, particularly concerning the definition of “decision-making,” in the end proposing that MHC should involve a clear understanding of which decisions should remain under human control, outlining a cumulative concept where various actors—including designers, roboticists, programmers, and states—share responsibility.⁴⁰⁶ Chengeta calls for a comprehensive and standardized approach to defining and implementing MHC.⁴⁰⁷ He emphasizes the importance of collaboration among the international community to develop regulations that ensure AWS are used ethically and responsibly.⁴⁰⁸ By providing a clear definition of MHC, Chengeta aims to foster greater accountability and transparency in the deployment of autonomous weapon systems.⁴⁰⁹ Still, as noted in the investigation of Israel’s use of the Lavender system,⁴¹⁰ a clear

399. *Id.* at 863–68, 876, 880, 888–89.

400. *Id.* at 834, 864–66.

401. *Id.* at 834.

402. *Id.* at 856–57 (regarding targeting and attacks); *id.* at 863, 870 (regarding kill decisions).

403. *Id.* at 834.

404. *Id.* at 840 (referencing the 1949 Geneva Conventions and their 1977 Additional Protocols).

405. *Id.* at 868–69.

406. *Id.* at 888–89. One scholar pointed out that the future autonomous lethal robots would be able to control themselves with A.I., such that they could learn to make their own decisions about targeting, disintegrating the link between the operator and the remote platform. See Chantal Grut, *The Challenge of Autonomous Lethal Robotics to International Humanitarian Law*, 18 J. OF CONFLICT & SEC. L. 5, 5–6, 8, 19 (2013). Thus, an A.I.-powered drone could commit a war crime that results in the loss of civilian lives.

407. Chengeta, *supra* note 395, at 888–89.

408. *See id.*

409. *Id.* at 890.

410. Abraham, *supra* note 303.

definition of MHC is not enough. Ideally, there should be ethical operational planning and enforcement of MHC policies, including: (1) using AWS that is trained on data sets that only include data about legitimate targets; (2) requiring operator authorization of kills; and (3) using precision targeting faithfully and beginning with an ethical operational plan.

International law scholar Lena Trabucco of the U.S. Naval War College has published the following passage as a great example of the challenges of achieving meaningful human control when AWS is engaged:

Flying high above a near-future battlefield, an AI-enabled MQ-9 Reaper drone alerts operators that it has detected enemy forces moving in a vehicle in a remote location. The drone uses available data to predict that the vehicle will enter a residential area in fifteen seconds. Operators receive the alert and a request to authorize a strike before the window of opportunity closes. With three seconds left for optimal strike conditions, the operator is still deliberating, and the drone has not yet received either approval or rejection for the strike request. The drone engages the vehicle with one second left under what it has identified as optimal conditions. Six noncombatants are killed.

In the wake of the strike, the public discussion focuses on whether the operator had [MHC] of the [AWS].⁴¹¹

Trabucco opines that, instead of focusing on whether there was MHC, the focus needs to be on requiring AWS to have operator authorization and adequate operational planning.⁴¹² In 2018, University of Buckingham School of Law's Francis Grimal, a reader in computing law and psychology, and Research Officer Jae Sundaram delved into the evolving technological and legal landscape of drone warfare.⁴¹³ They explored the unique capabilities of drone swarms and the implications for international law, particularly in the context of *jus ad bellum* and *jus in bello* principles.⁴¹⁴ This is similar to scholar Shannon Dick's discussion of *jus ad bellum* and *jus in bello* principles.⁴¹⁵ Grimal & Sundaram discuss the advancement of drone technology that allows for the deployment of multiple drones operating in concert, known as swarms—similar to the Vespidae insect families.⁴¹⁶ These advancements

411. Lena Trabucco, *What Is Meaningful Human Control, Anyway? Cracking the Code on Autonomous Weapons and Human Judgment*, MOD. WAR INST. (Sep. 21, 2023), <https://mwi.westpoint.edu/what-is-meaningful-human-control-anyway-cracking-the-code-on-autonomous-weapons-and-human-judgment/> [<https://perma.cc/T6H4-Y7MKJ>].

412. *Id.*

413. Francis Grimal & Jae Sundaram, *Combat Drones: Hives, Swarms, and Autonomous Action?*, 23 J. OF CONFLICT & SEC. L. 105, 105 (2018).

414. *Id.* at 106–07.

415. See Dick, *supra* note 345.

416. Grimal & Sundaram, *supra* note 413, at 105.

raise significant legal questions, as the traditional frameworks governing the use of combat drones do not automatically apply to swarms.⁴¹⁷ Swarm drones present unique challenges due to their collective functionality and the potential for autonomous action.⁴¹⁸

One of Grimal & Sundaram's main legal concerns is whether current legal standards for the use of force, particularly those regulating self-defense, necessity, and proportionality, can be adequately applied to drone swarms.⁴¹⁹ They argue that the unique operational dynamics of drone swarms necessitate a re-evaluation of these standards,⁴²⁰ for instance, how do the principles of necessity and proportionality apply when a drone swarm collectively responds to a threat? This question is particularly crucial in ensuring that drone operations adhere to IHL.⁴²¹

Grimal & Sundaram further explored the implications for command-and-control structures within drone swarms. In traditional military operations, decisions are made by a "reasonable military commander";⁴²² however, in the context of autonomous drone swarms, this chain of command is disrupted.⁴²³ The autonomy of swarm drones raises questions about accountability and the ability to apply the principle of distinction, which requires combatants to distinguish between military targets and civilians.⁴²⁴

Additionally, Grimal & Sundaram emphasize the ethical dimensions of autonomous drone swarms, highlighting the complex dilemmas arising from autonomous decision-making versus human oversight in lethal operations, stressing that these concerns must be addressed to ensure compliance with international humanitarian law.⁴²⁵ They conclude that compliance and noncompliance with IHL "is predicated on the fundamental concept that the recourse to drone swarms are not inherently unlawful."⁴²⁶ They argue that extending liability beyond the

417. *Id.* at 111.

418. *Id.* at 106.

419. *Id.* at 107, 120–25.

420. *Id.*

421. *Id.* at 125, 128–29, 131–34.

422. *Id.* at 130–33.

423. *Id.* at 112, 117–19.

424. *Id.* at 128, 131–34.

425. *Id.* at 107–08 (explaining that the ethical debate concerns whether drones are not illegal because of human oversight and the ability to override systems). Grimal & Sundaram question whether a drone swarm can successfully weigh potential incidental damage to civilians or the consequences of damaging dual-use targets. *Id.* at 131–32. Moreover, in a drone swarm operated by a coordinated consensus model, there is no reasonable military commander present to evaluate proportionality factors in attacks. *See also id.*

426. *Id.* at 135.

swarm operator and programmer is problematic,⁴²⁷ but they contend that “liability should and must remain with the operating state.”⁴²⁸

The International Committee of the Red Cross (ICRC) has been actively discussing the implications of autonomous weapons—including drones—under IHL.⁴²⁹ In 2021, the ICRC issued a position statement that, since 2015, it has been urging “[s]tates to establish internationally agreed limits on autonomous weapon systems to ensure civilian protection, compliance with international humanitarian law, and ethical acceptability.”⁴³⁰ The ICRC made three recommendations: (1) “[u]npredictable autonomous weapon systems should be expressly ruled out [] because of indiscriminate effects”; (2) “use of autonomous weapon systems to target human beings should be ruled out”; and (3) “the design and use of autonomous weapon systems that would not be prohibited should be regulated.”⁴³¹ The ICRC recommends that regulations include limiting: (1) the types of targets “to objects that are military objectives by nature”; (2) “the duration, geographical scope and scale of use, including to enable human judgement and control in relation to a specific attack”; and (3) situations of use, “constraining them to situations where civilians or civilian objects are not present.”⁴³² This position statement also advocates for states to establish requirements for human-machine interaction “to ensure effective human supervision, and timely intervention and deactivation.”⁴³³

In March 2024, the ICRC urged states to prohibit unpredictable autonomous weapons and those designed to apply force given that there are serious risks posed by drones. The ICRC noted that some companies claim their armed drones can strike autonomously.⁴³⁴ The ICRC asked states to: (1) “articulate the kinds of autonomous weapon systems that would be incapable of use in compliance with international law”; (2) state which AWS’ need to be prohibited; and (3) establish

427. *Id.*

428. *Id.*

429. *ICRC Position on Autonomous Weapon Systems*, INT’L COMM. OF THE RED CROSS (Dec. 5, 2021), <https://www.icrc.org/en/document/icrc-position-autonomous-weapon-systems> [<https://perma.cc/WL7R-7L92>].

430. *Id.*

431. *Id.*

432. *Id.*

433. *Id.*

434. *ICRC: “Future Generations Must Be Protected from the Serious Risks Posed by Autonomous Weapons,”* INT’L COMM. OF THE RED CROSS (June 3, 2024), <https://www.icrc.org/en/document/icrc-future-generations-must-be-protected-serious-risks-posed-autonomous-weapons> [<https://perma.cc/B3VN-CP5N>].

restrictions.⁴³⁵ The ICRC reiterated the 2021 call to action to prohibit unpredictable autonomous weapons, along with “those designed or used to apply force against persons.”⁴³⁶

In March 2025, the ICRC published a report on IHL and contemporary armed conflicts, addressing AWS as new technologies of warfare, discussing legal challenges posed by these technologies and the need for clear regulations to ensure compliance with IHL.⁴³⁷ In contemporary conflicts, one AI support system might analyze drone footage and apply image-classification technology to identify and classify potential targets.⁴³⁸ Its output might feed another system running simulations to recommend the “optimal” weapon available to attack the target.⁴³⁹ These could also link to a system using predictive analytics to forecast how the adversary might respond to the attack.⁴⁴⁰ The ICRC reminds readers that, under IHL, humans need to make legal determinations;⁴⁴¹ and AI support systems are not suited for all tasks.⁴⁴²

In 2022, Eleonora Branca, a post-doctoral researcher in international law at Roma Tre University and international law faculty member in Italy’s University of Verona,⁴⁴³ delved into the international legal responsibilities and potential complicity of states involved in drone operations.⁴⁴⁴ She provides a comprehensive analysis of how states may share responsibility when partnered with states conducting drone strikes. Branca analyzes the increasing attention on drone warfare and the complex nature of military operations that involve armed drones, particularly when these operations rely on the collaboration of other states.⁴⁴⁵

435. *Id.*

436. *Id.*

437. INT’L COMM. OF THE RED CROSS, INTERNATIONAL HUMANITARIAN LAW AND THE CHALLENGES OF CONTEMPORARY ARMED CONFLICTS: BUILDING A CULTURE OF COMPLIANCE FOR IHL TO PROTECT HUMANITY IN TODAY’S AND FUTURE CONFLICTS 64 (2024) (noting additionally that armed forces are investing heavily in A.I.).

438. *Id.*

439. *Id.*

440. *Id.* at 64–65.

441. *Id.* at 64.

442. *Id.* at 65.

443. Eleonora Branca, “Yet, It Moves . . .”: The Dynamic Evolution of State Immunity in the “Comfort Women” Case, EUR. J. OF INT’L L.: TALK!: BLOG (Apr. 7, 2021), <https://www.ejiltalk.org/yet-it-moves-the-dynamic-evolution-of-state-immunity-in-the-comfort-women-case/> [https://perma.cc/K6SJ-8HLX].

444. See generally Eleonora Branca, *Complicity of States in Partnered Drone Operations*, 27 J. CONFLICT & SEC. L. 253 (2022).

445. *Id.* at 253.

Regarding *jus in bello* and how wars should be fought, Branca highlights that many drone strikes carried out by one state could not take place without the vital support—which includes logistical, technological, and intelligence sharing—provided by partner states.⁴⁴⁶ Although not mentioned by Branca, this principle is playing out as the United States supports Israel and Ukraine. For example, the United States “has supplied about 69 percent of the weapons Israel uses to assault Gaza”,⁴⁴⁷ also provided intelligence sharing to Ukraine;⁴⁴⁸ and tendered \$65.9 billion in military assistance (including 20 logistics support vehicles and equipment) since Russia’s 2014 invasion of Ukraine.⁴⁴⁹

Branca meticulously examines the issue of state complicity under Article 16 of the ILC’s Articles on the Responsibility of States for Internationally Wrongful Acts (ARSIWA).⁴⁵⁰ From Article 16, she identifies three core elements essential for establishing state complicity: (1) the significant contribution element; (2) the mental element; and (3) the opposability element.⁴⁵¹ The significant contribution element evaluates the extent of assistance provided by the partner state and the causal link between the assistance provided and the wrongful conduct of the assisted state.⁴⁵² Branca discusses Germany’s significant support for the United States’s drone operations through the Ramstein military base,⁴⁵³ finding its assistance crucial for the coordination and execution of these strikes.⁴⁵⁴ The mental element refers to the knowledge and intent behind the assistance: for a state to be complicit, it must be aware that its support will contribute to the wrongful act.⁴⁵⁵ Branca illustrates this with examples such as Italy’s agreements allowing the United States to use the Sigonella military base for counterterrorism operations, suggesting that the intent and awareness of the possible outcomes are critical fac-

446. *Id.* at 253–54.

447. AL JAZEERA, *Who Accuses Israel of Committing Genocide in Gaza?*, (Dec. 6, 2024), <https://www.aljazeera.com/news/2024/12/6/who-accuses-israel-of-committing-genocide-in-gaza> (last visited Feb. 12, 2026) (reporting that the Center for Constitutional Rights concluded this in October 2023).

448. John Grady, *Intel Sharing Between U.S. and Ukraine “Revolutionary” Says DIA Director*, U.S. NAVAL INST. (Mar. 18, 2022), <https://news.usni.org/2022/03/18/intel-sharing-between-u-s-and-ukraine-revolutionary-says-dia-director> (last visited Feb. 12, 2026).

449. *U.S. Security Cooperation with Ukraine*, U.S. DEP’T OF STATE (Mar. 12, 2025), <https://www.state.gov/bureau-of-political-military-affairs/releases/2025/01/u-s-security-cooperation-with-ukraine> [<https://perma.cc/S2LP-4UWM>].

450. Branca, *supra* note 444, at 254.

451. *Id.* at 254.

452. *Id.* at 258.

453. *Id.* at 253–54, 256–57, 261–62, 269–71.

454. *Id.* at 253–54, 258.

455. *Id.* at 258.

tors in establishing complicity.⁴⁵⁶ The opposability element involves the legal and procedural measures taken by the assisting state to prevent complicity.⁴⁵⁷ Branca evaluates how some states, like the Netherlands, share geolocalization data with the United States, thus reinforcing their legal and moral responsibility in drone strikes.⁴⁵⁸

Furthermore, just as scholars Shannon Dick and Francis Grimal discussed the concept of *jus ad bellum*,⁴⁵⁹ Eleonora Branca states that “placing a military base at the disposal of another State enables the latter to use its military force by facilitating its operations,” and, if that state engages in the unlawful use of force, this satisfies the significant contribution element of Article 16 in the ARSIWA.⁴⁶⁰ Branca also draws attention to the implications of state complicity for international law and human rights.⁴⁶¹ She argues that states must be held accountable for their roles in drone strikes that result in violations of IHL and human rights abuse, as even the practice of partnered drone operations raises ethical questions about the responsibility of the assisting states.⁴⁶² Branca concludes that, since there are several grey areas in the international regulations, there is a need for a comprehensive reflection and debate in order to craft oversight regulations.⁴⁶³ She fears that pro-drone states could cause other states to be permissive of the use of lethal force.⁴⁶⁴

In 2023, Laura Dickinson, professor of law at George Washington University,⁴⁶⁵ examined the evolving legal paradigms of over-the-horizon (OTH) drone strikes, particularly in the context of post-war Afghanistan.⁴⁶⁶ Dickinson delves into the challenges and limitations of applying domestic and international legal frameworks to the use of OTH drone strikes, highlighting the implications for both *jus ad bellum* and IHL.⁴⁶⁷ Dickinson provided context on the United States’s withdrawal from Afghanistan in August 2021 and President Biden’s proclamation

456. *Id.* at 254–55, 260–61, 268–69.

457. *Id.* at 273–74.

458. *Id.* at 254, 256–57, 262, 272–75.

459. *See generally* Dick, *supra* note 345. *See also* Grimal & Sundaram, *supra* note 413, at 120–26.

460. Branca, *supra* note 444, at 260.

461. *Id.* at 260, 266, 276.

462. *Id.* at 253–78 (discussing Germany’s sovereignty over the Ramstein Air base).

463. *Id.* at 278.

464. *Id.*

465. *See generally* Laura A. Dickinson, *Over-the-Horizon Drone Strikes in an Ongoing Global War: Afghanistan and Beyond*, 13 J. NAT’L SEC. L. & POL’Y 283 (2023).

466. *See generally id.*

467. *Id.* at 283.

declaring the end of the “longest war in American history.”⁴⁶⁸ Despite this political declaration, Dickinson points out that U.S. officials have continued to conduct OTH drone operations targeting terrorist groups in Afghanistan, suggesting a contradiction between political statements and legal interpretations.⁴⁶⁹

Similarly to scholar Eleonora Branca,⁴⁷⁰ Dickinson points out that drone strikes operate within a complex legal grey area, stating that operations are conducted remotely, often from thousands of miles away, raising questions about the applicability of traditional legal norms governing armed conflict.⁴⁷¹ The concept of OTH strikes implies that military force can be exerted without direct presence,⁴⁷² blurring the lines between wartime and peacetime legal frameworks. Dickinson addresses the challenge of determining the appropriate legal framework for OTH drone strikes, highlighting that, while the law of armed conflict (LOAC) permits the use of lethal force and detention of enemy combatants, the LOAC is traditionally tied to active hostilities and defined battlefields.⁴⁷³

Legal scholar Professor Gary Solis, a retired U.S. Marine,⁴⁷⁴ opines that the study of LOAC or IHL is like building a house. There is a LOAC/IHL framework of guiding principles and core values—which apply and are dependent on the conflict status.⁴⁷⁵ Solis teaches that we need to know the statuses, or possible statuses, of the participants in armed conflict and when each status applies.⁴⁷⁶ In addition, Solis instructs that “[s]imple humanitarian concerns should limit battlefield conduct [and] . . . modern LOAC has been largely driven by humanitarian concerns.”⁴⁷⁷

Dickinson seems to view LOAC and IHL as being two separate frameworks. She states that if the United States is applying the LOAC paradigm to use of force operations in Afghanistan, the United States has greater leeway than if it applied IHL.⁴⁷⁸ As an example of where

468. *Id.* at 283–84.

469. *Id.* at 283.

470. Branca, *supra* note 444.

471. Dickinson, *supra* note 465, at 283–84.

472. *Id.*

473. *Id.* at 283, 287.

474. Gary Solis, U.S. NAVAL INST., <https://www.usni.org/people/gary-solis> (last visited Feb. 12, 2026).

475. GARY D. SOLIS, *Rules of War, Laws of War, in THE LAW OF ARMED CONFLICT: INTERNATIONAL HUMANITARIAN LAW IN WAR 3* (Cambridge Univ. Press 3d ed., 2021).

476. *Id.*

477. *Id.* at 8.

478. Dickinson, *supra* note 465, at 288.

this potential lenience could be determinative, Dickinson signals to the United States continuing OTH operations in Afghanistan as necessary efforts to combat terrorist groups.⁴⁷⁹ Though statuses of armed conflict participants are important,⁴⁸⁰ and, here, Dickinson states that Afghanistan's status was a "hot battlefield," her other concerns include:

- This sort of drone warfare increases the possibility for the United States to embrace a LOAC framework to govern such operations as a matter of international law.
- U.S. officials did not make precise legal rationale for the OTH drone strike clear, aside from President Biden, who focused vaguely on "justice" in a related speech.
- It is not entirely evident that the United States applied the LOAC to the strike.⁴⁸¹

While Dickinson concludes that LOAC gives the United States more leeway than IHL, Solis teaches that the combined frameworks of LOAC and IHL need to be applied.⁴⁸² Dickinson states that the U.S. government, however, continues to justify OTH drone strikes under the LOAC, even when the nature (or status) of the conflict has shifted.⁴⁸³

Citing her review of Mitt Regan's book, *Drone Strike: Analyzing the Impacts of Targeted Killing*, Dickinson explores the impact of OTH drone strikes on civilian populations.⁴⁸⁴ Dickinson notes that Regan emphasizes the need for transparency⁴⁸⁵ and accountability,⁴⁸⁶ as OTH operations can result in significant civilian casualties. The lack of visibility and oversight in these operations often leads to questions about the proportionality and necessity of strikes, which are key principles of both the law of armed conflict and international human rights law.⁴⁸⁷

Furthermore, Dickinson discusses the broader implications of OTH drone strikes for global security and the rule of law. She argues that relying on OTH strikes as a primary counterterrorism tool can foster a state of perpetual conflict.⁴⁸⁸ This reliance on drone technol-

479. *Id.* at 287.

480. SOLIS, *supra* note 475, at 3.

481. *See generally* Dickinson, *supra* note 465.

482. SOLIS, *supra* note 475 at 3. Please note that the author refers to "international law" instead of "international humanitarian law."

483. *Id.*

484. Dickinson, *supra* note 465, at 284–87, 289.

485. *Id.* at 286.

486. *Id.* at 284 (stating that Mitt Regan's data and quantitative information will lead to "a better accounting of civilian casualties").

487. *Id.* at 288.

488. *Id.* at 287.

ogy allows the U.S. executive branch to bypass traditional legal and geographical limitations on the use of force, raising concerns about the erosion of international legal standards.⁴⁸⁹ Laura Dickinson provides a critical examination of the legal and ethical complexities of OTH drone strikes, calling for a reassessment of the legal frameworks governing these operations to ensure they align with international law and accountability.⁴⁹⁰

By addressing the contradictions and challenges posed by OTH drone strikes, Dickinson contributes to the ongoing debate on the future of drone warfare and its implications for global security. She advocates that the United States:

[S]hould actively consider curtailing its reliance on the legal frameworks it has used for two decades to govern use-of force operations involving drones. These legal paradigms—the law of armed conflict as a matter of international law and a broad scope for U.S. executive branch use of extraterritorial force without congressional authorization as a matter of domestic law—are fundamentally looser regulatory frameworks than the existing alternatives.⁴⁹¹

IV. FURTHER ANALYSES OF DRONE WARFARE

The use of Unmanned Aerial Vehicles (UAVs, for example, drones), cyber weapons, robots and AI technologies applied to autonomous offensive weapons (a.k.a. “killer robots”)⁴⁹² in warfare raises ethical and moral concerns. For example, while at war, Ukraine uses drones for surveillance.⁴⁹³ When used in a different light, such as when the United Nations (UN) uses drones to gather intelligence on human rights crises, privacy is a concern.⁴⁹⁴ The UN is not the only aid organization doing this; the USAID also uses drones to document human rights abuses.⁴⁹⁵ Another useful use of drones is the delivery of medical supplies.⁴⁹⁶ Drone deliveries can also be used to get supplies to troops,

489. *Id.* at 290.

490. *Id.*

491. *Id.* at 285.

492. *Killer Robots*, HUM. RTS. WATCH, <https://www.hrw.org/topic/arms/killer-robots> [<https://perma.cc/Z2RW-KUTY>] (defining killer robots as “[a]utonomous weapons systems [that] select and apply force to targets based on sensor processing rather than human input.”).

493. Thompson, *supra* note 395.

494. Francesca Giovannini & Kathryn Moffat, *Technology in a Time of War: Humanitarian Aid at an Inflection Point*, AM. ACAD. ARTS & SCI. (Summer 2017), <https://www.amacad.org/news/technology-time-war-humanitarian-aid-inflection-point> [<https://perma.cc/EZ35-TFTA>].

495. Jack Daleo, *Drones Have Been Used to Commit War Crimes—Now They’re Documenting Them*, FLYING (July 28, 2023), <https://www.flyingmag.com/drones-have-been-used-to-commit-war-crimes-now-theyre-documenting-them/> [<https://perma.cc/7F7C-N856>].

496. Ran Laviv et al., *How Drones in Cities Can Help Distribute Medical Supplies*, WORLD

changing the way militaries supply and sustain their forces.⁴⁹⁷ Thus, the use of drones has its pros and cons.

In 2018, naval staff judge advocate Lieutenant Commander Patrick O. Jackson explored the legal and tactical considerations of using force to neutralize UAVs or drones.⁴⁹⁸ Jackson emphasizes the growing threat posed by the “massive expansion” of drones in modern naval warfare since the September 11, 2001, terrorist attacks in the United States.⁴⁹⁹ He further emphasizes the need to develop effective countermeasures,⁵⁰⁰ justifying this stance by outlining various scenarios in which drones can significantly threaten naval operations, including intelligence gathering, surveillance, and potential direct attacks on naval vessels.⁵⁰¹ Given the increasing sophistication and affordability of drone technology, these threats are no longer hypothetical but real, presenting immediate risks to naval security.⁵⁰² Recall the 2023 Houthi rebels’ attack on shipping vessels in the Red Sea with drones and missiles which caused supply chain disruptions.⁵⁰³

Lieutenant Commander Jackson focuses on the legal framework governing the use of force against drones. Jackson emphasizes that international law, including the Law of the Sea and the principles of self-defense, provides a basis for taking action against drones that pose a threat;⁵⁰⁴ however, he also highlights the complexities and ambiguities in interpreting these laws in the context of UAVs.⁵⁰⁵ For instance, the principle of necessity and proportionality must be considered when deciding to use force against a drone.⁵⁰⁶ Jackson argues that the use of force must be the last resort and should be proportional to the threat posed by the drone, which requires careful assessment and judgment by naval commanders when dealing with potential drone threats.⁵⁰⁷ Jackson also delves into tactical countermeasures against

ECON. F. (June 25, 2021), <https://www.weforum.org/stories/2021/06/how-drones-in-cities-can-help-distribute-medical-supplies/> [https://perma.cc/4G8B-KLFY].

497. See Mark A. Milley, *Strategic Inflection Point: The Most Historically Significant and Fundamental Change in the Character of War Is Happening Now—While the future Is Clouded in Mist and Uncertainty*, 3 JOINT FORCE Q. 6, 13 (2023).

498. Patrick O. Jackson, *Drone Interdiction: Use of Force as a Countermeasure Against Unmanned Vehicles at Sea*, 226 MIL. L. REV. 223, 225 (2018).

499. *Id.* at 231–32.

500. *Id.*

501. *Id.* at 232.

502. *Id.*

503. Arhirova & Blann, *supra* note 158.

504. Jackson, *supra* note 498, at 229, 234, 236, 254.

505. See generally *id.*

506. *Id.* at 226.

507. *Id.* at 225, at n.10.

drones, which include electronic warfare techniques to jam or hijack control signals and kinetic measures, like deploying anti-drone missiles or guns.⁵⁰⁸ Ukraine has used these types of tactics against Russia—to such an extent that Colonel Ivan Pavlenko, chief of the Ukrainian general staff’s electronic and cyber warfare department, reported that their war “is a war of technologies.”⁵⁰⁹ Further, Lieutenant General Andreu Grigoriev foresees greater robotization, predicting that “future warfare will involve operators and machines, not soldiers shooting at each other on the battlefield.”⁵¹⁰

Further, Lieutenant Jackson discusses the pros and cons of each approach and emphasizes the need for a multi-layered defense system to address the diverse range of drone threats.⁵¹¹ In conclusion, Jackson underscores the urgency of developing robust legal and tactical frameworks to counter the evolving drone threat in naval operations, advocating that the United States “should adopt and implement a countermeasures framework” to combat drone violations with proportionality.⁵¹²

In 2021, Ben Forsgren, Brigham Young Law School graduate and clerk for the U.S. Court of Appeals for the Armed Forces, examined the potential legal and geopolitical implications of deploying advanced missile defense drones equipped with directed energy weapons.⁵¹³ Forsgren’s analysis looks at how these cutting-edge technologies, aimed at intercepting and destroying intercontinental ballistic missiles (ICBMs), challenge existing norms of international law and sovereignty.⁵¹⁴ The core discussion begins with an overview of the technological advancements driving the development of these drones.⁵¹⁵ Forsgren explains that these high-tech UAVs are designed to detect and neutralize ICBMs in their boost phase, which is the period immediately following a missile’s launch.⁵¹⁶ The drones are equipped with advanced laser

508. *Id.* at 258–59.

509. Abdujalil Abdurasulov, *Ukraine’s Invisible Battle to Jam Russian Weapons*, BBC (Aug. 3, 2023), <https://www.bbc.com/news/world-europe-66279650> [<https://perma.cc/28KX-28SC>].

510. Joey Millar, *Putin’s ROBO COP ARMY? Russia Shows Off Terrifying New Combat Equipment*, EXPRESS NEWSPAPERS (June 30, 2017), <https://www.express.co.uk/news/world/823359/russia-army-robot-soldier-robocop-vladimir-putin-ww3-future-warfare-robotics> [<https://perma.cc/956B-7UA3>].

511. Jackson, *supra* note 498, at 258–259.

512. *Id.* at 263.

513. See generally Ben Forsgren, *Death Star Drones: How Missile Defense Drone Technology Marks the Advent of Contingent Sovereignty*, 46 BYU L. REV. 847 (2021).

514. *Id.* at 850.

515. *Id.* at 848.

516. *Id.* at 852–54.

weapons capable of destroying missiles before they reach their targets, thereby significantly reducing the threat of nuclear attacks.⁵¹⁷

Forsgren also delved into the controversial aspect of the drone program: the necessity for these drones to be preemptively stationed in the sovereign airspace of other nations.⁵¹⁸ This deployment strategy directly violates current international sovereignty laws, which strictly prohibit such incursions without the host nation's consent.⁵¹⁹ Forsgren argues that this violation of sovereignty introduces a new concept dubbed "contingent sovereignty."⁵²⁰ Contingent sovereignty is the theory that sovereign rights and immunities are contingent on observing state obligations.⁵²¹ Yet, the sovereignty of a state becomes conditional based on the security interests of more powerful nations.⁵²² This shift poses a significant threat to the international law principle of sovereign equality.⁵²³

Forsgren further addresses the broader implications of this program. He posits that the deployment of such drones can lead to increased tensions and potential conflicts between nations.⁵²⁴ Less powerful states may feel coerced into allowing the presence of stronger nations' drones in their airspace; this dynamic could potentially destabilize international relations and lead to a new form of neo-imperialism, where powerful states impose their security needs on weaker ones.⁵²⁵

Additionally, Forsgren touches on the ethical concerns associated with the use of such advanced technologies. The deployment of laser-equipped drones not only raises questions about the militarization of air space but also about the potential for collateral damage and unintended consequences.⁵²⁶ Recognizing the potential security benefits these advanced missile defense drones offer, Forsgren concludes that the United States will likely implement this advanced weaponry system, which will lead the world toward contingent sovereignty.⁵²⁷

There is an online allure for homicidal drones used in military operations, as evidenced by the streaming of short videos showing

517. *Id.* at 853–54.

518. *Id.* at 849.

519. *Id.* at 860–61.

520. *Id.* at 849, 859–60.

521. *Id.* at 859.

522. *Id.* at 879–80.

523. *Id.* at 879 (“[s]uch a system would be antithetical to the notion of sovereign equality . . . [and] would undermine the strength and purpose of the UN charter”).

524. *Id.* at 849.

525. *Id.* at 879, 862–63.

526. *Id.* at 879–80.

527. *Id.* at 882.

soldiers meeting their fate when attacked by drones,⁵²⁸ a phenomenon known as “Deathtube.”⁵²⁹ This sentiment is echoed by Fidel Amakye Owusu, a security analyst and peace researcher, who advocates that the allure and convenience of drones may inadvertently perpetrate wars and “heighten the complexity of conflict, making it increasingly difficult to achieve a peaceful resolution.”⁵³⁰ Social scientist Michael Walzer, fellow at the American Academy, states that the low risk to military soldiers and low political costs also make the increasing use of drone warfare tempting.⁵³¹ Also echoing this sentiment, Paul Wise at Stanford’s School of Medicine advocates that there needs to be a critical reading of just war criteria, because standoff weapons like armed drones prolong conflicts and wars.⁵³² Combat operations can extend over long periods of time; thus, although soldiers are not a risk, others may suffer indirect mental and other injuries.⁵³³ Therefore, it seems that the allure of drones, escalations, and potential for deeper entrenchment can lead to endless wars.

In addition, while maneuvers to push Palestinians off their land may lead to endless wars of protracted retaliatory strikes, the use of drone warfare has been criticized as protracting wars—consider the January 2025 ceasefire between Israel and Hamas.⁵³⁴ The U.S. President announced that Jordan and Egypt should take the Palestinians into their countries, which has been criticized as ethnic cleansing.⁵³⁵ Khaled Elgindy, Georgetown University’s visiting scholar of Arab studies, reported that this is “quite alarming” coming from a sitting U.S. President.⁵³⁶ Elgindy opines that such a move harkens back to 1948, when the war between Palestine and Israel began, and, consequentially,

528. Chivers, *supra* note 148; see also Mary Ellen O’Connell, *Seductive Drones: Learning from a Decade of Lethal Operations*, 21 J.L., INFO. & SCI. 116, 117 (2011) (stating that one seductive aspect is how death can be inflicted by drones in locations that are far away from battlefields where, in the past, no lethal force would have been used); David Lague, *In U.S.-China AI Contest, the Race Is on to Deploy Killer Robots*, REUTERS (Sep. 8, 2023), <https://www.reuters.com/investigates/special-report/us-china-tech-drones> [<https://perma.cc/C7C5-7XQB>] (reporting that with micro-targeting, drones can strike “key combatants or commanders even if they are nowhere near the front lines”).

529. Chivers, *supra* note 148.

530. Bociaga, *supra* note 198.

531. Walzer, *supra* note 46, at 12, 24.

532. Wise, *supra* note 36, at 148.

533. *Id.*

534. Dickinson, *supra* note 465, at 287.

535. Leila Fadel, *President Trump Calls for Jordan and Egypt to Accept More Palestinian Refugees*, NPR (Jan. 27, 2025), <https://www.npr.org/2025/01/27/nx-s1-5275404/president-trump-calls-for-jordan-and-egypt-to-accept-more-palestinian-refugees> [<https://perma.cc/P7UA-GX4J>].

536. *Id.*

would be destabilizing and ignite decades of war in response.⁵³⁷ Thus, one could state that maneuvers like the ethnic cleansing of Palestinians will result in retaliation; just as there are Houthi drone strikes in retaliation⁵³⁸ now, there will be further Palestinian retaliation, contributing to endless wars.

Nevertheless, the ease of drone warfare cannot be ignored. As noted herein, many scholars are expressing concern over the ease of use, extension of combat operations, and the escalations associated with drone warfare. Moreover, drone warfare adds fuel to tenuous conflicts, such as the Israel/Palestine war, because its low costs promote widespread use, promoting prolonged wars with increased suffering, community destruction, and trauma.⁵³⁹

In 2023, David Sterman, senior policy analyst at the New America's Future Security Program, examined the strategic and legal dilemmas posed by the United States's prolonged engagement in counterterrorism operations.⁵⁴⁰ He focuses on understanding how these endless wars impact both policy efficacy and international law.⁵⁴¹ Sterman first frames the concept of "endless war" as a strategic paradox: despite technological advancements and intense counterterrorism efforts, the United States remains embroiled in protracted wars with no clear end in sight.⁵⁴² Thus, the "endless character undermines many of the forms of measurement and theories that underlie assessments of effectiveness of strikes."⁵⁴³

Just like scholar Laura Dickinson,⁵⁴⁴ Sterman notes how Mitt Regan identified how these campaigns often expand geographic reach, reflecting strategic decisions that prioritize broad counterterrorism objectives over focused, attainable goals.⁵⁴⁵ This broad scope implicitly

537. *Id.*

538. Faozi AlGoidi, *Israel's Targeting of Houthi Ministers Opens a New Phase of Conflict*, MIDDLE E. COUNCIL ON GLOB. AFFS. (Sep. 22, 2025), https://mecouncil.org/blog_posts/israel-breaks-the-rules-of-engagement-targeting-the-houthi-government-opens-a-new-phase-of-conflict/ [<https://perma.cc/8ZR2-58QW>].

539. See James P. Rogers et al., *How Are Drones Changing the Landscape of Modern Warfare?*, BBC (Aug. 14, 2025), <https://www.bbc.com/audio/play/w3ct722x> [<https://perma.cc/7MU3-3AYJ>] (teaching that the remote nature of drones and the use of artificial intelligence removes human agency from the decision to kill, with targeted assassinations becoming a new norm of widespread prioritized killing, replacing the practice of capturing enemies).

540. David Sterman, *Endless War Challenges Analysis of Drone Strike Effectiveness*, 13 J. NAT'L SEC. L. & POL'Y 305, 318 (2023).

541. *Id.* at 305–18.

542. *Id.* at 305.

543. *Id.*

544. Dickinson, *supra* note 465, at 290.

545. Sterman, *supra* note 540, at 311.

commits the United States to endless operational cycles, continuously engaging new threats. A significant portion of Sterman's analysis is dedicated to evaluating the effectiveness of drone strikes within this context of prolonged war. He contends that while drone strikes provide a tactical advantage, they simultaneously perpetuate a cycle of violence.⁵⁴⁶ This cycle often inflates the enemy,⁵⁴⁷ and fosters new grievances and recruitments against the United States.⁵⁴⁸ Sterman suggests that these operational practices necessitate re-assessment.⁵⁴⁹

Sterman also navigates through the intricate relationship between legality and efficacy in these prolonged wars, scrutinizing how the extended nature of counterterrorism campaigns complicates the application of international law since protracted use of force raises questions about compliance with IHL.⁵⁵⁰ Examples used to illustrate these points are the United States's operations in Yemen⁵⁵¹ and Somalia.⁵⁵² In these locations, Sterman argues that the United States has engaged in a conflicting legal framework where drone strikes, intended for short-term tactical gains, have lacked a coherent strategic vision, evidenced by the endlessness of these wars.⁵⁵³ As these strikes continue, they deepen the entanglement, raising significant ethical and legal repercussions.⁵⁵⁴ Sterman notes that objectives of degradation or disruption undermine the ability to negotiate for agreements to cease fighting or seek a "transition of responsibility to another actor combined with a renunciation of a war footing."⁵⁵⁵ In conclusion, David Sterman advocates that when analyzing the effectiveness of drone strikes, analysts should get away from measuring degradation or disruptions because these tactics encourage endlessness—which he views as strategic failures.⁵⁵⁶

Also in 2023, Lieutenant Colonel Paul Lushenko, director of special operations and an assistant professor at the U.S. Army War College, explored the complex public perceptions surrounding drone strikes and their legitimacy.⁵⁵⁷ Like Dickinson and Sterman's reviews of Mitt

546. *Id.* at 305.

547. *Id.* at 310.

548. *Id.* at 310, 315.

549. *Id.* at 318.

550. *Id.* at 315.

551. *Id.* at 310.

552. *Id.* at 312–13.

553. *Id.* at 318.

554. *Id.* at 315.

555. *Id.*

556. *Id.* at 318.

557. Paul Lushenko, *Drone Strike-Analyzing Public Perceptions of Legitimacy*, 13 J. NAT'L SEC. L. & POL'Y, 291, 304 (2023).

Regan's book,⁵⁵⁸ Lushenko also incorporates insights from this book, making it the purpose of his article "to address how Regan's analysis informs our understanding of the public's perceptions of legitimate drone strikes that scholars, policy-makers, and practitioners often reference but rarely, if ever, evaluate empirically."⁵⁵⁹ He investigated the various factors that shape public opinion on drone warfare, emphasizing the importance of these perceptions for sustaining counterterrorism efforts and shaping drone policies.⁵⁶⁰ Lushenko begins by highlighting the significant role that public opinion plays in legitimizing or delegitimizing drone strikes.⁵⁶¹ He points out that, while many researchers focus on public support and approval, the perception of legitimacy is equally—if not more—critical in understanding public attitudes toward drone warfare.⁵⁶² This perception of legitimacy encompasses various dimensions, including the moral, legal, and strategic justifications for using drones in military operations.⁵⁶³

Lushenko examined public opinion literature related to drone warfare and discussed how scholars typically relate public views on drone strikes to three moral norms: (1) the battlefield courage of soldiers; (2) the protection of military personnel; and (3) the prevention of civilian casualties.⁵⁶⁴ He suggests that public perceptions of legitimacy often combine these moral norms to form judgments about the appropriateness of drone strikes.⁵⁶⁵ For example, the public may view drone strikes as legitimate if they are perceived to protect soldiers and minimize civilian casualties⁵⁶⁶ and "perce[ieved as] rightful wartime conduct [that] are actually a function of why and how countries use drones to achieve military and political objectives."⁵⁶⁷

According to Lushenko, Mitt Regan's analysis suggests that public perceptions of the legitimacy of drone strikes can significantly impact the sustainability of U.S. counterterrorism operations and similar efforts by other countries.⁵⁶⁸ According to Regan, there is a broad consensus that drone strikes are tactically effective for surgi-

558. See Dickinson, *supra* note 465, at 284–87, 289; see also Sterman, *supra* note 540, at 311.

559. Lushenko, *supra* note 557, at 292.

560. *Id.* at 292.

561. *Id.* at 296–98.

562. See generally *id.*

563. *Id.* at 295–97.

564. *Id.* at 297–98.

565. *Id.* at 298–99.

566. *Id.* at 297–98.

567. *Id.* at 292.

568. *Id.*

cally removing terrorist threats; however, the strategic effectiveness of these strikes is conditional on several factors, including the resilience of terrorist organizations and their response to drone strikes.⁵⁶⁹ Drone warfare complicates the conflict between Israel and Palestine by allowing terrorist organizations to adapt and develop countermeasures against aerial strikes, making them more resilient.⁵⁷⁰ Groups targeted by drone attacks—such as Hamas—use underground tunnels, electronic warfare tactics, or rapid relocation strategies to minimize their losses, leading to prolonged hostilities.⁵⁷¹ Additionally, terrorist factions have increasingly acquired and deployed their own drones, using them for reconnaissance and retaliatory strikes, escalating the cycle of violence.⁵⁷² This technological arms race further entrenches divisions, making diplomatic resolutions more difficult, as both sides focus on tactical superiority rather than long-term peace efforts.

In addition, Lushenko argues for more empirical approaches to evaluate public perceptions of drone strike legitimacy.⁵⁷³ Lushenko calls for more data about: (1) “the threshold for civilian harm that encourages the public to discount the probity of strikes and how this threshold can be conditioned by other considerations”; (2) how “people within the targeted countries understand the legitimacy of drone strikes”; and (3) how “people interpret the legitimacy of global order given the evolving proliferation of drones.”⁵⁷⁴ Lieutenant Colonel Lushenko has also found that senior offices do not trust AI while junior offices trust AI more.⁵⁷⁵ Still, junior officers want human oversight.⁵⁷⁶

Unlike conventional soldiers, drone operators engage in remote killing, yet they still witness the destruction they cause in real-time,

569. *Id.*

570. Luca Nevola & Valentin d’Hauthuille, *Six Houthi Drone Warfare Strategies: How Innovation Is Shifting the Regional Balance of Power*, ACLED (Aug. 6, 2024), <https://acleddata.com/report/six-houthi-drone-warfare-strategies-how-innovation-shifting-regional-balance-power> [<https://perma.cc/Y9N6-9EXD>].

571. Patrick Kingsley et al., *How Hamas Is Fighting in Gaza: Tunnels, Traps and Ambushes*, N.Y. TIMES (July 13, 2024), <https://www.nytimes.com/2024/07/13/world/middleeast/hamas-gaza-israel-fighting.html> (last visited Feb. 12, 2026).

572. Amir Bohbot, *Rising Hamas Drone Activity Sparks Concern Among IDF Reservists*, JERUSALEM POST (June 5, 2025), https://www.jpost.com/israel-news/article-856621?utm_source=copilot.com (last visited Feb. 12, 2026); *see also* AlGoidi, *supra* note 538.

573. Lushenko, *supra* note 557, at 302.

574. *Id.*

575. Sarah Scoles, *Autonomous Weapons Are Here—What Now for War’s Rules of Engagement?*, WORLD CRUNCH (Dec. 1, 2024), <https://worldcrunch.com/world-affairs/autonomous-weapon-technology-ethics/> (last visited Feb. 12, 2026).

576. *Id.*

leading to moral injury and emotional distress.⁵⁷⁷ Studies show that drone personnel suffer from higher rates of PTSD, anxiety, and depression compared to those in direct combat roles.⁵⁷⁸ The lack of physical danger paradoxically increases psychological strain, as operators must process the consequences of their actions without the adrenaline-driven survival instincts of battlefield soldiers.⁵⁷⁹

The dual existence of drone operators—switching between combat operations and civilian life—creates emotional dissonance, making it harder to detach from warfare.⁵⁸⁰ Research also highlights that continuous surveillance and targeted strikes contribute to mental exhaustion and burnout, exacerbating long-term psychological effects.⁵⁸¹ The intimate nature of drone warfare, where operators observe targets for extended periods before striking, intensifies feelings of guilt and distress.⁵⁸² Experts recommend embedding mental health professionals within drone operation centers to mitigate these effects and provide necessary psychological support.⁵⁸³ In 2024, Paul Lushenko teamed with U.S. Naval Commander Mike Posey emphasized the importance of unmanned systems in modern naval operations, particularly for distributed maritime operations and information warfare.⁵⁸⁴ They note that drones are beneficial for providing situational awareness, force protection, and psychological deterrence.⁵⁸⁵ They also state that unmanned systems “enable force projection, allowing U.S. Navy forces to enforce the UN Convention on the Law of the Sea through freedom of navigation operations.”⁵⁸⁶ However, Posey and Lushenko highlight the need for a comprehensive framework to guide the use of these systems,

577. See Tommy Tobin, *The Hidden Cost of Drone Combat: Soldiers' Mental Health*, HARV. NAT'L SEC. J. (Apr. 24, 2015), <https://harvardnsj.org/2015/04/24/the-hidden-cost-of-drone-combat-soldiers-mental-health/> [https://perma.cc/JS66-2CZJ].

578. *Id.*

579. See generally Anthony Pino & Scott Pettigrew, *Drones Having Psychological Impact on Soldiers*, TRADOC G2 (Dec. 11, 2024), <https://oe.tradoc.army.mil/product/drones-having-psychological-impact-on-soldiers/> [https://perma.cc/82T2-FF48].

580. Tobin, *supra* note 577.

581. Seth Davin Norrholm et al., *Remote Warfare with Intimate Consequences: Psychological Stress in Service Member and Veteran Remotely-Piloted Aircraft (RPA) Personnel*, 7 J. MENTAL HEALTH & CLINICAL PSYCH. 37, 37 (2023), <https://www.mentalhealthjournal.org/articles/remote-warfare-with-intimate-consequences-psychological-stress-in-service-member-and-veteran-remotely-piloted-aircraft-rpa-personnel.html>.

582. *Id.*

583. Tobin, *supra* note 577.

584. Mike Posey & Paul Lushenko, *A Framework for Unmanned Systems at Sea*, 150 U.S. NAVAL INSTITUTE PROCEEDINGS 1457 (July 1, 2024) <https://www.usni.org/magazines/proceedings/2024/july/framework-unmanned-systems-sea> (last visited Feb. 12, 2026).

585. *Id.*

586. *Id.*

ensuring they are effectively integrated into naval strategy, operations, tactics, and acquisition over the next three to five years.⁵⁸⁷

Lushenko and Posey discussed the establishment of Task Force 59, which aims to integrate unmanned systems and AI into maritime operations, especially in the Fifth Fleet area.⁵⁸⁸ They also mention the various methods of employing unmanned systems, such as picket, distributed, mass, and integrated approaches, which can be applied across different operational scenarios.⁵⁸⁹ They further explored the role of unmanned systems in enhancing fleet capabilities by providing early warnings, extending sensor ranges, and conducting coordinated attacks with lethal and nonlethal fires.⁵⁹⁰ Commander Posey and Lieutenant Lushenko underscore the potential of these systems to offer asymmetric advantages in conflicts with near-peer adversaries.⁵⁹¹

Studying war sanctions can provide insight into the effectiveness of such economic measures influencing behavior of warring parties. This helps with the understanding of how a weapons ban might deter aggression and promote adherence to international rules of law and norms. To this end, Part VI provides a discussion of the impact of sanctions and embargoes on the three case studies in this Article. Part VII reviews two historical total weapons bans: the land mines and cluster munitions bans.

V. IMPACT OF SANCTIONS AND EMBARGOES

It is important to consider the impact of sanctions and embargoes. Sanctions are “a lower-cost, lower-risk course of action between diplomacy and war.”⁵⁹² For example, in response to threats against U.S. foreign policy, economy, and national security, the U.S. Department of Treasury’s Office of Foreign Assets Control (OFAC) issues and enforces sanctions.⁵⁹³ The sanctions issued range from “blocking the property of specific individuals and entities to broadly prohibiting transactions involving the entire country or geographic region.”⁵⁹⁴ Trade

587. *Id.*

588. *Id.*

589. *Id.*

590. *Id.*

591. *Id.*

592. See Jonathan Masters, *What Are Economic Sanctions?*, COUNCIL ON FOREIGN RELS. (June 24, 2024), <https://www.cfr.org/backgrounder/what-are-economic-sanctions> [https://perma.cc/D3PW-U4B7] (noting that the goal of economic sanctions is to alter the strategic decisions that threaten international norms of behavior and that using sanctions can precede more severe action).

593. See generally *Basic Information on OFAC and Sanctions*, U.S. DEP’T OF THE TREASURY (Aug. 21, 2024), <https://ofac.treasury.gov/faqs/topic/1501> [https://perma.cc/D72Z-C2P3].

594. *Id.*

embargoes are a type of sanction.⁵⁹⁵ In theory and idealistically, sanctions and embargoes are imposed to pressure ceasefires and bring ends to war. Thus, one way to reduce the devastation of drone warfare is to sanction drone weaponry. Thus, it is important to consider the impact current sanctions and embargoes have had.

Sanctions and embargoes are often used as tools to restrict the flow of military technology, including drones, to entities at war. These measures aim to prevent the proliferation of armed drones to groups or states that violate international law or engage in human rights abuse. For example, some United Nations (UN) arms embargoes specifically target the supply of military technology, including drones, to conflict zones, aiming to limit the ability of non-state actors and sanctioned governments to acquire advanced weaponry.⁵⁹⁶

Drones are increasingly relevant to arms embargoes and sanctions because many drone components, such as navigation systems and communication equipment, can be used for both civilian and military purposes, making them subject to export controls.⁵⁹⁷ There are issues with smuggling and irregular supply acquisitions, so embargoed regions often acquire drones through illicit channels, bypassing sanctions.⁵⁹⁸ Further, although embargoes allow national governments to acquire drones for security purposes, there is a risk of diversion to unauthorized groups.⁵⁹⁹ Regarding enforcing embargoes, drones enable external actors to influence conflicts remotely which is an internationalization of conflicts, complicating the enforcement of embargoes.⁶⁰⁰ In embargo enforcement, police, customs, border patrol, and specialized regulatory bodies work together to monitor shipments, prevent smuggling, and ensure compliance with embargo laws.⁶⁰¹ The Counter-Unmanned Aircraft Systems technology company D-Fend Solutions advocates

595. *Id.*

596. Judith Vorrath, *UN Arms Embargoes Under Scrutiny: Obstacles and Options for an Effective Contribution to Conflict Resolution*, GERMAN INST. FOR INT'L & SEC. AFFS. 1, 6 (2024), https://www.swp-berlin.org/publications/products/research_papers/2024RP12_UNArmsEmbargoes_Web.pdf (focusing on the implications of UN arms embargoes on Somalia, Libya, the Democratic Republic of Congo, and the Central African Republic, the author reveals overarching challenges in implementing and enforcing embargoes due to the increased use of technologies such as drones).

597. *Id.*

598. *Id.* at 6.

599. *Id.* at 6, 33.

600. *Id.* at 6.

601. Glenn McArthur, *Countering Criminal Drones: How CUAS Systems Can Protect Global Borders*, DFEND SOLUTIONS (Mar. 26, 2025), <https://d-fendsolutions.com/blog/countering-criminal-drones-c-uas-systems-border-protection/> [<https://perma.cc/P4BJ-VSBP>]; see also Vorrath, *supra* note 596, at 42 (discussing customs and monitoring).

that it is essential to detect, identify, and mitigate rogue drones that compromise national security.⁶⁰² While criminals use drones for drug trafficking, they also use drones for: (1) monitoring law enforcement movements to avoid capture; (2) creating distractions or false alerts to overwhelm law enforcement resources; (3) attacking law enforcement personnel; and (4) surveilling law enforcement checkpoints and border security installations.⁶⁰³

The following Subparts describe examples of sanctions and embargoes imposed in the Russia/Ukraine war, Israel/Palestine war, and the Sudanese civil war. While currently there are sanctions and embargoes aimed at preventing the proliferation of armed drones, it is worth noting examples of other restrictions that are currently in place to put further pressure on warring parties in an attempt to bring an end to their respective wars. This Part serves to bring awareness to the use of sanctions and embargoes to prevent the proliferation of armed drones to groups or states that violate international law or engage in human rights abuse.

A. Russia/Ukraine War

To avoid sanctions, Russia sought alternatives to continue cash flows. Russia and Iran built a new transcontinental trade route from Europe to the Indian Ocean.⁶⁰⁴ While smaller companies like VPower Financial Security handled more than \$300 million of Russia's gold shipments through Hong Kong,⁶⁰⁵ Russia turned to mineral rich Africa for a partner. Sudan had a five-year-long war in Darfur from 2012 to 2017 over gold, and RSF, a party to the war, was trained by Russia⁶⁰⁶ and the Wagner Group.⁶⁰⁷ In 2017, Meroe Gold, a subsidiary of Wagner's company M Invest, set up operations in Sudan with Wagner guarding Russian mining interests.⁶⁰⁸ Russia and RSF gained influence over Sudan's gold trade.⁶⁰⁹ Sudanese gold gave Russia "the ability to

602. McArthur, *supra* note 601.

603. *Id.*

604. Tessa Knight & Ruslan Trad, *Sudan's Gold: The Precious Metal Used to Fund Conflicts*, NEW ARAB (May 9, 2023), <https://www.newarab.com/analysis/sudans-gold-precious-metal-used-fund-conflicts> [<https://perma.cc/X6SA-6E4F>].

605. *Id.*

606. *Id.*

607. MIL. AFR., (*Special Report*) *Controversy Surrounding the CH-95 Drones in Sudan*, (Dec. 5, 2024), <https://www.military.africa/2024/12/sudan-army-seize-rebels-ch-95-drone/> [<https://perma.cc/NA8Q-6LS6>].

608. Knight & Ruslan, *supra* note 604.

609. *Id.*

circumvent Western sanctions and buffer Russian coffers ahead of the invasion of Ukraine in 2022.”⁶¹⁰

The effectiveness of economic sanctions against Russia is a complex and debated topic.⁶¹¹ The sanctions have targeted key sectors such as energy, finance, and military production, isolating Russia from much of the global financial system.⁶¹² However, Russia has adapted by prioritizing military spending and finding alternative markets for its exports.⁶¹³ In the end, while the sanctions have certainly put significant pressure on the Russian economy, causing issues like inflation, labor shortages, and reduced GDP growth, they have not yet succeeded in changing Russia’s behavior or ending the war in Ukraine.⁶¹⁴

Beginning in 2022, the United States announced more than 500 sanctions against Russia.⁶¹⁵ In addition, the United States froze five billion dollars of Russian U.S. assets in the central bank to prevent Russia from using foreign reserves to “prop up the Russian ruble.”⁶¹⁶ The United States also prevented some of Russia’s banks from processing international payments.⁶¹⁷ When sanctions block access to global banking networks and refuse to permit banks to process banking transactions, liquidity problems for companies and supply chain disruptions can be created.⁶¹⁸ “These disruptions can lead to increased costs, longer lead times, and the need for companies to find alternative suppliers or reconfigure their supply chains.”⁶¹⁹

610. *Id.*

611. See generally Francesco Giumelli, *A Comprehensive Approach to Sanctions Effectiveness: Lessons Learned from Sanctions on Russia*, 30 EUR. J. CRIM. POL’Y & RSCH. 225 (2024) (advocating that whether sanctions are viewed as successful or effective depends on how success and effectiveness are defined).

612. *Two Years of War in Ukraine: Are Sanctions Against Russia Making a Difference?*, COUNCIL ON FOREIGN RELS. (Oct. 23, 2025) [hereinafter *Two Years of War in Ukraine*], <https://www.cfr.org/in-brief/three-years-war-ukraine-are-sanctions-against-russia-making-difference> [https://perma.cc/WL5Y-SPKL].

613. Boris Grozovski, *The Risks of Russia’s Two Speed Economy in 2025*, WILSON CTR. (Jan. 10, 2025), <https://www.wilsoncenter.org/blog-post/risks-russias-two-speed-economy-2025> [https://perma.cc/ZXE5-PQLV].

614. *Id.*

615. *Two Years of War in Ukraine*, *supra* note 612.

616. *Id.*

617. CFR Editors also note that, in January 2024, the Group of Seven imposed sanctions on Russian diamonds, and the United States prohibited U.S. investors from trading Russian securities. *Id.* The United States and Taiwan have also restricted exports of computing chips to Russia—these are used in drones and other military equipment. *Id.*

618. Finlay Donaldson & James Willn, *Navigating Sanctions: Their Impact on Global Supply Chains*, REED SMITH LLP (Dec. 4, 2024), <https://www.reedsmith.com/articles/from-a2b-decoding-the-global-supply-chain/navigating-sanctions-their-impact-on-global-supply-chains/> [https://perma.cc/7U9E-56A5].

619. *Id.*

Further, as with the problem of oil supply chain disruptions in the Israel/Palestine war, oil has been a major concern in the Russia/Ukraine war, as energy sales support the Kremlin's budget.⁶²⁰ "Russia is a major player in global energy markets. It is one of the world's top three crude producers, vying for the top spot with Saudi Arabia and the United States."⁶²¹ In March 2022, President Joe Biden announced a ban on Russian oil as a U.S.-led sanction.⁶²² President Biden signed two bills that levied sanctions on Russia and Belarus, designed to suspend normal trade relations with those countries and to prohibit energy imports from Russia.⁶²³

Europe has been heavily dependent on Russian oil and natural gas for decades and is its biggest purchaser of crude.⁶²⁴ Europe was once independent of Russia for natural gas but their North Sea reserves dried up.⁶²⁵ As of March 2022, Europe was importing 4.5 million barrels of Russian crude oil and petroleum products daily.⁶²⁶ Reduced supplies of Russian oil and gas have driven prices up sharply.⁶²⁷ Russian supplies about 40 percent of gas to Europe, since the Russia/Ukraine war increased energy prices, the European Union announced it will switch to alternative energy sources before 2030 to gain independence from Russian energy.⁶²⁸ European customers could replace Russian barrels with barrels from the United States, Latin America, Africa, and suppliers in the Middle East.⁶²⁹

620. *EXPLAINER: What's the Impact if Europe Cuts Off Russian Oil?*, ASSOCIATED PRESS (May 4, 2022) [hereinafter *What's the Impact if Europe Cuts Off Russian Oil?*], <https://apnews.com/article/russia-ukraine-covid-business-health-europe-48b3b863fbef683bb11a43b296ca980b> [<https://perma.cc/U9DK-KJRM>].

621. *Energy Fact Sheet: Why Does Russian Oil and Gas Matter?*, INT'L ENERGY AGENCY (Mar. 21, 2022), <https://www.iea.org/articles/energy-fact-sheet-why-does-russian-oil-and-gas-matter> [<https://perma.cc/4AWP-K66Y>].

622. Samuel Benson & Zach Colman, "We Will Not Be Part of Subsidizing Putin's War": Biden Imposes Ban on Russian Energy, POLITICO, (Mar. 8, 2022), <https://www.politico.com/news/2022/03/08/biden-russian-oil-ban-ukraine-war-00015049> (last visited Feb. 12, 2026).

623. Nikki Carvajal, *Biden Signs Sanction Bills Targeting Russian Oil and Trade with Russia and Belarus*, CNN (Apr. 8, 2022), <https://www.cnn.com/2022/04/08/politics/biden-signs-russia-sanctions> [<https://perma.cc/QW8N-SGC9>].

624. *What's the Impact if Europe Cuts Off Russian Oil?*, *supra* note 620.

625. Catherine Clifford, *Why Europe Is So Dependent on Russia for Natural Gas*, CNBC (Feb. 24, 2022), <https://www.cnbc.com/2022/02/24/why-europe-depends-on-russia-for-natural-gas.html> [<https://perma.cc/6UGF-LLAL>].

626. Benson & Colman, *supra* note 622.

627. Ellyatt, *supra* note 137.

628. *EU Signs US Gas Deal to Curb Reliance on Russia*, BBC (Mar. 25, 2022), <https://www.bbc.com/news/business-60871601> [<https://perma.cc/92DN-8CXV>].

629. *What's the Impact if Europe Stops Buying Russian Oil?*, CBS (Apr. 21, 2022), <https://www.cbsnews.com/news/ukraine-russia-europe-oil/?intcid=CNM-00-10abd1h> [<https://perma.cc/5Q4W-6VRV>].

Germany was particularly concerned about bans on buying Russian oil because the country has heavy gas usage; in fact, in 2022, it was estimated that “an immediate cutoff could cost jobs with industrial associations warning of shutdowns in glass and metals businesses.”⁶³⁰ An immediate stop of Russian gas deliveries to Germany was estimated to shrink Germany’s GDP by 0.1 to 5.2 percent.⁶³¹ To retaliate against Europe, in August 2022, “Moscow shut down the Nord Stream 1 pipeline, which supplied almost 60 percent of Germany’s natural gas.”⁶³²

How is Russia faring? By 2024, Russian gas company Gazprom announced that it will take a decade to recover from Western sanctions and to return to their 2020 level of exports.⁶³³ Gazprom’s revenues dropped by 30 percent in 2023, even with Europe still allegedly buying Russian gas exports, approximated at 50 percent of Russia’s production.⁶³⁴ To exacerbate Russia’s energy issues, in May 2024, Ukraine struck a Russia oil depot located in Livny, Russia, with two drones.⁶³⁵ At least 13 successful attacks on Russian oil refineries have been carried out, disrupting capacity.⁶³⁶ By November 2024, with an unprecedented use of small tactical drones, Ukraine struck dozens of Russian oil refineries.⁶³⁷

In addition, the United States and Group of Seven implemented rules to cap the price that other importing countries, namely India and China, could pay for Russian crude oil.⁶³⁸ The price cap caused Russia’s oil and gas revenue to decline but did not cause a widespread economic collapse.⁶³⁹ Yet, in 2023, U.S. Treasury Assistant Secretaries Elizabeth Rosenberg and Eric Van Nostrand reported that “the price cap is achiev-

630. *What’s the Impact if Europe Cuts Off Russian Oil?*, *supra* note 620.

631. Philip Oltermann, *Boycott of Russian Gas and Oil “Could Cause Mass Poverty in Germany,”* GUARDIAN (Mar. 14, 2022), <https://www.theguardian.com/world/2022/mar/14/russian-gas-oil-boycott-mass-poverty-warns-germany> [<https://perma.cc/22K6-HZ8G>].

632. *Two Years of War in Ukraine*, *supra* note 612.

633. INTELLNEWS, *Gazprom’s Business Will Take At Least a Decade to Recover from the Impact of the Ukraine War*; (June 6, 2024), <https://www.intellnews.com/gazprom-s-business-will-take-at-least-a-decade-to-recover-from-the-impact-of-the-ukraine-war-328655/> (last visited Feb. 12, 2026).

634. *Id.*

635. Isabel van Brugen, *Ukraine Strikes Russian Oil Depot Deep Behind Enemy Lines*, NEWSWEEK (May 27, 2024), <https://www.newsweek.com/ukraine-strikes-russian-oil-depot-oryol-1904928> [<https://perma.cc/8339-K396>].

636. *Id.*

637. Balcaen, *supra* note 91.

638. *Two Years of War in Ukraine*, *supra* note 612; see also Elizabeth Rosenberg & Eric Van Nostrand, *The Price Cap on Russian Oil: A Progress Report*, U.S. DEP’T OF THE TREASURY (May 18, 2023), <https://home.treasury.gov/news/featured-stories/the-price-cap-on-russian-oil-a-progress-report> [<https://perma.cc/J73H-FPDT>].

639. *Two Years of War in Ukraine*, *supra* note 612.

ing both goals” of keeping prices low for consumers and making it harder for Russia to fund its war.⁶⁴⁰ However, Russia runs the risk of stagflation, as it is experiencing inflationary pressures and low economic growth in all sectors except military production.⁶⁴¹ Stagflation occurs when inflation persists during an economic downturn; for example, if inflation persists while employment slows, there is stagflation.⁶⁴²

In April 2024, the UK government sanctioned specific individuals in Iran for supplying drones to Russia.⁶⁴³ The government placed an asset freeze and travel ban on Seyed Mohsen Vahabzadeh Moghadam and Abbas Abdi Asjerd, directors of a network of Iranian drone production companies.⁶⁴⁴ Moghadam and Asjerd were sanctioned for having connections to “Abdollah Mehrabi, head of the IRGC Aerospace Force SSJO, a key figure in Iran’s drone industry who was designated by the UK in 2022 for his role in supplying drones to Russia.”⁶⁴⁵ Prior to these sanctions, the UK sanctioned a wide range of Iranian Shahed-131 and Shahed-136 drone production companies for supplying drones to Russia.⁶⁴⁶ The EU also sanctioned Iran.⁶⁴⁷ The United States sanctioned China-based companies for supplying drones to Russia.⁶⁴⁸

Although the sanctions have had a substantial economic impact, Russia seems to be playing a long game, perhaps believing that Western calls for a ceasefire is a sign of Ukrainian weakness.⁶⁴⁹ Francesco Giumelli, professor of international relations at the University of Groningen in the Netherlands, opines that sanctions against Russia have been a useful strategy to constrain Russian military capabilities without

640. Rosenberg & Van Nostrand, *supra* note 638.

641. Grozovski, *supra* note 613.

642. Bill Conerly, *Stagflation: Causes and When It Will Come*, FORBES (June 28, 2022), <https://www.forbes.com/sites/billconerly/2022/06/28/stagflation-causes-and-when-it-will-come/> (last visited Feb. 12, 2026); see also Peter Gratton, *What Is Stagflation, What Causes It, and Why Is It Bad?*, INVESTOPEDIA (Apr. 7, 2025), <https://www.investopedia.com/terms/s/stagflation.asp> [<https://perma.cc/8WGY-SSCJ>].

643. David Cameron, *UK Targets Iran’s Ability to Launch Drones Through New Round of Sanctions*, GOV.UK (Apr. 25, 2024), <https://www.gov.uk/government/news/uk-targets-irans-ability-to-launch-drones-through-new-round-of-sanctions> [<https://perma.cc/R3X5-WHP7>].

644. *Id.*

645. *Id.*

646. *Id.*

647. *EU Sanctions Against Iran*, EUR. COUNCIL & COUNCIL OF THE EUR. UNION, <https://www.consilium.europa.eu/en/policies/sanctions-against-iran/> (last visited Feb. 12, 2026).

648. See *Treasury Targets Actors Involved in Drone Production for Russia’s War Against Ukraine*, U.S. DEP’T OF THE TREASURY (Oct. 17, 2024), <https://home.treasury.gov/news/press-releases/jy2651> [<https://perma.cc/74Q9-GKVE>].

649. See Balcaen, *supra* note 91. (stating that the Russian/Ukraine conflict has become a war of attrition with Russia “devoting a large share of its industrial capacity to the war effort”).

“undermining the functioning of key sectors of the global economy.”⁶⁵⁰ Yet, Russian economic policy scholar Ilya Matveev opined in 2022 that Russia will have resources to continue fighting the war of attrition for months or even years.⁶⁵¹

B. Israel/Palestine War

In 2024, Turkey imposed restrictions on exports for 54 products to Israel in response to the ongoing war in Gaza.⁶⁵² Turkey accused Israel of violating international law.⁶⁵³ These sanctions included halting exports of iron, steel, jet fuel, construction equipment, cement, granite, bricks, and pesticide products.⁶⁵⁴ The U.S. International Trade Administration is advocating that the Turkey sanction on exports to Israel is a great opportunity for U.S. suppliers to enter the Israeli market, which has high demands and low supplies of raw materials such as “iron, marble, steel, cement, aluminum, bricks, fertilizer, [and] construction equipment.”⁶⁵⁵ Thus, this war has created commercial opportunities for suppliers in the U.S. market., Israel’s Ministry of Foreign Affairs responded to Turkey’s sanctions by saying that Turkey is sacrificing its economic interests in favor of Hamas.⁶⁵⁶ Israel also states that Turkey’s sanctions are violations of trade agreements between Turkey and Israel.⁶⁵⁷ In addition, Israel responded by appealing to pro-Israel countries to curtail investments in Turkey and to impose sanctions on Turkey.⁶⁵⁸ These stances ignore Turkey’s position of concern over humanitarian violations on Israel’s part.

Turkey also called for an arms embargo⁶⁵⁹—it was cosigned by 52 UN member countries.⁶⁶⁰ Like Turkey, in May 2024, the president of Doctors Without Borders called on Australia to sanction Israel, accus-

650. Giumelli, *supra* note 611, at 225.

651. Kolhatkar, *supra* note 126.

652. AL JAZEERA, *Turkey Restricts Exports on 54 Products to Israel Until Gaza Ceasefire*, (Apr. 9, 2024), <https://www.aljazeera.com/news/2024/4/9/turkey-restricts-exports-of-54-products-to-israel-until-gaza-ceasefire> [https://perma.cc/8EWZ-PN5G].

653. *Id.*

654. *Id.*

655. Also note that the U.S. International Trade Administration states that, since 1985, there has been a United States-Israel Free Trade Agreement (FTA) benefitting U.S. businesses since U.S. products can enter Israel duty-free. *Israel Raw Materials Supply Chain Affected*, *supra* note 101.

656. *Turkey’s Announcement on Restriction of Exports to Israel*, ISR. MINISTRY OF FOREIGN AFFS. (Sep. 04, 2024), <https://www.gov.il/en/pages/turkey090424> (last visited Feb. 13, 2026).

657. *Id.*

658. *Id.*

659. Agence France Presse (AFP), *Turkey Leads Multinational Call to UN for Arms Embargo on Israel*, TIMES ISR. (Nov. 3, 2024), https://www.timesofisrael.com/liveblog_entry/turkey-leads-multinational-call-to-un-for-arms-embargo-on-israel/ (last visited Feb. 13, 2026).

660. Ironically, Russia was one of the cosigners. *Id.*

ing Israel of (1) blatantly ignoring a UN Security Council resolution which called for a ceasefire; (2) striking a displacement camp killing 45 people; and (3) deliberately depriving Palestinians of food and water.⁶⁶¹

In April 2024, UK joined the United States and Canada in announcing sanctions against Iran after Iran attacked Israel on April 13, 2024. The sanctions have designations that target individuals and companies involved in the Iranian drone production industry.⁶⁶² The United States supplying Israel with military aid or goods does not necessarily violate international law, unless it contravenes specific United Nations Security Council (UNSC) resolutions or binding international treaties. The United States would only be in violation of international law if its actions directly breached UN-imposed arms embargoes or other binding international restrictions. Another example is the U.S. decision to unilaterally enforce UN sanctions on Iran, despite opposition from other UNSC members.⁶⁶³ The UK government expanded existing trade sanctions against the Iranian regime by introducing bans on the export of components used in drone and missile production.⁶⁶⁴

C. Sudanese Civil War

There is a 2004 UN arms embargo that applies to Darfur for a different conflict.⁶⁶⁵ This 2004 embargo imposed an arms embargo on non-governmental entities and individuals, including the Janjaweed, operating in the states of North Darfur, South Darfur, and West Darfur, Sudan, while allowing UN member states to sell arms to entities in other parts of Sudan.⁶⁶⁶ Scholar Parker Hempel advocated that the 2004 embargo was too limited because it failed to prevent external powers, like the UAE and Iran, from supplying military aid across Sudan.⁶⁶⁷ Hempel predicted that, although an embargo expansion would be difficult, if the embargo was expanded to all of Sudan, then the UN Security Council could apply targeted sanctions on Iran and UAE.⁶⁶⁸ However, in May 2023, U.S. President Biden issued U.S. Executive Order 14098, expanding the scope of the November 1997 U.S. Executive Order

661. Yosufzai, *supra* note 33.

662. Cameron, *supra* note 643.

663. See generally Farshad Ghodoosi, *Binding Political Commitments*, 2020 U. ILL. L. REV. ONLINE 235 (Oct. 15, 2020), <https://illinoislawreview.org/online/binding-political-commitments> [<https://perma.cc/4NNF-9EHV>] (exploring whether the United States violated international law by disregarding the Joint Comprehensive Plan of Action and U.N.S.C. Resolution 2231).

664. *Id.*

665. Hempel, *supra* note 193.

666. U.N. Security Council, Res. 1556, U.N. Doc. S/RES/1556 (July 30, 2004).

667. Hempel, *supra* note 193.

668. *Id.*

13067, which blocked Sudanese government property and prohibited transactions with Sudan, and the April 2006 U.S. Executive Order 13400, which blocked property of persons in connection with Sudan's Darfur region war.⁶⁶⁹

Executive Order 14096 establishes that the United States considers the 2021 military seizure of power and April 2023 outbreak of war as "threat[s] to the national security and foreign policy of the United States."⁶⁷⁰ The U.S. foreign policy is to support and defend Sudan's transition to a democracy.⁶⁷¹ In September 2023, the United States sanctioned the Russian company Aviatrade and its partner, the Sudanese company GSK Advance, for supplying drones to and training the Rapid Support Forces (RSF).⁶⁷²

Further, for destabilizing Sudan, in January 2025, the U.S. Department of Treasury's OFAC sanctioned both Abdel Fattah Al-Burhan, the Sudanese Armed Forces (SAF) leader,⁶⁷³ and Mohammad Hamdan Daglo Mousa (Hemeti), the RSF paramilitary leader, under Executive Order 14098.⁶⁷⁴ On January 7, 2025, the Treasury Department issued a press release which stated that all suppliers of weapons to the RSF in the United States are blocked.⁶⁷⁵ The United States accuses the RSF of strategically using the denial of humanitarian aid, ethnically motivated killing, sexual violence, and defenseless civilian execution to their advantage.⁶⁷⁶ On January 16, 2025, the Treasury Department issued a press release which stated that it is using this sanction as a tool to disrupt the flow of weapons into Sudan and hold Burhan responsible for the blatant disregard of human lives, attacks on civilians, and denial of humanitarian access.⁶⁷⁷ In March 2025, the Turkish defense company Baykar was reported to be under investigation for a potential violation of EU and U.S. sanctions for sending six TB2 drones and

669. *Executive Order on Imposing Sanctions on Certain Persons Destabilizing Sudan and Undermining the Goal of a Democratic Transition*, U.S. White House (May 4, 2023), <https://www.federalregister.gov/documents/2023/05/05/2023-09826/imposing-sanctions-on-certain-persons-destabilizing-sudan-and-undermining-the-goal-of-a-democratic> [<https://perma.cc/XH2G-KN3D>].

670. *Id.*

671. *Id.*

672. Sudan War Monitor & Digin, *supra* note 190.

673. *Treasury Sanctions Leader of Sudanese Armed Forces and Weapons Supplier*, U.S. DEPT. OF THE TREASURY (Jan. 16, 2025) [hereinafter *Treasury Sanctions Leader of Sudanese Armed Forces*], <https://home.treasury.gov/news/press-releases/jy2789> [<https://perma.cc/LK2M-4MZZ>].

674. *Treasury Sanctions Sudanese Paramilitary Leader, Weapons Supplier, and Related Companies*, U.S. DEP'T OF THE TREASURY (Jan. 7, 2025), <https://home.treasury.gov/news/press-releases/jy2772> [<https://perma.cc/8VNF-KFGE>].

675. *Id.*

676. *Id.*

677. *Treasury Sanctions Leader of Sudanese Armed Forces*, *supra* note 673.

other weapons to the Defense Industries System, a Sudanese military procurement agency.⁶⁷⁸

Lastly, in November 2024, Pieter Balcaen reported that economic warfare making use of sanctions, embargos, physical blockades, and direct weapons strikes begs the need for supply chain specialists.⁶⁷⁹ Balcaen advocates that there needs to be “soldier-economists” to plan, coordinate, and mitigate negative spillover effects that impact the entire interconnected world economy.⁶⁸⁰

While sanctions can thwart the production and flow of weapons, including drones, so can weapon bans. Thus, Part VII discusses the history of international bans on land mines and cluster munitions. Since totally or partially banning drone warfare is an option to alleviate extensive concerns raised about drone usage, an exploration of bans on weapons is important.

VI. PRIOR BANS OF WEAPONS

Given the devastation that drone warfare has caused, a possible solution is a ban on the use of drones. Banning drones addresses the concern that a robot cannot make the type of judgments required by international laws in life and death decisions.⁶⁸¹ With all munition bans, there are opponents and proponents. Legal scholar Jaume Saura provides an interesting example of an opponent to a drone ban with some reservation. In 2016, legal Scholar Jaume Saura surmised that “armed drone technology is not and cannot be per se forbidden.”⁶⁸² But, Saura warns that his stance may need to be revisited if the manner and use of drones more often than not violates IHL.⁶⁸³ He also posits that drones should not be used to terrorize civilians by flying constantly and causing civilians to live under the threat of an unexpected, armed attack.⁶⁸⁴

678. Jerry Fisayo-Bambi, *Turkish Defence Firm Accused of Violating Sanctions with Sudan Weapons Supplies*, YAHOO! NEWS: EURONEWS (Mar. 10, 2025, at 4:09 GMT), <https://uk.news.yahoo.com/turkish-defence-firm-linked-sudan-182237104.html?guccounter=1> [<https://perma.cc/LC9C-M4Z9>].

679. Balcaen, *supra* note 91.

680. *Id.*

681. See e.g., Peter Asaro, *On Banning Autonomous Weapon Systems: Human Rights, Automation, and the Dehumanization of Lethal Decision Making*, 94 INT'L REV. RED CROSS 687, 687–88 (2012).

682. Saura, *supra* note 375, at 149.

683. *Id.*

684. *Id.*

A. Land Mines Ban

There is precedent for a ban on certain drones. Certain land mines, like the Bouncing Betty S-mine—which could launch itself to a height of one meter before detonating and, therefore, have devastating impacts on soldiers and civilians—have been banned.⁶⁸⁵ In November 2023, journalist Eric Lipton of the *New York Times* published that the concept of an autonomous weapon such as drones is not entirely new given that land mines dating back to the U.S. Civil War could detonate autonomously.⁶⁸⁶ However, what Lipton failed to report was that, due to a large number of civilian casualties, there was a growing movement to ban land mines.⁶⁸⁷ Like land mines, drones have proven to be indiscriminate, failing to distinguish soldiers from civilians and enemy combatants from innocent children. In May 1996, U.S. President Bill Clinton “announced a unilateral decision not to use non-self-destructing [anti-personnel mines] APLs except for the defense of South Korea.”⁶⁸⁸ In October 1996, The Ottawa Conference of nations was hosted in Ottawa, Canada, to develop a strategy for a worldwide ban of land mines.⁶⁸⁹ In December 1996, the United Nations (UN) issued General Assembly Resolution 51/45 to call for states to pursue a binding agreement to ban the use and stockpiling of APLs.⁶⁹⁰ In 1997, an “International Campaign to Ban Landmines” was led by Jody Williams, who later earned a Nobel Peace Prize for the work.⁶⁹¹ Also in 1997, a treaty regarding the prohibition of use, stockpiling, production, and transfer of APLs was signed in Ottawa.⁶⁹² This Ottawa Treaty (a.k.a. the Mine Ban Treaty) was adopted

685. JON N. JONES, U.S. ARMY OPERATIONS UNDER THE OTTAWA CONVENTION: MINE WARFARE WITHOUT ANTIPERSONNEL LANDMINES 2 (1999).

686. Eric Lipton, *As A.I.-Controlled Killer Drones Become Reality, Nations Debate Limits*, N.Y. TIMES (Nov. 21, 2023), <https://www.nytimes.com/2023/11/21/us/politics/ai-drones-war-law.html> (last visited Feb. 12, 2026); see also Scoles, *supra* note 575 (expressing the sentiment that land mines go off independently without discernment).

687. JONES, *supra* note 685, at 13.

688. *Id.* at 1.

689. See generally *id.*; see also CANADIAN LANDMINE FOUND., *The Ottawa Treaty*, <https://canadianlandmine.org/the-foundation/the-treaty/> [<https://perma.cc/8CTM-QEYT>].

690. G.A. Res. 51/45 S, at 33 (Jan. 10, 1997). See also *Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects*, U.N. GAOR Supp. No. 49, at 213–14, U.N. Doc. A/51/49 (1996) (mentioning mine bans in relation to the protection of children affected by armed conflict, calling for appropriate measures to ensure humanitarian assistance to child soldiers, victims of landmines, and victims of gender-based violence). See also G.A. Res. 52/38 A, at 1 (Jan. 8, 1998).

691. Denise Garcia, *Banning Evil: Cluster Munitions and the Successful Formation of a Global Prohibition Regime*, 5 CORN. INT’L AFFS. REV. 1, 2 (2012).

692. Aaron Anfinson & Nadia Al-Dayel, *Landmines and Improvised Explosive Devices: The Lingering Terror of the Islamic State*, 46 STUD. CONFLICT & TERRORISM 162, 165 (2023).

in 1997 and came into force on March 1, 1999.⁶⁹³ Some countries have not joined the Ottawa Treaty.⁶⁹⁴ The S-mine, like other APLs, was effectively banned under the Ottawa Treaty.⁶⁹⁵

According to the Arms Control Association, the United States has gone back and forth on whether to support the Mine Ban Treaty. In 1997, the U.S. did not sign the treaty, and, in 2004, the George W. Bush administration did not join the Ottawa Convention.⁶⁹⁶ In 2014, President Barack Obama's administration expressed an intention to eventually join, though reserving use of the mines in the Korean peninsula.⁶⁹⁷ In sharp contrast to President Obama's land mine policy, the Trump administration allowed the production and deployment of APLs anywhere in the world.⁶⁹⁸ President Joe Biden's administration announced that it would be rolling back the Trump administration's policy, returning to the 2014 approach.⁶⁹⁹

Despite the Ottawa treaty ban, there is continued use of land mines. For example, in 2024, Human Rights Watch reported land mine use in recent wars in Russia and Myanmar.⁷⁰⁰ Since invading Ukraine on February 24, 2022, Russia has made widespread use of APLs throughout the country.⁷⁰¹ Further, In the 2024 International Campaign to Ban Landmines (ICBL) Landmine Monitor report, there were 5,757 casualties from APLs and explosive remnants of war in 2023.⁷⁰² Myanmar had

693. *Anti-Personnel Landmines Convention*, U.N. OFF. FOR DISARMAMENT AFFS. (UNODA) (1997), <https://disarmament.unoda.org/anti-personnel-landmines-convention> [https://perma.cc/LF2V-HGYE]; see also ARMS CONTROL ASS'N, *The Ottawa Convention: Signatories and States-Parties Fact Sheets & Briefs*, (Dec. 2024), <https://www.armscontrol.org/factsheets/ottawa-convention-signatories-and-states-parties> [https://perma.cc/7KBX-RL6Z].

694. See ARMS CONTROL ASS'N, *supra* note 693 ("As of August 2022, 164 countries (including Palestine) had ratified or acceded to the treaty, and one country, the Marshall Islands, has signed the *accord* but has not ratified it . . . Some key current and past producers and users of landmines, including the United States, China, India, Pakistan, and Russia, have not signed the treaty.").

695. Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, Sep. 18, 1997, 36 I.L.M. 1507, 2056 U.N.T.S. 211 (acceding to the treaty are 165 parties and 133 signatures, though major military powers—such as the United States, China, Russia, India, and Pakistan—have still not signed the treaty).

696. *Id.*

697. *Id.*

698. *Id.*

699. *Id.*

700. *Landmines: New Casualties Show Need to Support Treaty Ban*, HUM. RTS. WATCH (Nov. 20, 2024), <https://www.hrw.org/news/2024/11/19/landmines-new-casualties-show-need-support-treaty-ban> [https://perma.cc/4RXL-FN5D].

701. INT'L CAMPAIGN TO BAN LANDMINES, LANDMINE MONITOR 2024 7 (26th ed. 2024), <https://backend.icblmc.org/assets/reports/Landmine-Monitors/LMM2024/Downloads/Landmine-Monitor-2024-Final-Web.pdf>.

702. *Id.* at 2.

the highest casualty rate in 2023.⁷⁰³ In 2023, 84 percent of the casualties were civilians, and 1,498 of the civilians were children.⁷⁰⁴ Nevertheless, despite the continued use of land mines by some countries, efforts continue to promote universal adherence to the treaty and to clear mined areas to protect civilians; for example, the ICBL continues to advocate for the universalization of the treaty and provides reports on land mine use and clearance efforts.⁷⁰⁵

B. Cluster Munitions Ban

Despite the 1997 Mine Ban Treaty, cluster munitions continued to be used.⁷⁰⁶ The UN defines cluster munitions as weapons “consisting of a container or dispenser from which many submunitions or bomblets are scattered over wide areas.”⁷⁰⁷ Since cluster bombs “often fail to detonate on impact . . . [t]he unexploded ordnance (UXO) then becomes a landmine that could detonate years down the line if stumbled upon by an unsuspecting civilian.”⁷⁰⁸ They were developed during World War II and have been used in various wars since then.⁷⁰⁹ The UN has stated that, since submunitions are unreliable and some fail to explode on impact, submunitions have the potential to have a negative humanitarian impact on civilians both during and long after wars end.⁷¹⁰

While there were international pressures to ban cluster bombs, domestic campaigns and pressure drove humanitarian behavioral change in democratic states.⁷¹¹ For example, the mines ban resulted from activism by state and non-state actors such as NGOs.⁷¹² Regarding cluster munitions, some reticent governments self-imposed bans which contributed to humanizing the laws of war.⁷¹³ For example, the govern-

703. *Id.* at 42.

704. *Id.* at 44.

705. *Id.* at 8–10.

706. See generally CLUSTER MUNITION COAL., CLUSTER MUNITION MONITOR 2025 (16th ed. 2025), <https://backend.icblcmc.org/assets/reports/Cluster-Munition-Monitors/CMM2025/Cluster-Munition-Monitor-2025-Web.pdf>.

707. *Convention on Cluster Munitions*, UNODA, <https://disarmament.unoda.org/en/our-work/conventional-arms/convention-cluster-munitions> [<https://perma.cc/8PM9-HUZB>].

708. Abigail Stofer, *Hot New Bombshells: Cluster Munitions' Humanitarian Legacy and Impact*, HUM. RTS. RSCH. CTR. (Aug. 22, 2025), <https://www.humanrightsresearch.org/post/hot-new-bombshells-cluster-munitions-humanitarian-legacy-and-impact> [<https://perma.cc/6MD5-ZXZK>].

709. CLUSTER MUNITION COAL., *supra* note 706.

710. *Convention on Cluster Munitions*, *supra* note 707.

711. Mary Taylor Benjamin-Britton, *The Politics of Humanitarian Disarmament: Civil Society and the Cluster Bomb Ban 2* (2016) (Ph.D. dissertation, Temple University) (on file with Temple University).

712. Garcia, *supra* note 691.

713. Benjamin-Britton, *supra* note 711.

ment of Norway called a negotiation concerning a ban on cluster bombs at the 2008 Oslo Convention on Cluster Munitions.⁷¹⁴ The rationale was that the likelihood of harm to civilians, including but not limited to children who, due to the high failure rate of unexploded but lethal devices, could be later pick up the mines.⁷¹⁵ Further, certain specific cluster munitions were banned because they were perceived as causing unnecessary suffering.⁷¹⁶

A Convention on Cluster Munitions (CCM) was adopted in Dublin, Ireland, on May 30, 2008.⁷¹⁷ The convention reaffirmed the Declaration of the Oslo Conference on Cluster Munitions, prohibiting the use, transfer, production, and stockpiling of cluster munitions and requiring the destruction of stockpiles and clearance of contaminated sites.⁷¹⁸ The CCM entered into force on August 1, 2010⁷¹⁹ and, as of January 19, 2025, 112 states are party to the Convention.⁷²⁰ However, the United States has not joined the CCM.⁷²¹ Despite the CCM, there have been accusations of cluster munition use in recent wars, including the invasion of Ukraine by Russia.⁷²² Nevertheless, from a review of the *Cluster Munition Monitor 2022* report, the ban on cluster bombs represents a significant step towards reducing the humanitarian impact of armed conflicts. Since the CCM was adopted in 2008, 1.5 million cluster munitions and 178 million submunitions have been destroyed.⁷²³ However, challenges remain in implementing the CCM.⁷²⁴

In 2012, political science scholar Denise Garcia applied Peter Andreas and Ethan Nadelmann's observation related to the prohibition of policing practices to the prohibition of cluster munitions.⁷²⁵ Andreas & Nadelmann advocated that these types of global prohibition regimes

714. Ren Wadlow, *Ban Cluster Bombs: The Pressure Grows . . .*, PEACE MAG. (Apr. 1, 2007), <https://peacemagazine.org/archive/v23n2p24.htm> [<https://perma.cc/B8N5-CMDQ>].

715. Abiodun-Oni, J. OF ADVANCED PUBLIC INT'L L. (JAPL), (2021).

716. Benjamin-Britton, *supra* note 711, at 1.

717. Convention on Cluster Munitions, May 30, 2008, 48 I.L.M. 357, 2688 U.N.T.S. 39.

718. *Id.*

719. CLUSTER MUNITION COAL., *supra* note 706.

720. *Convention on Cluster Munitions*, *supra* note 707.

721. *Id.*

722. *Cluster Munition Use in Russia-Ukraine War*, HUM. RTS. WATCH (May 29, 2023), <https://www.hrw.org/news/2023/05/29/cluster-munition-use-russia-ukraine-war> [<https://perma.cc/7F2M-Z8MQ>].

723. *Id.*; see also Bonnie Docherty, *Cluster Munitions and the Impact of International Law*, HUM. RTS. WATCH (June 29, 2023), <https://www.hrw.org/news/2023/06/29/cluster-munitions-and-impact-international-law> [<https://perma.cc/55AT-94AW>].

724. See generally CLUSTER MUNITION COAL., CLUSTER MUNITION MONITOR 2022 (13th ed. 2022), https://backend.icblmc.org/assets/reports/Cluster-Munition-Monitors/CMM2022/Downloads/Cluster-Munition-Monitor-2022-Web_HR.pdf.

725. Garcia, *supra* note 691, at 38.

against crimes like piracy, drug trafficking, and slavery have four or five stages.⁷²⁶ If applied to cluster munitions, Garcia notes that, in the first stage, the activity is viewed as legitimate and normal.⁷²⁷ Then, there is a gradual re-framing of the issue into an evil problem.⁷²⁸ In the third stage, activists campaign for change and the need for an international convention.⁷²⁹ The formation of a new international convention occurs in the fourth stage.⁷³⁰ In the fifth stage, the activity dissipates.⁷³¹ Given the recognition that the mere sound of drones is mentally anguishing⁷³² and that there are indiscriminate civilian injuries and casualties in drone warfare,⁷³³ the use of drones can be framed as a second stage evil problem. If a ban on drone usage in warfare is advocated for, one can likely expect these five stages to occur.

Next, Part VIII is an exploration of the future of drone warfare, discussing AI-enhanced drones. It includes a review of the ethical and legal concerns associated with providing drones with the ability to make decisions on their own with the use of AI.

VII. AI-ENHANCED DRONES

Drones carry different payloads, such as GPS, infrared cameras, high-energy lithium batteries, and sensors.⁷³⁴ They can carry light missiles, Hellfire missiles, and guided bomb units.⁷³⁵ Cheap drones that use AI can navigate, target, and attack.⁷³⁶ AI-enhanced drones are called lethal autonomous weapons systems (LAWS) or “killer robots.”⁷³⁷ Given the use of AI, the Russia/Ukraine war has been characterized as a

726. PETER ANDREAS & ETHAN NADELMANN, *POLICING THE GLOBE: CRIMINALIZATION AND CRIME CONTROL IN INTERNATIONAL RELATIONS* 20–21 (2006).

727. Garcia, *supra* note 691, at 40–42.

728. *Id.* at 42–45.

729. *Id.* at 45–48.

730. *Id.* at 47–48.

731. *Id.* at 48–0.

732. UK Parliament, *supra* note 2.

733. Lushenko, *supra* note 557.

734. Daniel Caballero-Martin et al., *Artificial Intelligence Applied to Drone Control: A State of the Art*, 8 *DRONES* 296, 303 (2024).

735. Roy Braybrook, *Strike Drones: Persistent, Precise and Plausible*, 33 *ARMADA INT'L* 21, 21 (2009).

736. Mike Elgan, *The Rise of AI-Powered Killer Robot Drones*, *COMPUTERWORLD* (June 18, 2024), <https://www.computerworld.com/article/2149741/the-rise-of-ai-powered-killer-robot-drones.html> [<https://perma.cc/69E5-F5C9>]; see also Chivers, *supra* note 148 (noting that drones cost less and reduce risks to their operators).

737. Nils Adler, *Are Killer Robots the Future of War?*, *AL JAZEERA* (May 16, 2023), <https://www.aljazeera.com/features/2023/5/16/are-killer-robots-the-future-of-war> [<https://perma.cc/L966-N4SQ>].

“laboratory” for cyberattack technology.⁷³⁸ In warfare, there are concerns over loss of human control, as the use of drones and AI increasingly change the character of war. For example, the MQ-9 reaper drone can fly and land without human control because of AI-powered sensors.⁷³⁹

In addition, given rapidly advancing technologies, there are a host of ethical questions and comments. For example, in 2016, Michael Horowitz, University of Pennsylvania professor of political science, stated that LAWS might be “more effective and ethical on the battlefield than other nonautonomous alternatives” since they can prevent unnecessary kills due to its targeting capabilities.⁷⁴⁰ Scholar P.W. Singer of the Brookings Institute noted the difficulty in communicating across fields.⁷⁴¹ Scholars in the American Academy of Arts & Sciences’ New Dilemmas in Ethics, Technology and War Project advocate the need for multistakeholder dialogues.⁷⁴² The United States issued the Political Declaration on Responsible Military Use of AI and Autonomy, for which 55 countries endorsed.⁷⁴³ That document seeks to build international support for responsible norms in the military use of AI and autonomy.⁷⁴⁴

Launched in February 2023 at the Responsible AI in the Military Domain Summit (REAIM) in the Hague, the Political Declaration on the Responsible Military Use of AI and Autonomy provides non-binding guidelines for best practices, aiming to promote responsible behavior and collective leadership among endorsing states.⁷⁴⁵ There is no men-

738. Elgan, *supra* note 736.

739. Giovannini & Moffat, *supra* note 494.

740. Michael C. Horowitz, *The Ethics & Morality of Robotic Warfare: Assessing the Debate over Autonomous Weapons*, 145 DAEDALUS 25, 29–30 (2016). Please note that Horowitz also stated that it is possible to imagine that the loitering capability of this advanced technology is a precursor to cruise missiles being able to loiter for hours and travel around the world. *See generally id.* The more patrolling drones there are, the greater the controllability issues.

741. *See generally* P.W. Singer, *The Ethics of Killer Applications: Why Is It so Hard to Talk About Morality when It Comes to New Military Technology?*, 9 J. MIL. ETHICS 299 (2010).

742. Giovannini & Moffat, *supra* note 494.

743. Blinken, *supra* note 84.

744. *Id.*

745. Shawn Steene & Chris Jenks, *The Political Declaration on Responsible Military Use of Artificial Intelligence and Autonomy*, LIEBER INST. (NOV. 13, 2023), <https://lieber.westpoint.edu/political-declaration-responsible-military-use-artificial-intelligence-autonomy/> [<https://perma.cc/6PVQ-AM22>]; *see also* *Political Declaration on Responsible Military Use of Artificial Intelligence and Autonomy*, U.S. DEP’T OF STATE (NOV. 9, 2023), <https://www.state.gov/political-declaration-on-responsible-military-use-of-artificial-intelligence-and-autonomy> [<https://perma.cc/5Q4R-ZSUP>]. Note that endorsing states as of November 27, 2024 include: Albania, Antigua and Barbuda, Armenia, Australia, Austria, Bahrain, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Djibouti, Dominican Republic, Estonia, Ethiopia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Kosovo, Latvia, Liberia, Libya, Lithuania, Luxembourg, Malawi, Malta, Montenegro, Morocco, Netherlands, New Zealand, North Macedonia, Panama, Paraguay, Poland, Portugal, Republic of Korea, Romania, San Marino,

tion of drones in the declaration but, rather, weapons systems.⁷⁴⁶ The endorsing states were to meet in early 2024 to begin sharing best practices and lessons learned to improve the development, deployment, and use of military AI capabilities.⁷⁴⁷

AI can prove beneficial for identification. Consider the Israel/Palestine war, Israeli Prime Minister Benjamin Netanyahu has repeatedly apologized during the Israel/Palestine war for Israeli militia's so-called unintentional strikes and has expressed regret over civilian casualties resulting from drone strikes in Gaza.⁷⁴⁸ For example, there was the Rafah Displacement Camp Strike in May 2024, wherein Netanyahu called the Israeli strike on a Rafah displacement camp a "tragic mistake."⁷⁴⁹ The attack killed at least 45 Palestinians and wounded nearly 200 civilians seeking shelter in tents.⁷⁵⁰ Netanyahu took responsibility for the April 2024 strike on the Gaza aid convoy that killed three British citizens, insisting the attack was "unintended" but acknowledging its impact.⁷⁵¹ These incidents highlight the challenges of minimizing civilian harm during military operations. Potentially, A.I. can reduce such misidentification and enhance recognition,⁷⁵² yet have strikes on civilians truly been "unintended" as claimed by Prime Minister Netanyahu? Yuval Abraham's investigation of Israel's use of the Lavender autonomous weapon system reveals otherwise, as there was no precise targeting of militant operators before civilian populations were bombed, even after Lavender was "intentionally" trained on this population's information.⁷⁵³

AI-enhanced drones have been used by both Russia and Ukraine and "can identify, target and decide to kill human beings on their own—without an officer directing an attack or a soldier pulling the trigger."⁷⁵⁴

Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye, Ukraine, United Kingdom, and United States.

746. Steene & Jenks, *supra* note 745.

747. *Id.*

748. Giselle Ruhiyyih Ewing, *Netanyahu Calls Rafah Strike "Tragic Mistake" Amid Global Outcry*, POLITICO (May 27, 2024), <https://www.politico.com/news/2024/05/27/netanyahu-israel-rafah-strike-mistake-00160053> (last visited Feb. 13, 2026).

749. *Id.*

750. *Id.*

751. Andy Gregory, *Israeli Prime Minister Benjamin Netanyahu Takes Responsibility for Gaza Strike Which Killed Three Britons*, INDEPENDENT (Apr. 2, 2024), <https://www.the-independent.com/news/world/middle-east/israel-strike-gaza-netanyahu-britons-killed-b2522089.html> (last visited Feb. 13, 2026).

752. Lewis & Richemond-Barak, *supra* note 23.

753. Abraham, *supra* note 303.

754. Adler, *supra* note 737.

This is called micro-targeting.⁷⁵⁵ These AI drone systems can make use of social media data, medical records, and surveillance images to attack key combatants or commanders with precision.⁷⁵⁶ The Israeli Defense Forces (IDF) used Lavender to choose human targets based on behavioral patterns and were able to do so with little human oversight.⁷⁵⁷ In Yuval Abraham's investigation of the IDF's use of Lavender, behavioral patterns included communication patterns.⁷⁵⁸ Sources indicated that the Lavender machine occasionally misidentified individuals whose communication styles resembled those of known Hamas operatives.⁷⁵⁹ Among those mistakenly flagged were police officers, civil defense personnel, relatives of militants, residents with names and nicknames identical to those of operatives, and Gazans using devices that had previously belonged to Hamas members.⁷⁶⁰ Lavender was also training on characteristic features that included behavioral patterns such as "being in a WhatsApp group with a known militant, changing cell phone [sic] every few months, and changing addresses frequently."⁷⁶¹

In the Sudanese civil war, in June 2024, the Rapid Support Forces used a drone to try to attack the General Command, but the Sudanese Armed Forces shot it down.⁷⁶² But, when they targeted the headquarters of the Armed Corps in Khartoum, they were successful.⁷⁶³

Given the legal, technological, and ethical risks, the international community has been weighing whether to ban these weapons or regulate them.⁷⁶⁴ For example, by November 2023, the UN provided a platform for governments to express concerns.⁷⁶⁵ There were arguments against enacting a new international law from the United States, Russia, Israel, and Australia.⁷⁶⁶ The U.S. Pentagon states that it is preparing to deploy autonomous weapons in a big way.⁷⁶⁷ In April 2024, there was a Humanity at the Crossroads conference in Vienna, during which civilians and military officials "warned about the dangers posed

755. Lague, *supra* note 528.

756. *Id.*

757. Scoles, *supra* note 575.

758. Abraham, *supra* note 303.

759. *Id.*

760. *Id.*

761. *Id.*

762. Ali, *supra* note 189.

763. *Id.*

764. Adler, *supra* note 737; see e.g., *Autonomous Weapons Systems*, NORWEGIAN PEOPLE'S AID, <https://stories.npaid.org/weapons-policy-2023/npa-weapons-policy/autonomous-weapons/index.html> [<https://perma.cc/G5YB-A9AQ>].

765. Lipton, *supra* note 686.

766. *Id.*

767. *Id.*

by killer robots devoid of human control.”⁷⁶⁸ Some of the conference attendants called for the drafting of a new treaty while others felt that current regulations were sufficient.⁷⁶⁹ In addition, Anna Hehir, autonomous weapons system program manager at the Future of Life Institute, and the Campaign to Stop Killer Robots are lobbying the UN for international agreements to regulate autonomous arms.⁷⁷⁰ The UN General Assembly discussed this in the fall of 2024.⁷⁷¹

The precision targeting capability of AI-enhanced drones has been attested to; although, international relations expert Gordon K’achola advocates that, generally, drones are unable to distinguish between combatants and non-combatants, so innocent children, elderly, and other civilians often fall victim—all of which has occurred in Sudan.⁷⁷² Drone swarms can target large groups of people based on demographics such as age, ethnicity,⁷⁷³ and other physical characteristics.⁷⁷⁴ Drone swarms can “hunt down targets on their own and are capable of flying in for the kill without any human signing off.”⁷⁷⁵

Another concern is that, with machine-learning, drones are trained only in particular environments.⁷⁷⁶ Still, if their autonomous, self-adaptation capabilities are used in other, more challenging environments, managing the drones’ behavior may become infeasible.⁷⁷⁷ AI bias results when these systems are programmed without taking into account all possible real-world scenarios and variables needed for these systems to make decisions.⁷⁷⁸ For example, in 2003, during a U.S. strike on Iraq, a Patriot missile system was operating autonomously and misidentified a fighter, killing two United Kingdom fighters.⁷⁷⁹ There is potential for

768. Jonathan Tirone, *AI-powered Killer Robots May Be the Future of War*, BLOOMBERG (Apr. 30, 2024), <https://www.bloomberg.com/news/newsletters/2024-04-30/ai-powered-killer-robots-may-be-the-future-of-war> [<https://perma.cc/Y9MG-FERY>] (reporting that military strategist Frank Sauer stated that this current place in time is a “Hiroshima moment”).

769. *Id.*

770. Scoles, *supra* note 575.

771. *Id.*

772. Bociaga, *supra* note 198; *see also* Scoles, *supra* note 575 (reporting that “whether an autonomous weapon could accurately tell civilian from combatant, every time all the time, is still an open question”).

773. Lague, *supra* note 528.

774. Scoles, *supra* note 575.

775. Lipton, *supra* note 686.

776. Jacques Hartmann et al., *Artificial Intelligence, Autonomous Drones and Legal Uncertainties*, 14 EUR. J. RISK REGUL. 31, 34 (2022).

777. *Id.* at 31, 35.

778. Joshua Steier, *Robots, Drones, and AI, Oh My: Navigating the New Frontier of Military Medicine*, RAND (Jan. 8, 2024), <https://www.rand.org/pubs/commentary/2024/01/robots-drones-and-ai-oh-my-navigating-the-new-frontier.html> [<https://perma.cc/AM2J-5DC9>].

779. *Id.*

these types of unfortunate errors to occur with AI-enhanced unmanned, autonomous drones.

Although, AI facial recognition technology is available, the technology has algorithmic flaws, including issues with biases.⁷⁸⁰ Legal scholar Eldar Haber uses the phrase “racial recognition” to describe how, when applied to law enforcement, facial recognition technology raises concerns.⁷⁸¹ Some are coded with racist algorithms and datasets, resulting in embedded biases.⁷⁸² Further, there is now facial, voice, and gesture recognition.⁷⁸³ As advocated by Haber, legal scholar William Heberling advocates that the use of facial recognition technology can perpetuate discrimination and exacerbate existing inequalities.⁷⁸⁴ However, logically, one would think that facial recognition technology may not be in use in the current Russia/Ukraine, Sudan, and Israel/Palestine wars given that innocent civilians are being harmed and killed. Yet, facial recognition is in fact being used in these wars.⁷⁸⁵

Additionally, there are concerns about these systems ending up in the hands of bad actors.⁷⁸⁶ Still, an outright ban is not likely in the near future.⁷⁸⁷ This is likely due to the multitude of benefits, including extremely fast detection of threats and greater targeting accuracy with the potential of reducing civilian casualties.⁷⁸⁸ This potential to reduce harm to civilians is idealistic given the harm that has already come to civilians. Vincent Boulanin, director of the Governance of AI Programme at the Stockholm International Peace Research Institute,

780. See generally Eldar Haber, *Racial Recognition*, 43 CARDOZO L. REV. 71 (2021).

781. See generally *id.*

782. *Id.* at 89–93.

783. *Id.* at 72–73.

784. William B. Heberling, *STOP SURVEILLING MY GENRE!: On the Biometric Surveillance of (Black Trans) People*, 20 SEATTLE J. FOR SOC. JUST. 861, 873–74 (2022). For further discussion of facial recognition technology concerns, see also Clovia Hamilton & Scott J. Shackelford, *Robocops to the Rescue? Addressing Police Misconduct*, 20 J. BUS. & TECH. L. 131, 151–53, 177–80 (2025).

785. AMNESTY INT'L, *Israel/OPT: Israeli Authorities Are Using Facial Recognition Technology to Entrench Apartheid*, (May 2, 2023), <https://www.amnesty.org/en/latest/news/2023/05/israel-opt-israeli-authorities-are-using-facial-recognition-technology-to-entrench-apartheid/> [<https://perma.cc/UN35-AWEK>]; see also Sheera Frenkel, *Israel Deploys Expansive Facial Recognition Program in Gaza*, N.Y. TIMES (Mar. 27, 2024), <https://www.nytimes.com/2024/03/27/technology/israel-facial-recognition-gaza.html> (last visited Feb. 12, 2026).

786. See generally Elgan, *supra* note 736; see also Scoles, *supra* note 575 (reporting that Peter Asaro of the Stop Killer Robots organization and Vice Chair of the International Commission for Robot Arms Control stated that these systems could wind up being used in a manner for which they were not built).

787. Adler, *supra* note 737; see also Bociaga, *supra* note 198 (noting that if drones fall into the wrong hands, there are “far-reaching implications for regional stability and the safety of civilian populations”).

788. *Id.*

notes that bans require defining narrowly the exact type of weapon and scenario that is problematic, ultimately recommending that some be strictly regulated and some be banned.⁷⁸⁹

VIII. RECOMMENDATIONS

Although the targeting of innocent civilians is prohibited, civilian casualties in drone warfare are concerning. While drones level playing fields, their unprecedented ease in use is making it far too easy to conduct strikes that wind up harming civilians. There are direct and indirect harms. The indirect impacts include disruptions to supplies of goods that civilians in war zones need to survive. Given that the world economy is so incredibly interconnected, supply chain disruptions have grave spillover effects.

Qi Zhang's research team at the School of Emergency Management Science and Engineering at the University of Chinese Academy of Sciences made four policy recommendations related to the Russia-Ukraine war's impact on crude oil.⁷⁹⁰ They advocated for (1) the development of an emergency management mechanism; (2) the diversification of energy import sources; (3) the reasonable use of finances to hedge risks; and (4) the use of renewable energy.⁷⁹¹ Currently, the rules of war do not address supply chain management and war-caused supply chain disruptions; however, supply chain disruptions cause serious problems globally, which may be life threatening as related to food security and healthcare. These intended and unintended consequences need to be considered.

The following recommendations echo the Zhang team's policy recommendations but are generalized to focus on more than oil supply chain disruptions. Based on the results of this study, five recommendations are put forth:

Discuss a prohibition on the use of drone weapons in warfare by holding a convention like the 1997 Convention on Cluster Munitions—a convention which resulted in the enactment of the Mine Ban Treaty. Humanitarian disarmament would be a discussion at this proposed convention.⁷⁹² This Article suggests only allowing drones for the delivery of humanitarian aid, supplies to soldiers, and surveillance.

789. Adler, *supra* note 737.

790. Qi Zhang et al., *The Impact of Russia–Ukraine War on Crude Oil Prices: An EMC Framework*, 11 HUMANS. & SOC. SCIS. COMM'NS 1, 11 (2024).

791. *Id.*

792. Docherty et al. teach that humanitarian disarmament involves preventing and remediating the human and environmental harm caused by arms through the establishment and implementation of norms. See generally BONNIE DOCHERTY ET AL., HARV. L. SCH. INT'L HUM.

Revise the international rules of war to mandate multistakeholder dialogues that include supply chain experts in engineering management, business management, international law, international trade, economics, political science, military defense, and human rights.

Revise the international rules of war to mandate that countries diversify the sourcing of products and logistical transportation routes for essential products—such as wheat and oil—so that if war breaks out in one region, supply chain disruptions are mitigated.

Countries that continue to use drones need to be legally obligated to offer and pay victim assistance and payments for wrongful deaths. Innocent civilians are victimized mentally and physically. All these conditions should be compensated for.

Annual Drone Monitor reports like the land mine monitor reports produced by the Human Rights Watch and International Campaign to Ban Landmines should be produced.

CONCLUSION

In 2023, Bonnie Docherty, of the Human Rights Watch and Harvard Law School International Human Rights Clinic, and her research team published that the “use, development, and proliferation of military drones has risen significantly in the last decade . . . [and] growing use of smaller and loitering drones by states and armed groups is driving new security risks.”⁷⁹³ They stated that there is limited to no international discussion of the topic.⁷⁹⁴ To remedy, this Article provides case studies of the Israel/Palestine war, Russia/Ukraine war, and Sudanese civil war. This Article advances two views: first, the proliferation and ease of use of drones hurt the transport of supplies globally and distribution of humanitarian aid locally in war zones; second, the proliferation and ease of drone use may level the playing field for small

RTS. CLINIC, HUMANITARIAN DISARMAMENT (2023), <https://humanrightscclinic.law.harvard.edu/wp-content/uploads/2023/10/Humanitarian-Disarmament-English-27.09.23.pdf>. Their discussion includes, but is not limited to, problematic APLs, cluster munitions, and drones. *See generally id.* Regarding military drones, they state: “The use, development, and proliferation of military drones has risen significantly in the last decade. Armed forces and non-state actors have increasingly relied on these uncrewed, remote-controlled aircraft given that the systems can operate for long periods, cost relatively little, and be deployed with no risk to the pilot. Drones gained notoriety for their use in targeted killing operations outside areas of armed conflict. Such use has produced high numbers of civilian casualties and has been characterized by limited transparency and a lack of accountability for the states deploying them. The growing use of smaller and loitering drones by states and armed groups is driving new security risks. While there is limited to no international discussion of the topic . . . ” *Id.* at 18.

793. *Id.*

794. *Id.*

actors, but the use of drones fosters endless wars, as drones are cheap, easy to make, and easy to operate.

There are grave human rights violations involved in drone warfare. Though leveling playing fields, drones are causing widespread, catastrophic destruction. Warring parties seem to be losing sight of the just war theory and international rules of war. They are losing sight of when it is appropriate to go to war (*jus ad bellum*). For example, we have seen this play out with Russia's invasion of Ukraine. Russia stated that their invasion is not war but rather a "special military operation."⁷⁹⁵ Warring parties are also losing sight of when to resort to the use of force, as with the vast proliferation of drone warfare, it is far too easy to go to war. Further, dominant countries are occupying other countries' lands as a matter of pre-emption—using drones for surveillance of these lands. They are invading sovereign state air space with drones.

Further, drones have an unusual appeal and allure. Some fit in the palm of soldiers' hands like toys. Thus, with the ease of drones, warring parties seem to be losing sight of how wars should be fought (*jus in bello*). This Article provides a literature review of legal studies related to drone warfare. There is evidence of the loss of sight of rules of war; this is particularly true regarding rules of proportionality and necessity. For example, proportionality and necessity are so out of hand in the Israel/Palestine and Sudanese conflicts that leaders are accused of committing genocide (which violates *jus cogens* norms). Genocide and other crimes against humanity have become far too easy to commit with the ease of production and use of drones.

In addition, the rules of war clearly state that civilians should not be targeted, yet there is debate over whether autonomous drones can achieve distinction. Even when they are fitted with the capabilities to target specific enemies, are soldiers using those capabilities? If not, why not?

In drone warfare, there is mental and physical harm to people and to infrastructure. The mere sound of drones brings mental anguish to civilians. And, of course, there are casualties and injuries. There are far too many mass graves with tens of thousands dying from drone strikes. Drone strikes on cargo ships and humanitarian aid convoys are causing supply chain disruptions of energy, wheat, food, and semiconductor chips, adversely impacting lives globally. A \$2000 drone is much less expensive than a two-million-dollar missile. Further, the physical harm

795. Rachel Martin & Charles Maynes, *Putin Justifies Ukraine Invasion as a "Special Military Operation,"* NPR (Feb. 24, 2022), <https://www.npr.org/2022/02/24/1082736110/putin-justifies-ukraine-invasion-as-a-special-military-operation> [<https://perma.cc/JE49-332M>].

to infrastructure has escalated more and more, resulting in the inclusion of dual use objects that both civilians and military operations need.

This Article examines tools used in the past to slow down access to weaponry. There is an examination of the use of sanctions and embargos to keep warring parties from getting weapons. In addition, there is an examination of bans on land mines and cluster bombs. In 1997, the United Nations decided to “put an end to the suffering and casualties caused by *anti-personnel mines (APLs)* that kill or maim hundreds of people every week, mostly innocent and defenseless civilians and especially children, obstruct economic development and reconstruction, inhibit the repatriation of refugees and internally displaced persons, and have other severe consequences for years after emplacement” [emphasis added]. This quote could easily be rewritten to apply to drones. For example: “put an end to the suffering and casualties caused by *drones* that kill or maim hundreds of people every week, mostly innocent and defenseless civilians and especially children, obstruct economic development and reconstruction, inhibit the repatriation of refugees and internally displaced persons, and have other severe consequences for years after emplacement” [emphasis added]. However, unfortunately, just as some key current and past producers and users of land mines (including the United States, China, India, Pakistan, and Russia) have not signed the mine ban treaty, they may not likely sign a treaty that bans drones.

This Article advocates that, like the conventions on the ban of land mines and cluster munitions, there should be a convention on whether to ban drones. The convention needs to recognize that the proliferation of drone warfare is having downstream impacts such as supply chain disruptions that have an adverse impact on daily life. Perhaps the international rules of war need to be revised to mandate multistakeholder dialogues that include supply chain experts in engineering management, business management, international law, international trade, economics, political science, military defense, medicine, and human rights. And, due to the proliferation of drone warfare, perhaps the international rules of war need to be revised to ensure that countries diversify the sourcing of products and logistical transportation routes for essential products, such as oil for energy and wheat that feeds the world, so that if war breaks out in one region, supply chain disruptions are mitigated.