Page 432 - 443 **DOI:** *https://doij.org/10.10000/IJLMH.117531*

INTERNATIONAL JOURNAL OF LAW MANAGEMENT & HUMANITIES

[ISSN 2581-5369]

Volume 7 | Issue 3

2024

Above and Beyond: The Strategic Significance of Drone Surveillance in Contemporary Warfare

M. VIDYA SHREE[1] AND JANHAVI BAJAJ[2]

ABSTRACT

In the contemporary era, technology has seen a rapid growth, typically in defence agencies, government corporations, artificial intelligence, cyber crimes, military surveillance and satellite. Today the threat of terrorism and proliferation are the greatest ones to our security. Transformative impact of surveillance technology has been witnessed globally in areas including legislation, cultural norms, and advancements. This paper essentially explores the multifaceted ways in which technology is employed for defence purposes explaining its pivotal role in enhancing strategic intelligence and crisis response capabilities. It emphasizes legislative measures, technological safeguards and collaborative efforts to strike a balance between the positive effects on technology and its protection on individual rights. The study also takes into account the difficulties associated with cross-border data exchange, societal ramifications, and regional differences when implementing surveillance techniques. It also indicates how crucial technology is in the contemporary world as military plans, stressing on the manner in which it protects people, secures borders, and upholds national sovereignty in the world in which it is evolving and becoming more interconnected and complex. To conclude, the researchers are trying to signify the need to navigate the future of advanced technology by considering ethical guidelines and implications for individual privacy and social structures.

Keywords: *Surveillance Technology, Defence Strategies, Warfare, Drone Technology, Military Surveillance.*

I. INTRODUCTION

Laura Matson and Steven Manson "We live in a surveillance society and always have".[3]

There are multiple institutions that track our day to day activity. It is essentially changing our perspective of interacting with each other and how an individual protects one's-self. Surveillance has gained momentum since the last decade and significant improvement can be

[1] Author is a student at St. Joseph's College of Law, Bengaluru, India.
[2] Author is a student at St. Joseph's College of Law, Bengaluru, India.
[3] Matson, L. and Manson, S. (2017). 8. Surveillance. [online] Umn.edu. Available at: https://open.lib.umn.edu/mapping/chapter/8-surveillance/.

 [ISSN 2581-5369]

witnessed in this field. In a developed state, such as China, Russia and Saudi Arabia surveillance is used as a tool to control the citizens by tracing their communication and monitoring their movements.

Technological field associated with intelligence gathering fosters surveillance which has seen tremendous advancement with far-reaching consequences for national security and international affairs. Some of these implications are the advancement of mass surveillance capabilities, new avenues for cyber espionage, artificial intelligence, encryption and cryptography.

Right from primitive conflicts between the tribes, conflicts between agrarian communities to conflicts between industrialized societies, the progress has been tremendous. From using bows and arrows to battle with rifles, artillery, tanks, aircraft, and missiles, mankind has advanced progressively. Scientific and technological advances, though slow and gradual in the 18th and 19th centuries, were dramatic in the 20th century.[4] In the present scenario, the dispute situations are highly modernized owing to technologies; the wars are short, fast-moving and powerful; the global armies train their military armaments and get their army personnel geared up with the latest in surveillance technology. In the age of modern technological advancement, there has been a rise of drone exploration and satellite surveillance technology which has massively transformed the nature of threats faced by communities around the globe[5].

II. SURVEILLANCE TECHNOLOGY AND ITS INCLUSION

Over the years, a wide range of surveillance techniques have been developed, such as laser microphones, helicopters, surveillance aircrafts, satellites, drones and so on and so forth. They can be characterized as systems or technologies that have the ability to monitor, trace and evaluate a person's movement. Due to these new methods of technology, communication is now being handled by computers. The effect and consequence of these interceptions can be noteworthy, particularly emphasizing from the defense point of view. Therefore, in this area of technological advancement, the laws of the past have been superseded by new kinds of interception that are continually emerging and may not yet be considered infractions.

The Great War was, in fact, the first multi-nation conflict to have access to and make use of progressively more potent and inventive weaponry and technological systems, manufactured on an industrial scale, in terms of communications and armaments infrastructure. These systems

[4] Anand, V. (2015). Strategic Analysis: Impact of Technology on Conduct of Warfare. Columbia.edu. https://ciaotest.cc.columbia.edu/olj/sa/sa_99anv02.html. (February 10, 2024)

[5] The changing landscape of air surveillance, digital warfare, and the RAF's airstrikes: a commentary https://aoav.org.uk/2023/the-changing-landscape-of-air-surveillance-digital-warfare-and-the-rafs-airstrikes-a-commentary/, AOAV,April 19, 2023 (February 10, 2024)

 [ISSN 2581-5369]

dramatically impacted battling on land, in the air, and at sea throughout the Great Wars, dominating the realm and terrains of the conflict. Furthermore, two events that occurred during World War I lead to the development of new telecommunication technology. During this period, however, pilots and submarine operators discovered that in order to fight effectively, they needed new methods of surveillance, navigation, and remote mobile communication either underwater or in the air.

Consequently, the technological advancements that followed aided the detection of suspicious movements on the border with the use of ground surveillance technology. The militaries carried portable surveillance radars to such areas where human reach was limited. Such portable radars, with excellent capacity to function in harsh conditions, magnificent long-range vehicles and people detection capabilities, were remotely operated by the local operator. The defence personnel used it for the purpose of collective network services or for surveillance. As a result, the defense team could identify hostile invaders much sooner.

Further, surveillance technology witnessed developments such as use of Electro-Optical imaging systems (EO) camera integration with radar which yields a sophisticated surveillance system that guarantees border security; use of satellites that provide wide information, allowing the militaries to track the troops movements, monitor the facilities and assess damage, equipped with modern technology, for instance, sensors to gather the remote location information during the warfare[6]; use of the Unmanned Aerial Vehicles (UAVs) also known as drones, which involves monitoring an individual, group of people, behaviors, activities or gathering the information[7]. For instance, the remarkable role of UAV can be witnessed in counterterrorism measures, adopted against the Taliban, as an intelligence, surveillance and reconnaissance platform.

These surveillance technologies are of extensive and indispensable use in warfare. Nevertheless, it encroaches upon personal lives, privacy violation and abuse in the civilian population owing to mass information collection and lack of regulation. Determining responsibility for militarians to safeguard the country when there has been misuse of

[6] www.darpa.mil. (n.d.). Military Imaging and Surveillance Technology (MIST). https://www.darpa.mil/program/military-imaging-and-surveillance-technology.

[7] Gheorghe UDEANU, Alexandra DOBRESCU and Mihaela OLTEAN (2016). UNMANNED AERIAL VEHICLE IN MILITARY OPERATIONS. SCIENTIFIC RESEARCH AND EDUCATION IN THE AIR FORCE, 18(1), pp.199–206. https://www.afahc.ro/ro/afases/2016/rp/udeanu_dobrescu_oltean.pdf

 [ISSN 2581-5369]

surveillance data which lead to international conflicts and which challenges the nature of warfare and its involvement[8].

III. SURVEILLANCE AND ITS IMPACT ON MODERN COMBAT

The world is witnessing conflicts where technology has become prominent for the defence purpose. The surveillance technology is used for monitoring the individual activity, communication, gathering the required data, facial recognition and security camera system which has equipped during the war times[9]. Below are a few instances which occurred in recent time using contemporary technology for defeating other countries.

(A) Nagorno- Karabakh War (2020)

During 2020, the conflict between Nagorno- Karabakh war saw massive deployment of modern surveillance technology by Azerbaijan and Armenia. Azerbaijan which used turkish made drones known as Bayraktar TB2 proved to be strong. On the battlefield, they were viewed through satellites such as Sonobuoys and Magnetic Anomaly detectors, Synthetic Aperture Radar/ Ground Moving Target Indicator (SAR/GMTI) sensors, which allowed the drones to be used in maritime-patrol and anti-submarine warfare missions. Turkey had used techno-cooperation network having advance-drones which had been installed the military-cooperation models[10].

Azerbaijani drones technology had a great impact on the war though Armenia deployed their own drones. Later during research, they used a more advanced Russian made Orlan-10 UAV. It proved to be advantageous in ISR (Intelligence, Surveillance and Reconnaissance) and long-range strike capabilities. These drones contributed in destroying a huge number of Armenian tanks, fighting vehicles, artillery units and air defenses. In the battlefield, between Nagorno-Karabakh they weakened Armenian supply lines and logistics where Azerbaijan conquered the battle[11]. The individual weapon is not considered to be revolutionary in the nature of war but it is the newly developed technology which makes it more harmful. Azerbaijan developed drones and artillery effectively which targeted Armenia's high value military assets.

---

[8] Boersma, K., Brakel, R. van, Fonio, C. and Wagenaar, P. (2014). Histories of State Surveillance in Europe and Beyond. Google Books. Routledge. https://books.google.co.in/books?hl=en&lr=&id=YGWLAwAAQBAJ&oi=fnd&pg=PA32&dq=surveillance+technology+introduction&ots=t0gdysmg4i&sig=O_rMGYgZOIpl4D6Z0DBdNctPSug#v=onepage&q=surveillance%20technology%20introduction&f=false [Accessed 10 Feb. 2024].

[9] Decoder: Surveillance technology, https://www.thoughtworks.com/en-in/insights/decoder/s/surveillance-technology, Thoughtworks (February 11, 2024)

[10] Techno-Geopolitics and the Turkish Way of Drone Warfare, https://www.atlanticcouncil.org/wp-content/uploads/2022/03/Techno-Geopolitics_and_the_Turkish_Way_of_Drone_Warfare.pdfrevolutined

[11] The Air and Missile War in Nagorno-Karabakh: Lessons for the Future of Strike and Defense, https://www.csis.org/analysis/air-and-missile-war-nagorno-karabakh-lessons-future-strike-and-defense, CSIS, (February 11, 2024)

 [ISSN 2581-5369]

The drones developed here immensely increased losses and the subsequent attacks led to the targeting of soldiers, which resulted in tremendous loss of human lives. These techniques are equipped with the drone's radar for targeting civilians. Therefore, they are required for high maintenance and these drain resources need support from governments. Drone warfare has led to real threat where international communities have to take initiative for developing such technology[12].

(B) Yemen War (2014)

The use of drones in Yemen is viewed through the US under the presidency of George W Bush. The US has officially established a profound architecture for counterterrorism institutions and they have built good relations with Saleh for gathering intelligence in warfare[13]. Since the 2000s, the Lebanese Militia, Hezbollah has used drones for spies and attacks. Even during Al-Qaeda war in the year of 2002, the unmanned flying technology been used and now these drones are being used in Yemen is a sign developed through group or by the state[14].

The Yemen warfare has been indicated as a model for non-state parties for developing Unmanned Aerial Vehicles (UAVs) also known as Equalizer in the 21st century. The Houthi force deployed explosive drones such as Kamikaze Missions. The use of Drones in modern unbalanced conflict, leads to the rival's landing on the territory without its destruction. While there were various insurgent groups to utilize drones, the Houthi was said to be first ever to develop mass and exact guided weapons[15].

The Houthis have developed drones for various purposes, such as security service and armed forces where they can track down individual activities and gather information for blackmailing people. Drones and their missile programs have been aided by the Iranians, for their military force[16].

Though there has been a significant use of aerial drones, they have also developed a Houthi 'Drone Boat' known as 'Sucide Boat' which is packed with explosives. Later a report was submitted stating that the explosives have failed to cause damage during the war and that it is

[12] JCU, T.M. - (2023). Changing Technology in Changing Conflicts: Drones in Warfare and Nagorno-Karabakh, https://thematthewrome.com/2023/10/29/changing-technology-in-changing-conflicts-drones-in-warfare-and-nagorno-karabakh/ (Accessed 12 Mar. 2024).

[13] Yemen - Center for Security Studies,https://css.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/pdfs/CPCR_Yemen_final.pdf, (March 9, 2024)

[14] The World from PRX. (2019). *Cheap drones are changing the calculus of war in Yemen*.https://theworld.org/stories/2019-06-03/cheap-drones-are-changing-calculus-war-yemen

[15] Drone Wars – The Yemen Review, June 2019, https://sanaacenter.org/publications/the-yemen-review/7665, Sana'a Center For Strategic Studies, July 11, 2019,(March 11, 2024)

[16] Yemen's drone doom loop: A model of instability for fragile states, https://responsiblestatecraft.org/yemen-houthis-drones/, Responsible Statecraft, November 21, 2023,(March 11, 2024),

harmless. The drone boats were developed by the Iranians to gather information in eastern Teran. Later on, Iran refused to supply Houthis with drones or ballistic missiles[17].

The drone technology used in Yemen is further complicated by the Middle East. Hi-tech military drones are developed and exported by Israel, Turkey and Iran. Zwijnenburg said, "In the future, it will be challenging to limit the proliferation of drones and their misuse by state and non-state actors in ways that violate international law" [18].

(C) Russia- Ukraine War (2014)

In armed conflicts, there have been significant advancements made throughout the world which was witnessed over the past decades in the field of drones, software and AI (Artificial Intelligence) and space technology as well as cyberware. This technology is viewed as an involvement of the individuals in the conflict which would be visible in the near future[19].

When Russia invaded Ukraine in the year 2022, the latter was seen defending its people and territory through the use of advanced technology.

In the battlefield alongside the use of several other drones, the first ever surveillance technology which was incorporated was 'unmanned' aerial combat also known as the fighter jet going down to the Kamikaze drone (Shahed- 136). Ukraine also revealed a 16- seconds clip of two UAVsengaging each other in combat in the history of war. This footage showed the Ukraine UAV task which controlled the observation and artillery approached by the Russian quadcopter drone[20].

Drones play a pivotal role in Intelligence, Surveillance and Reconnaissance (ISR) operations, it guides the armed forces and intelligence agencies to gather the information based on the situation. They are equipped with various data collection sensors, such as picture, video, and others, that enable the military personnel to identify enemy bases, track troop movements and select targets, alongside this, they are also equipped with special payload such as Electronic Warfare (EW) and Signal Intelligence (SIGINT)[21].

According to the report released by the Western and Ukrainian intelligence agencies, Russia used Iranian- made Shahed- 136 drones in its operations. However, Ukraine contradicted stating

[17] Yemen becomes a drone battlefield - Global Drone New, https://blog.flykit.app/yemen-becomes-a-drone-battlefield/, Flykit Blog,April 05, 2019, (March 11, 2024).
[18] The World from PRX. (2019). *Cheap drones are changing the calculus of war in Yemen*, https://theworld.org/stories/2019-06-03/cheap-drones-are-changing-calculus-war-yemen.
[19] Star tech enterprise: Emerging technologies in Russia's war on Ukraine, https://ecfr.eu/publication/star-tech-enterprise-emerging-technologies-in-russias-war-on-ukraine/, ECFR, September 28, 2023, (March 5, 2024)
[20] Drones for Surveillance to Strikes: Assessing the Impact through the Lens of Russia–Ukraine War, https://www.idsa.in/issuebrief/Drones-for-Surveillance-to-Strikes-RSingh-240124, (March 7, 2024)
[21] ibdi

that its armed forces utilized small arm fire, heavy machine guns, portable anti- air missiles and electronic jamming devices to shoot down Russian Shahed drones[22].

Ukraine spread its technology through both formal and informal channels. They stated that they produced drone surveillance technology, where the engineers had manufactured specialized technology to make such drones more effective on the battlefield. Even in the recent times, they produced artificial intelligence based algorithms which keeps track of phones without human activity[23]. The long range DIY drones strikes have become more prominent in modern warfare. With the support of other developed countries, Ukraine has taken a step towards innovating DIY drone technology for future warfare.

(D) Israel- Palestine conflict

The war between Israel and Palestine began in the 19th century, is it is also known as the first Arab-Israeli war. In October 2023, the war was between Israel and Hamas, although there was a pre-existing conflict between the Israeli-Palestinian over several decades[24].

Israel used Drone Swarm Technology during the conflict of Hamas in Gaza. The Drone Swarm Technology is the one where multiple drones are used at the same time for gathering information. There were almost 10 to 100 distinct single drones that were developed during the warfare but the Militarized Drone Swarm Technology which forms a single drone, had integrated with the system in the form of artificial intelligence[25]. Though Israel developed Unmanned Military technology in the late 1970s, such technologies have become more advanced in the modern warfare, where Israel has used drones for reconnaissance and monitoring the attack by Israeli Air Force's (IAF)[26].

During the combat, Hamas developed drones which includes a quadcopter for the purposes of removing Israel surveillance with the help of communication installation[27]. Hamas has manufactured small commercial drones to drop these explosives on Israel communication

[22] New technologies deployed in the Russia-Ukraine conflict: Implications for future conflicts, https://timesofindia.indiatimes.com/blogs/ChanakyaCode/new-technologies-deployed-in-the-russia-ukraine-conflict-implications-for-future-conflicts/, Times of India Blog (April 17, 2023), (March 7, 2024).

[23] Ukraine's drone strikes are a window into the future of warfare, https://www.atlanticcouncil.org/blogs/new-atlanticist/ukraines-drone-strikes-are-a-window-into-the-future-of-warfare/, Atlantic Council, September 14, 2023, (March 12, 2024)

[24] Israeli-Palestinian Conflict | Global Conflict Tracker, https://www.cfr.org/global-conflict-tracker/conflict/israeli-palestinian-conflict, Council on Foreign Relations,(March 13, 2024)

[25] Israel's Drone Swarm Over Gaza Should Worry Everyone, https://www.defenseone.com/ideas/2021/07/israels-drone-swarm-over-gaza-should-worry-everyone/183156/, Defense One, July 08, 2021, (March 13, 2024)

[26] Palestine, https://dronewars.net/tag/palestine/, Drone Wars UK, December 11, 2019, (March 13, 2024)

[27] How drone warfare in Israel could dramatically change if Hezbollah joins the fight: Analysts, https://breakingdefense.com/2023/10/how-drone-warfare-in-israel-could-dramatically-change-if-hezbollah-joins-the-fight-analysts/, Breaking Defense, October 20, 2023, (March 13, 2024)

 [ISSN 2581-5369]

towers and consequently developed video technology to stop Israel from gathering crucial information across the border with the help of their Defence Forces. These drones have developed in all shapes and sizes. They were smuggled in Gaza and many among these were handled by individual people[28].

For instance, First Person View Drones which are used in live video, navigates and controls the physical devices. It depends on size and maneuverability. The employment of this technology has become more common against Hezbollah than in Gaza warfare. This technology was used by Hezbollah in the first attack on Israel through GPS. They have been developed by "Mini-Shahed", a kamikaze- type drone ranging from 10- 20 kilometers which was used during the warfare[29].

The role of these technologies in the battlefield has been witnessed in conflicts with more cautions which gives warrant. Every war and military confrontation come in its own dynamics. Hamas attacks are characterized by Hi-tech technologies which leads to complexity and threat in the war[30].

IV. BROAD VIEW OF THE CONVENTIONS

Since the establishment of the United Nations (UN) in 1945, maintaining global peace and security has been the primary objective of the organization, with multilateral disarmament and armaments limitation being its primary goals. It has always worked towards reducing and finally discarding not only nuclear weapons but also all the similar kinds of weapons and ammunition which fall under the like category, with regard to the nature of threat it poses and having dire consequences to mankind. Although the objectives of this Body have remained unchanged throughout the years, the process and the scope of such negotiations has changed as there is a constant evolution witnessed in the international situation. The UN is also paying particular focus on how new developments in information, telecommunications, technologies and other fields may affect global security.

Through multilateral initiatives, a number of treaties and conventions have been entered into with the sole purpose of limiting or outlawing certain weapons. Some of these include the Treaty on the Non-Proliferation of Nuclear Weapons, the Comprehensive Nuclear-Test-Ban Treaty,

[28] Opinion: Cheap and easy-to-use drones are making wars deadlier, https://www.theglobeandmail.com/opinion/article-cheap-and-easy-to-use-drones-are-making-wars-deadlier/, The Globe and Mail, December 02, 2023, (March 13, 2024)

[29] How attack drones are shaping conflict in Ukraine and Israel, https://www.gisreportsonline.com/r/drones-ukraine-israel/, GIS Reports, February 20, 2024,(March 14, 2024)

[30] Technology and its Pivotal Role in Hamas's Successful Attacks on Israel, https://gnet-research.org/2023/10/20/technology-and-its-pivotal-role-in-hamass-successful-attacks-on-israel/, October 20, 2023, (March 14, 2024)

the Treaty on the Prohibition of Nuclear Weapons, the Biological and Chemical Weapons Convention, the Anti-Personnel Landmine Convention, the Convention on Cluster Munitions, the Convention on Certain Conventional Weapons and the Arms Trade Treaty.[31] Apart from these, the prominent one related to our study is the Convention on Certain Conventional Weapons, also known as CCW.

The Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons (which may be deemed to be excessively injurious or have Indiscriminate Effects) was signed in Geneva in the year 1980 and subsequently came into force in the year 1983. This convention is usually referred to as the Convention on Certain Conventional Weapons and better known as CCW. It is a key instrument in the field of Disarmament and International Humanitarian law.

This Convention and its annexed Protocols were adopted by the United Nations Conference on Prohibitions or Restrictions of the Use of Certain Conventional Weapons Which May Be Deemed Excessively Injurious or to Have Indiscriminate Effects[32]. Therefore, the main purpose is to restrict or ban the use of certain types of weapons which cause unjustifiable suffering to the civilians.

The Convention is structured in such a way as to ensure adaptability when relating to new developments in arms and ammunition and its related technologies. It also contains substantive protocols and limitations on the various types of weapons mentioned therein.

There are five protocols specified under the convention and their respective limitations have also been set out. The weapons described under the protocol mainly include Non-Detectable fragments which essentially prohibits the use of weapons which cannot be detected in the human body even by the use of X-rays. Mines, traps and other devices which seek to limit the unjustifiable damages caused by the blatant use of landmines and therefore requires the parties to take appropriate precautions when using such weapons. Use of incendiary weapons which is primarily designed in such a way as to set fire to the objects or cause burns. Next under the convention is the use of blinding laser weapons which is predominantly used to cause permanent blindness and at last it is the explosives which are used during the times of war.

V. DRONE MECHANISM AND GLOBAL CONVENTIONS

Guided by the goals and principles inherent in the UN Charter, the UN General Assembly has

[31] Nations, U. (n.d.). Disarmament. [online] United Nations. Retrieved from: https://www.un.org/en/global-issues/disarmament, (March 12, 2024)

[32] United Nations Treaty Collection. [online] Available at: https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVI-2&chapter=26&clang=_en [Accessed 12 Mar. 2024].

proclaimed that the uncontrolled arms trade leads to both international and non-international armed warfare, international crimes and terrorism. It jeopardizes security and tranquility. Nonetheless, the Assembly has also recognized "every State's right to manufacture, import, export, transfer, and retain conventional arms for self-defense and security needs, as well as to participate in peace support operations."

Several provisions of the Charter demand some form of negotiation in terms of arms trade with reference to the UN's duty to refrain from getting involved in "issues which are fundamentally within the domestic jurisdiction of any state."[33] Therefore one of the prominent challenges faced by the representatives of the Arms Trade Treaty would be to strike a balance between the interest of the state as against other interests and values, for instance growth and the actualization of human rights.

However, there are certain classes of weapons whose use is outrightly forbidden under the International Humanitarian Law and consequently under the Arms Trade Treaty. It is generally stated that the parties to an armed conflict do not have an unrestricted freedom to select their weaponry. For instance, the use of weapons which are indiscriminate by nature is forbidden or it is forbidden to utilize weapons and tactics in combat that have the potential to inflict unwarranted damage or suffering. The rest of the category of weapons is provided under the Arms Trade Treaty itself[34].

Another interesting aspect in relation to surveillance technology is the UN Security Council Resolution 1540 (2004).[35] In this resolution, it was concluded that all states shall abstain from providing any kind of support to the Non-state actors who primarily indulge into the development, acquisition, manufacture, possession, transportation or use of nuclear, chemical or biological weapons, especially for terrorist intentions. The resolution mandates the States to enact and uphold the necessary legislation in order to stop the spread of these weapons. Working with the 1540 Committee and the related subregional and regional bodies, the UN Office for Disarmament Affairs (UNODA) supports Member States in fulfilling the primary obligations outlined in the resolution.

Although the above stated Convention and Treaty provides a lot about the other mechanisms used for mass destruction and its related prohibitions, it is however silent about the drone

[33] UN General Assembly Resolution 63/240, 8 January 2009

[34] United Nations. (n.d.). Available at: https://www.thearmstradetreaty.org/hyper-images/file/TheArmsTradeTreaty1/TheArmsTradeTreaty.pdf. [Accessed March 12, 2024]

[35] Anon, (n.d.). UN Security Council Resolution 1540 (2004) – UNODA. [online] Available at: https://disarmament.unoda.org/wmd/sc1540/. [Accessed March 13, 2024]

surveillance technology in particular, and its impact on modern warfare. Such is evident by the manner in which some of the countries have used this surveillance mechanism for their benefit.

VI. CONTEMPORARY WARFARE BETWEEN THE NATIONS

Drones have demonstrated their growing significance in the Nagorno-Karabakh conflict by confirming the number of casualties and attacks, disseminating images to promote propaganda, and more effectively targeting soldiers, which has resulted in a higher death toll. In addition to it, there are significant consequences associated with this shifting environment. Drones used in this region were particularly equipped with facial and heat sensors to detect military activity thousands of miles overhead and arrive at their location in just a few seconds. The horrors of these drone sounds and the related videos surfacing over the internet is heart wrenching.

The use of armed UAVs changed the way military conflict was conducted. In May 2019, Iran attacked an oil plant in the United Arab Emirates using a swarm of 25 drones that traveled 650 kilometers along with cruise missiles. This triggered a shortfall of 5% of the global oil supply. This was the first time a drone swarm was used in combat.

Over the years, Insurgents and non-state actors have been able to get drone technology and use it for an array of purposes. This is primarily the case with terrorist groups that have developed or utilized Unmanned Aerial Vehicles (UAVs). This can include ISIS and the Palestinian Islamic Jihad. The Houthis are another notable example; by 2019, they had become proficient drone pilots. by employed suicide drones to target air defense and Patriot radar, they were able to breach the Saudi air defense and launch a deep strike within the kingdom. Certainly, the idea that only high-tech nations possess UAVs has been undermined by the use of drones by terrorist groups and non-state parties[36].

VII. RECOMMENDATIONS

Combat operations are not without restrictions. The essential function of International Humanitarian Law (IHL) in fulfilling these constraints is that weapons are limited, tactics are restricted, and overall, there are principles that control the behavior of rebels involved. While warfare advances, the regimes that control its means and tactics are to ensure that those engaged in the fight and those impacted by it are protected and safeguarded[37].

[36] sciendo.com,https://sciendo.com/pl/article/10.2478/jms-2024-0003?content-tab=article, (March 14, 2024)
[37] International Humanitarian Law and New Weapon Technologies, https://iihl.org/archive-sanremo-round-table-and-conferences/international-humanitarian-law-and-new-weapon-technologies/, International Institute of Humanitarian Law, July 05, 2019, (March 14, 2024)

Although we have certain existing principles laid down in the UN Charter relating to International Crimes and Terrorism, Arms Trade Treaty, UN Security Council Resolution, UN Office for Disarmament Affairs and so on, the focus should be on the pre-existing state laws, find areas of intersection, and then derive fundamental international norms around which states should coalesce in the present and near future. For instance, the western states such as the United States, the United Kingdom, Canada, Germany and Australia have extensive laws for regulating surveillance where they are given between privacy and national security through the counterbalanced use of government's surveillance and regulate the extraterritorial collection[38].

There are certain rules of war under the International Red Cross and Red Crescent Movement (ICRC) recognized in the Geneva Convention of 1949, that govern the conflict and which necessarily needs to be adhered to. Drone technology is not prohibited completely nor is it discriminated against during warfare. Though this technology is not mentioned specifically in weapon treaties or other conventions or protocols, the use of any kind of armed drones in warfare should be subjected to the rules of international laws and state laws. As the world is witnessing conflicts between Israel and Palestine, Ukraine and Russia, Yemen and Nagorno-Karabakh, drone technology is being developed without any laws or norms pertaining to its regulation. There must be specific laws and protocols that should be established under the UN Charter for drone technology. It should be limited within the country to develop such technology rather than importing it from other developed countries for use in combat[39].

VIII. CONCLUDING REMARKS

New technologies are transforming the way humans and machines interact and work together. These Unmanned Aerial Vehicle (UAVs) have significantly changed the way it organizes and executes a war since they have gained the ability to carry out fatal operations. The armed UAV not only facilitates close-quarters and interdiction attacks, but it can also carry out strike missions. With all these improvements, drone technology is certainly proving to be a promising weaponry. the expanding use of armed drones and consequently the idea of distant, risk-free warfare, is a worrisome escalated warfare. To sum up, unmanned systems are considered to be the future of warfare.

*****

[38] INTELLIGENT ALL-ELECTRIC BLOW MOULDING MACHINE - Fong Kee Iron Works Co., Ltd. - PDF Catalogs | Technical Documentation | Brochure, https://pdf.directindustry.com/pdf/fong-kee-iron-works-co-ltd/file-c-users-user-downloads-en-20180809190806ox93b-20-1-pdf/76032-770576.html, (March 14, 2024)

[39] The use of armed drones must comply with laws, https://www.icrc.org/en/doc/resources/documents/interview/2013/05-10-drone-weapons-ihl.htm., ICRC, May 10, 2013, (March 14, 2024)