Turkish Drones Disrupting Battlefields: A Case Study of Nagorno-Karabakh Conflict

Ali Sher[1]

Abstract

The research addresses the major role of Turkish Bayraktar TB2 unmanned combat aerial vehicles (UCAVs) in how the 2020 Nagorno-Karabakh conflict was fought, viewed from the perspective of the Revolution in Military Affairs (RMA) theory. Referring to open-source information, doctrinal papers, and battlefield reports, it then goes on to explore how the conflict around Nagorno-Karabakh began and what Azerbaijan's past force position was. After that, the study reviews how Azerbaijan's use of the Bayraktar TB2s, which involve persistent reconnaissance (ISR), precise weapons, and defense against opposing air forces, allowed a quick weakening of the Armenians' capabilities and profitable gains of territory. It goes on to understand the psychological impact of drones on the Armenian side and the key part drones played in their information warfare is important. RMA's three pillars of technological innovation, doctrinal adaptation, and organizational transformation show how low-cost UCAVs may turn existing force hierarchy on their heads and make precision strike capabilities available to everyone. It further looks at how Turkey now uses UCAVs in its diplomacy, the spread of UCAV tech to additional parties, and the issues this causes in terms of the law, ethics, and strategy. According to the study, while the Bayraktar TB2s played a key role in altering regional balance in 2020, their ability in any future encounter would depend on others developing defense against drones and international controls on drone development.

Keywords: Nagorno-Karabakh, Azerbaijan-Armenia War, Unmanned Combat Aerial Vehicles (UCAVs), Turkish Bayraktar TB2, Drone Diplomacy, Asymmetric Warfare, Military Technology

[1] Department of Political Science & International Relations, University of Management and Technology, Lahore – Pakistan

Introduction

The Obama administration relies on drones for one simple reason: they work (Why Drones Work, n.d.). For decades, the U.S. used drones in Afghanistan and Iraq against Al Qaeda and other terrorist groups. However, drones were considered a novelty, and their use in conflicts was limited. But in 2020, in the skies of Nagorno-Karabakh, Turkish drones marked the beginning of a new era of warfare. From the peripheries, unmanned aerial vehicles (UAVs) became a core part of the military operations. Turkish Bayraktar TB2 drones with their effectiveness and affordability played a crucial role in Azerbaijan's victory. They successfully targeted and destroyed the Armenian infantry and vehicles while also ensuring Azerbaijan's air dominance by neutralizing Armenian air defence through Suppression of Enemy Air Defense (SEAD) missions. The prominence of Turkish-made Bayraktar TB2 drones in the conflict not just altered the outcomes of the conflict but heralded a new form of warfare doctrine—characterized by economy, precision, and surveillance and in which low-cost but effective vehicles were able not just break down traditional defences but also enable weaker powers to claim localised air dominance and use drones as the tools of strategic diplomacy.

The landlocked mountainous region of Nagorno-Karabakh, internationally recognized as a part of Azerbaijan, has been a conflict zone between ethnic Armenians and Azerbaijan. The first Nagorno-Karabakh war happened in 1988 and lasted until 1994. The Armenian side gained control of Nagorno-Karabakh and seven adjacent districts. Azerbaijanis fled from respective Armenian-occupied territories. From 1994 to 2020, sporadic clashes occurred between the two countries, hinting at the risk of a major war. In September 2020, the dam finally broke. Azerbaijan launched a large-scale military operation lasting 44 days. On the 10th of November, the armed conflict came to an end, and a ceasefire was signed and brokered by Russia. Azerbaijan regained control of all seven districts and about one-third of the region of Nagorno-Karabakh. What did Azerbaijan do differently this time that helped them win the war?

One of the significant factors, which ensured Azerbaijan's victory, was Azeri investment in UCAVs which allowed them consistently to keep their Armenian foes off balance and led to a decisive outcome(Aspr-Vol25-Iss2-3-Pdf.Pdf, n.d.). Especially Türkiye's supply of the Bayrakhtar TB2 drone to Azerbaijan. As Bayraktar TB2's precision and dominance were a catalyst for Azerbaijan's victory. It provided 24/7 surveillance, ensuring real-time intelligence gathering of the Armenian

military's positions. Its precise strikes destroyed high-value military equipment. The Azerbaijani President Ilham Aliyev, in an interview, pointed out how Turkish UCAVs made a difference in the conflict, stating that his forces had destroyed $1 billion worth of military equipment belonging to the Armenian forces with the UCAVs they had bought from Türkiye (Çelik, 2021a). Bayraktar TB2s, armed with MAM-L laser-guided bombs, coordinated Suppression of Enemy Air Defense (SEAD) missions crippled Armenia's Air Defense. In relation to the harm it caused, TB2's acquisition and operational expenses are minimal, estimated at $5 million per unit. This allowed Azerbaijan to deploy a bigger fleet of drones without straining the national budget.

Additionally, Bayraktar TB2 ensured Psychological Warfare dominance of the Azerbaijani side by bringing extreme pressure on Armenian soldiers through constant surveillance, which limited their movement, and the fear of drone strikes - which compelled them to leave their trenches and equipment including artillery, tanks and other heavy weapons. Because of its cost-effectiveness, SEAD operations, precision strikes, and psychological warfare capabilities, the TB2 enabled Azerbaijan to develop a drone-based strategy that proved viable and expandable.

The Second Nagorno-Karabakh War clearly showed how Turkey's mass-produced Bayraktar TB2 drones have changed the way armies work together. By using constant observation, accurate attacks and thoughtful psychological tactics, Azerbaijan broke through the tough barriers set by the Soviets. Drones that can be afforded by all states help those mid-level nations achieve intelligence gathering and precision bombings, things that big countries could only do before. At the same time, Turkey's growing "drone diplomacy," which includes large-scale exports to Ukraine and the Middle East, has changed the balance of power in the region. This has led to the rise of a pro-Turkish Syrian government after Assad was overthrown and has challenged Russia's long-standing influence. As these technologies develop and autonomous systems make warfare look different in the future, the global adoption of such technologies leads to serious legal issues and ethical concerns. If countries ignore export and political cheques, deadly drones might reach unauthorized users in Africa, the Middle East and Eastern Europe, making things even worse there.

This paper looks at the many sides of Turkish drone technology and the war between Azerbaijan and Armenia. It also considers the possible issues in wars to come such

as the increase in drones and how nations are responding to problems related to them.

Theoretical Framework

❖ **Viewing the Conflict Through the Lens of the Revolution in Military Affairs (RMA)**

The use of UAVs by Turkey in the 2020 Nagorno-Karabakh conflict marked a significant change in today's wars. A better way to look at the changes in strategy, tactics and operations is through the Revolution in Military Affairs (RMA) framework. The theory claims that dramatic shifts in warfare happen when advancements in technology, changes in military doctrines and organizational changes reinforce each other and create new forms and methods for conducting military operations. The revolution in warfare is shown by how effectively the Bayraktar TB2 drone was used by Azerbaijan against its forces. It proves that advanced technology can change battlefield strategies, disrupt the power relationship and introduce new conflict rules this century.

Even though RMA was first developed by Soviet strategists, it drew widespread attention in the West after the success of precision weapons and networking in the 1991 Gulf War. According to RMA, theories of military revolution say that military progress comes from blending three linked factors: new technologies, new ways of fighting and flexible institutions. The 1500s saw the "gunpowder revolution," in which medieval castles were made useless by cannons, moving attack strategies and professional armies; in the 1940s, Germany launched the "blitzkrieg revolution" by applying tanks, radio relays and close air support with new ways for armies to maneuver and quicker decisions made by army leaders. Success in each case was largely due to how innovations changed how wars were fought, more than just due to better technology.

The situation makes the Turkish TB2 drone an ideal model for an RMA catalyst. These features made it revolutionary: it patrolled by radar-evading planes with surveillance from far away, accurate firing with laser-guided weapons, secure transfer of intelligence with satellites and a radar-proof appearance. Each piece was better than the earlier ones and when they were joined, they created amazing changes. The TB2 had the ability to cover the situation on the battlefield around the clock, flying above most defenses on the ground at the time. This is quite

different from conventional air operations, since big, manned aircraft cost a great deal ($50–100 million per unit) and place pilots in danger. Even so, the new technology alone wouldn't have been effective without new thoughts about warfare. Azerbaijan brought in Turkish military experts from Syria and Libya and invented the tactic of "persistent attrition." Other than using drones in operations, they were ordered to conduct SEAD and DEAD actions. During the first TB2 sorties, Armenian S-300 and OSA-AK surface-to-air systems were removed which made attacking since more effective for artillery, armored vehicles and logistic targets. The style of this method flipped the usual approach to military action films. Previously, ground soldiers allowed airplanes to support them in combat, but today, it is drones that allow ground troops to move because they disrupt the main operations of the enemy.

The third part of this change involved organizational adaptation. Separate operation centers for UAVs were arranged by Azerbaijan using the Keshesh IHA command systems from Turkey. These systems would apply AI technology to check the sensor information and decide which targets were most important. Because of this infrastructure, drones, Harops and regular artillery could act together in real time, cutting the delay between identifying a target and firing a weapon from 30 to 60 minutes to less than five minutes. Armenian officers kept reporting that enemy attacks happened quickly after radar detection or their own actions, strong evidence of excellent awareness in the battlefield. Meanwhile, Azerbaijan attacked Armenia using weak links within the country's Soviet army. Unlike modern drones, Armenian air defenses were designed to operate using big Cold War-era planes and not small aircraft operating close to the ground. Their effort to gather and share targeting data was slow which resulted in parts of the airspace being exposed to attacks. The Defence Ministry of Azerbaijan pointed out that than half of air defense systems were taken out in the first weeks of the war due to the disorganized grouping of forces.

The Nagorno-Karabakh conflict illustrates how three RMA factors are important in today's warfare. It demonstrates that RMA makes it possible for attacking nations to gain advantages over defending ones. Because of rugged terrain and their strong fortifications, for many decades Armenia was able to succeed despite Azerbaijan's greater wealth. With the new TB2, reserves, ammo supplies and routes to reinforcements could now be hit even when they were thought to be safe. Also, it demonstrates how costs and benefits are divided unevenly as explained by the RMA.

Missions in the TB2 campaign were estimated to cost about $50,000 with fuel and weapons and on these scenes the TB2 destroyed T-72 tanks and S-300 batteries worth millions. Buying surface-to-air missiles to fight drones has placed excessive pressure on the economy's exchange rates. Third, it demonstrates how RMA gets adopted by other countries. Because Turkey supplied Azerbaijan with both knowledge and ideology, the latter managed to learn about new strategies without delay and implement them quickly which reduced the usual period needed for military education.

These events are very important for security around the world. According to RMA theory, the new era of war involves using drones, AI for decision making and pinpoint attack methods that are not very costly. Democratization of war is evident in the Nagorno-Karabakh conflict because modern technology rapidly affects the balance of power in the region and old forces can't adjust as fast. Yet, the central point from RMA holds true: technology by itself does not bring about certain results. The people who adjust their opinions and groups as part of the disruption will succeed. People who are ready for the coming revolution will be victorious.

Under this perspective, RMA theory explains how Turkish drones shape the methods of fighting wars and further points out that combat continues to develop. It views the Nagorno-Karabakh crisis as a recent example of the way conflicts keep shifting as technology and adaptation keep shifting the rules of engagement.

❖ **The Nagorno-Karabakh Conflict**

When the Soviet Union fell, the unresolved Nagorno-Karabakh conflict was one of the worst ethnic and territorial disputes that formed as a result. The Nagorno-Karabakh dispute began when the Soviet government created an autonomous area called the Nagorno-Karabakh Autonomous Oblast (NKAO) in Azerbaijan's Soviet Socialist Republic in 1923, even though the region was mostly populated by Armenians. Even though Azerbaijan stuck to the previous Soviet boundaries, these lines ignored the importance of Artsakh to Armenians. Residents of Armenia faced discrimination under the Soviet Union, meaning they had little opportunity in the economy, minimal education in Armenian and few ways to express their culture (Armenia, n.d.). The Azerbaijani authorities created policies to increase Azerbaijani residents in the area and push Armenian communities out and this was finally confirmed by former Azerbaijani President Heydar Aliyev (Guillermo, n.d.).

Although the majority of people in NKAO were Armenians through the 1980s, the joint Azerbaijani and Soviet moves caused a visible decrease from before.

With the glasnost policy introduced by Mikhail Gorbachev, people became more active in speaking about the conflict. NKAO's regional parliament made the official decision to join the Armenian Soviet Socialist Republic on February 20, 1988. They acted this way as they trusted in the right to self-determination outlined in the Soviet constitution. As soon as this notice was made, Azerbaijanis attacked Armenians in Sumgait and Baku and Armenians drove out Azerbaijanis from their land too (The Nagorno-Karabakh Conflict, 2020). As soon as the Soviet Union was divided in 1991, the initial tension between these countries grew into an armed conflict as they sent their military units to the front line. After the First Nagorno-Karabakh War which took place from 1988 to 1994, Armenian forces won clearly. As a result of the fighting, Armenians gained control of the Nagorno-Karabakh area as well as the Azerbaijani districts of Lachin, Kelbajar, Agdam, Jabrayil, Fuzuli, Qubadli and Zangilan. It was a tragedy for people: as many as 30,000 died and the conflict forced over 700,000 Azerbaijanis and 300,000 to 500,000 Armenians to leave their homes. The 1994 Bishkek Protocol peace agreement secured a tense but steady arrangement, so the territory became technically sovereign even though no other country recognizes it.

For the next 25 years, there was a "frozen conflict" where diplomacy didn't move forward and violence broke out every now and then. The Organisation for Security and Cooperation in Europe (OSCE) Minsk Group, which is co-chaired by Russia, France, and the United States, tried to help the two sides reach a permanent agreement, but they didn't get very far because their positions were so different. The Armenian government sought promises of security and rightful self-rule for Armenians in Karabakh, but the Azerbaijani government only wanted to keep its territory and get back the areas it occupied. There were still low-level fights along the Line of Contact, but things got a lot worse during the "Four-Day War" in April 2016. Several people died in this very short conflict and, most importantly, Azerbaijan was able to regain some lands – the first time since 1994 – which signaled a shift in who controlled the war zones. At the end of the 2010s, many different factors combined to make severe fighting possible once more. Using its huge stocks of oil and gas, Azerbaijan updated and improved its entire military force.

Azerbaijan's defense budget grew a lot from 2016 to 2020, and they purchased new weapons, including Bayraktar TB2 drones, Israeli Harop loitering munitions and strong artillery. The "Velvet Revolution" in Armenia in 2018 brought Prime Minister Nikol Pashinyan to office. In 2019, he said that "Karabakh is Armenia," which made Azerbaijan's resolve even stronger and made it less likely that negotiations would go well. Turkey's steps of joint training with Azerbaijan and clear support for its actions altered the situation in the region even further. Russia, which has always been Armenia's security guarantor, was becoming more distracted by its involvement in Ukraine and Syria, which made it less able or willing to mediate effectively. Fighting at the border in July 2020 left around 16 people dead and this led to considerable protests urging Azerbaijan's military to enter into the conflict. Many reports showed that Turkey helped bring Syrian mercenaries to assist the Azerbaijani army.

On September 27, 2020, Azerbaijan started "Operation Iron Fist," a big attack across the Line of Contact that broke the fragile truce. During the battle that lasted 44 days, drones played a major role in keeping an eye on events and carrying out accurate targeted strikes, along with increases in social media propaganda. Azerbaijan planned to leverage its technological edge to disable Armenian air defenses and artillery before sending ground troops into the lowland areas around Nagorno-Karabakh. Following six weeks of fierce battles that ended with a lot of casualties and claims of war crimes, Azerbaijan's troops broke through with a major victory in Shusha (Shushi), a key city watching over the city of Stepanakert. As a result of losing Shusha, Armenia had no other choice but to accept Russia's ceasefire on November 10, 2020. Under the three-way deal, Armenia had to give away a large area of land. It had to leave all seven districts it held around Nagorno-Karabakh, whereas Azerbaijan got to keep the war-acquired areas which were roughly one-third of the region.

Turkey's support was pivotal to Azerbaijan's victory. According to the 2010 Agreement on Strategic Partnership and Mutual Assistance between Azerbaijan and Turkey, both countries have committed to assist each other "by all possible means" in the case of third-party "aggression," and have scheduled joint military exercises. Turkey provided political, military, and diplomatic support to Azerbaijan during the crisis, as stipulated in the agreement. The Turkish defense sector's UAVs, especially the Bayraktar TB2, were significant.

❖ **The Decisive Role of Turkish Drones**

Azerbaijan's use of Turkish-made Bayraktar TB2 drones for the duration of the 2020 Nagorno-Karabakh war modified the manner wars are fought massively. These Unmanned Aerial Vehicles (UAVs) went past being simply tactical tools; they had been strategic tools that helped Azerbaijan steadily ruin Armenia's defenses. Baykar Makina produced the TB2s, which mixed better surveillance, precision assault functionality, and actual-time statistics transmission to make a networked preventing machine that overwhelmed Armenia's Soviet-technology army infrastructure. They have been effective due to the fact they mixed new technology, adjustments to doctrine, and smart concentrated on cancelling out Armenia's advantages in geography and defenses. Below is the examination of four significant impacts of Turkish drones on the conflict.

Real-time Intelligence and Surveillance

The Bayraktar TB2's most important contribution was that it could keep an eye on the whole conflict zone without stopping. Every drone had EO/IR sensors and was linked to satellites, so it could stay airborne for more than 27 hours at 18,000 feet and provide intelligence data the entire time. Because they kept going, Azerbaijani forces were able to keep an eye on Armenian positions, supply routes, and troop movements over Nagorno-Karabakh's hilly terrain, which was thought to be too hard to reach or defend. The drones were almost invisible to Armenia's old air-defense radars because they had a limited radar cross-section and flew at a low altitude. These radars were made for planes that fly higher above the ground.

Intelligence gathered during the war was more than information for reconnaissance only. TB2s worked as important links, gathering information from sensors as well as from different combat systems. The Azerbaijani command centers got real-time videos, while specially designed Turkish computers used AI to analyze the information. That is why setting order to objectives was easy and coordinating with Israeli artillery and Harop munitions became more efficient. The integration cut the "sensor-to-shooter" cycle, which is the time it takes to find a target and fire a weapon, from 30 to 60 minutes down to less than 5 minutes. Armenian commanders stated that the radar or troops would be attacked seconds after moving or turning on, showing Azerbaijani forces' awareness of most attacks.

Due to this oversight, Armenia had a hard time standing strong against attacks. Because of TB2s, it became easier to disrupt supply convoys and ammunition depots that were far away from the main battle zone. About 38% of all the assets drones destroyed in Armenia were artillery pieces, which are key for defense, while 28% were trucks and light vehicles with supplies. The constant observation caused psychological paralysis, and Armenian soldiers called the drones an "always-present eye" that made it hard for them to move around during the day and compelled them to hide or go underground.

Making equipment resistant to electronic warfare increased the superiority of intelligence. While Armenia deployed Soviet-era jammers, the TB2's frequency-hopping datalinks and terrain-referenced navigation allowed it to maintain operations even in contested electromagnetic environments. This ability to withstand was made stronger in the TB2S version, called TB2S-RC, adding satellite communications (SATCOM) that allow the drone to be controlled from a distance, though this version was not deployed by 2020.

Precision Strikes and Battle Dominance

Thanks to the TB2 drones, Azerbaijan was able to weaken and then destroy Armenia's Soviet-built army which had never been seen in war before. Roketsan MAM-L micro-munitions, 22 kg laser-guided bombs, allowed each TB2 to carry out accurate strikes from a distance greater than 8 km. (Çelik, 2021b) That was why Azerbaijan could avoid Armenia's strong defense and attack its top targets with little danger to its soldiers. They were effective mainly because they followed a step-by-step plan for targeting.

Suppression of Air Defenses (SEAD): In the first part of the conflict, TB2s targeted and destroyed Armenia's surface-to-air missile (SAM) system. They relied on up-to-date surveillance information to destroy 73 units of air defenses, such as those represented by S-300 batteries, OSA-AK (SA-8), and Strela-10 (SA-13) systems. They managed to do this since these systems only had limited radar height settings and required lengthy reload times. Armenia could not defend itself against Azerbaijan's air attacks after most of its S-300 devices were destroyed in the opening week. (Drones in the Nagorno-Karabakh War: Analyzing the Data - Military Strategy Magazine, n.d.)

Destruction of Armor and Artillery: Once the air defenses were weaker, TB2s moved to armored vehicles and artillery stations. Analyses from the open-source sector indicate that 69% (535) of Saratov's recorded equipment losses were due to drone strikes and included 185 T-72s, D-30 howitzers, and BM-21 Grad launchers. There were many cases where the targets were hit while they were adjusting or getting supplies, due to the constant watch of surveillance.

Azerbaijan added Bayraktar TB2 drones to a networked kill chain with other technologies to make the attacks more accurate. Israeli Harop loitering weapons helped TB2 operations by hovering over targets and hitting enemy radars or heat signatures. These very cheap drones were able to destroy high-value SAM systems and overwhelm Armenian air defenses. At the same time, with the help of lasers, these TB2s helped Azerbaijan and Belarus's rocket artillery quickly pinpoint targets in less than five minutes. The use of drones was very helpful at the Battle of Shusha, since they controlled fire from mobile artillery and helped move back the Armenian forces.

Psychological and Propaganda Dominance

The Turkish-built Bayraktar TB2 drones played a major role in influencing the minds of people and in warfare with information. It helped clinch the victory for Azerbaijan by raising its people's morale and improving the way events are viewed internationally and also spread propaganda that guided the way the conflict was reported by the media.

Operational Paralysis: Armenian soldiers felt consistently threatened by the presence of the drone, making them distressed the most. Drones were in the sky for 27 hours at a time, and this meant that soldiers were always under surveillance and didn't have the protection of darkness, bad weather, or the surrounding terrain. Because of this, the Armenian soldiers felt a constant high level of stress and tiredness that reduced their performance during fighting. People in the military were very careful to avoid throwing off their position or collecting in groups, aware any heat signal could result in a fast attack. When TB2s kept striking enemy guns and supply trucks, the morale of the soldiers dropped again. It was said by another soldier that staying still would definitely lead to death. For safety reasons, we sunk our tanks under the ground that turned them into bunkers. (The Four-Day War in Nagorno-Karabakh, 2016) Because of this continuous threat, people's thoughts

about the battlefield changed a lot. It made Armenian defensive positions mortal dangers, because strongholds were under constant surveillance by drones.

Using Footage as a Propaganda: Drone footage was incorporated by Azerbaijan's military into a highly advanced information warfare campaign aimed at demoralizing adversaries, mobilizing support at home, and influencing perceptions abroad. High-quality videos of the Defence Ministry's accurate strikes against Armenian tanks, air defenses, and troop concentrations were regularly disseminated; these films quickly became popular on social media. At first, the videos drew attention to Azerbaijan's supreme technology and demonstrated Armenia's complete weakness. They were also successful with precision in targeting, which lowered (though not zero) the number of those harmed among civilians, thus supporting the argument that the war was justified by Azerbaijan to gain back occupied territory. The third point is that by selling lost Armenian vehicles as casualties from a debilitated force, they displayed a quick victory without any struggle. Since the clips were reproduced worldwide without usually being analyzed, their influence in promoting Azerbaijan's perspective grew. (The Situation in the Nagorno-Karabakh Information War Is 5:3 – Propastop, n.d.)

Future Implications

The use of Turkish drones in the Azerbaijan Nagorno-Karabakh victory early in 2020 led to many changes in tactics, ways countries and regions interact, their competition for power, and thoughts on morality in war. They have transformed from unique reconnaissance tools to assets that can strongly impact a war, increase the power of diplomats, and change the way countries dissuade possible attackers. Turkey has made full use of its achievements with drones to establish important alliances in the Middle East. After Azerbaijan's triumph, Turkey sped up the sale of drones to more than 25 countries, turning the Bayraktar TB2 into a means of influencing other states: Drone Diplomacy. (Drone Diplomacy, n.d.) This approach is clearly seen in Syria, where Turkey wants to aid the new Damascus government by setting up defense partnerships using Turkish troops and rebuilding Syria's armed forces with their technology. (How Syria Changed Turkey's Foreign Policy, n.d.) According to the agreements, Turkey will provide Syria with access to TB2 drones and HISAR air defense systems. This way, Syria's military development depends on Turkey and NATO standards, which helps Ankara and isolates the Kurdish organizations. Those partnerships often lead to dependencies that remain

for a long time: before the war, Turkey was selling $5.5 billion worth of defense equipment, and more than 40% of its domestic defense R&D was paid for via drone proceeds. Still, Turkey's ambitions may cause it to get involved in regional disputes. In Ethiopia and Somalia, which are both enemies fighting over border regions, Turkey sells drones to both sides and this forces Ankara to be extra careful in its international dealings. Likewise, sending drones to Ukraine has put pressure on Russia's ties with Turkey because the country views Turkish tech as causing it to lose its position in the region. Drones make it possible for Turkey to move further ahead, but the use of Western cameras may cause problems for exports whenever a conflict with Western nations arises.

As a result of Turkish drones, India and Pakistan now have an option that helps manage their conflicts without reaching the nuclear point. With so many Bayraktar TB2s and swarm drones, Pakistan is ready to strike Indian locations in Kashmir very accurately. In this way, Islamabad avoids a large-scale conflict following attacks by terrorists, as this is called "controlled deterrence."(CPC | Turkish Drones to Draw Political Influences in the Caspian Region, n.d.) It proves that drone attacks are valuable because they emphasize commitment without causing much harm or increasing risk for everyone. Even so, this ability results in a dangerous stability-instability paradox. Drones make it easier to respond to attacks with strikes, which made Pakistan retaliate by launching drones against Srinagar even though they almost caused the Indians to launch air attacks in response. Additionally, using the Akashteer air defense network with Israeli and Russian help along with indigenous systems, India revealed that drones were less invulnerable, leaving Pakistan's drones at risk from peers during the latest exercises. As a result, it shows that drone-based attacks cannot succeed where the defense is well-prepared, so nations must start combining drones with other modern resources and manned planes for upcoming conflicts.

Making drone technology more accessible has serious consequences, mainly when such technology is shipped to volatile places or non-state actors. The fact that Nigeria killed 85 people at a religious gathering last year using Turkish drones proves these systems make it easier to commit violence without much scrutiny. ("Turkish Drones," n.d.) The situation becomes even more serious since porous supply chains can benefit terrorists; American intelligence confirmed that Ethiopia had sent Turkish drones to al-Shabab in Somalia, increasing the group's ability to launch attacks on the African Union forces. The actions of state forces can also lead

to serious humanitarian problems: in Nagorno-Karabakh, around 42% of displaced Armenians suffered PTSD due to constant surveillance and strikes by drones, and even after the chaos stopped, survivors were troubled by "phantom drone syndrome." (Fahim, 2020) The priority given by Turkey to exports to maximize profits over the welfare of people puts more risks on the table. Because of their lower price and the little training required, it is no wonder dictatorships want to invest in Bayraktars. Because no UN agreement exists for physically controlling armed drones on the international market, civilians have to worry about drone attacks and the possible responses to those attacks.

Even though drones played a major role in Nagorno-Karabakh, their success relies on the unique situations in which they are used. In the conflict, Turkish Bayraktar TB2s managed to engage Armenia's older Soviet air defense systems with very few problems, as they did not have modern SHORAD or sophisticated electronics for combat purposes. Nevertheless, in Ukraine and Syria, where there is stronger opposition, things look different: The Russian Krasukha-4 system and layers of TOR-M2 missiles seriously affected TB2 operations, as they were used to shoot down four drones in Syria; this resulted in losses of more than $100 million. (semavı, 2025) This shows that drone warfare works well against weaker enemies but has trouble with competitors who use advanced technology. In the coming conflicts, the military will rely on strategies that use drone interceptors, shielding, and AI-enhanced early warning systems to detect and neutralize emerging swarm threats. Depending only on drones without extra defense and preparedness may expose serious vulnerabilities in the military. At the same time, if countermeasures improve with drone warfare, operations in modern-day warfare can be more targeted, and responsive, and use fewer people.

References

Armenia: Nagorno-Karabakh « World Without Genocide - Making It Our Legacy. (n.d.). Retrieved June 7, 2025, from https://worldwithoutgenocide.org/genocides-and-conflicts/armenia-nagorno-karabakh

Aspr-vol25-iss2-3-pdf.pdf. (n.d.). Retrieved April 15, 2025, from https://www.raf.mod.uk/what-we-do/centre-for-air-and-space-power-studies/aspr/aspr-vol25-iss2-3-pdf/

Çelik, H. K., Sinem. (2021a). The Role of Turkish Drones in Azerbaijan's Increasing Military Effectiveness: An Assessment of the Second Nagorno-Karabakh War. Insight Turkey. https://www.insightturkey.com/articles/the-role-of-turkish-drones-in-azerbaijans-increasing-military-effectiveness-an-assessment-of-the-second-nagorno-karabakh-war

Çelik, H. K., Sinem. (2021b). The Role of Turkish Drones in Azerbaijan's Increasing Military Effectiveness: An Assessment of the Second Nagorno-Karabakh War. Insight Turkey. https://www.insightturkey.com/articles/the-role-of-turkish-drones-in-azerbaijans-increasing-military-effectiveness-an-assessment-of-the-second-nagorno-karabakh-war

CPC | Turkish Drones to Draw Political Influences in the Caspian Region. (n.d.). Caspian Policy Center. Retrieved July 1, 2025, from https://www.caspianpolicy.org/research/security-and-politics-program-spp/turkish-drones-to-draw-political-influences-in-the-caspian-region

Drone Diplomacy: Türkiye's Geopolitical Reach Through Advanced UAV Technologies. (n.d.). London Politica. Retrieved July 1, 2025, from https://londonpolitica.com/middle-east-watch-blog-list/drone-diplomacy-turkiyes-geopolitical-reach-through-advanced-uav-technologies

Drones in the Nagorno-Karabakh War: Analyzing the Data—Military Strategy Magazine. (n.d.). Retrieved July 1, 2025, from https://www.militarystrategymagazine.com/article/drones-in-the-nagorno-karabakh-war-analyzing-the-data/

Fahim, K. (2020, November 29). Turkey's military campaign beyond its borders is powered by homemade armed drones. The Washington Post. https://www.washingtonpost.com/world/middle_east/turkey-drones-libya-nagorno-karabakh/2020/11/29/d8c98b96-29de-11eb-9c21-3cc501d0981f_story.html

Guillermo. (n.d.). A "Frozen Conflict" Boils Over: Nagorno-Karabakh in 2023 and Future Implications - Foreign Policy Research Institute. Retrieved June 7, 2025, from https://www.fpri.org/article/2024/01/a-frozen-conflict-boils-over-nagorno-karabakh-in-2023-and-future-implications/

How Syria Changed Turkey's Foreign Policy. (n.d.). Carnegie Endowment for International Peace. Retrieved July 1, 2025, from https://carnegieendowment.org/research/2021/09/how-syria-changed-turkeys-foreign-policy?lang=ensemav1. (2025, March 3). Turkey's drones face setbacks in Syria as SDF downs several units. https://npasyria.com/en/122717/, https://npasyria.com/en/122717/

The four-day war in Nagorno-Karabakh. (2016, April 6). OSW Centre for Eastern Studies. https://www.osw.waw.pl/en/publikacje/analyses/2016-04-06/four-day-war-nagorno-karabakh

The Nagorno-Karabakh Conflict: A Visual Explainer | International Crisis Group. (2020, October 27). https://www.crisisgroup.org/content/nagorno-karabakh-conflict-visual-explainer

The situation in the Nagorno-Karabakh information war is 5:3 – Propastop. (n.d.). Retrieved July 1, 2025, from https://www.propastop.org/en/2020/10/20/the-situation-in-the-nagorno-karabakh-information-is-53/

Turkish Drones: Expanding Influence and Bringing New Challenges. (n.d.). Al Habtoor Research Centre. Retrieved July 1, 2025, from https://www.habtoorresearch.com/programmes/turkish-drones-influence-challenges/

Article Information:

Declarations:

Author's Contribution:

- **Conceptualization, and intellectual revisions**
- **Data collection, interpretation, and drafting of manuscript**

- The author agrees to take responsibility for every facet of the work, making sure that any concerns about its integrity or veracity are thoroughly examined and addressed

- **Conflict of Interest**: NIL

- **Funding Sources**: NIL

Correspondence:

Ali Sher

ali.sher111@gmail.com