

## DRONES AND CHANGING NATURE OF MODERN WARFARE

By  
**Qurratul Ain**  
*Intern*

*Arms Control & Disarmament Centre, ISSI*

Supervised by  
**Ghazala Yasmin Jalil**

August 29, 2024

*(Views expressed in the brief are those of the author, and do not represent those of ISSI)*



**A multitude of different Unmanned Aerial Vehicles (UAVs) or drones, are increasingly taking a dominant role in wars and armed conflicts. Drones have evolved from simple surveillance devices to sophisticated weapons systems. The demand for military drones is constantly increasing, and demand is expanding throughout the Middle East, Africa, and Europe. Drones have also altered the way warfare is perceived, conducted, and addressed. The recent conflicts between Azerbaijan and Armenia, the Ukraine war, and the use of drones by the Houthis have spurred nations to invest in drone technology, realizing its tactical advantages.**

Simultaneously, non-state armed groups are actively deploying state-supplied, single-use explosive drones in conflict zones to enhance their drone capabilities and elicit military reactions from the state. There is no denying that drones have had the biggest impact on modern warfare, and as they continue to advance, they become an indispensable tool for any armed force. The advent of drones has brought in a new era of warfare and changed what it means to engage in aerial combat.

Advanced imaging technology-equipped drones may perform a variety of tasks, such as target tracking, surveillance, and geospatial mapping, all of which offer important insights into the positions, movements, and topography of the enemy. Drones can be fitted with sophisticated targeting devices, like GPS-guided missiles or laser-guided bombs, which enable them to hit targets

extremely precisely.<sup>1</sup> This degree of accuracy lowers the possibility of collateral damage and innocent casualties by guaranteeing that the bomb reaches its intended target.

Drone capacity to fight in asymmetric warfare is one of its greatest advantages. Drones enable the deployment of smaller, more nimble units in these kinds of situations, enabling them to interrupt supply lines, participate in hit-and-run tactics, and obtain intelligence on enemy movements.

Drones can reduce the threshold for using force, compensate for risks, and cause “body bag syndrome.”<sup>2</sup> Drones’ affordability, lengthy endurance, and accuracy present a double-edged sword that both improves military capabilities and raises concerns about how simple it is to use force. Drones provide several operational advantages over manned aircraft, such as quick deployment, less training needed, and flexibility in operation. Drones are used in a variety of current applications, including surveillance, kamikaze attacks, and targeted strikes.

When risk perception changes and there is a greater willingness to use military action, the concept of risk compensation becomes relevant. This is especially important when targeting high-risk areas where manned missions may be hazardous. By using drones in this situation, the invading force can operate more important when targeting high-risk areas where manned missions may be hazardous. By using drones in this situation, the invading force can operate more aggressively because, even if a drone is lost, there won't be any direct human losses. Drones' lack of human personnel greatly lowers the possibility of military losses, especially for the side employing them. This is in line with the public's increasing distaste for war dead, as demonstrated by the idea of “body bag syndrome.”

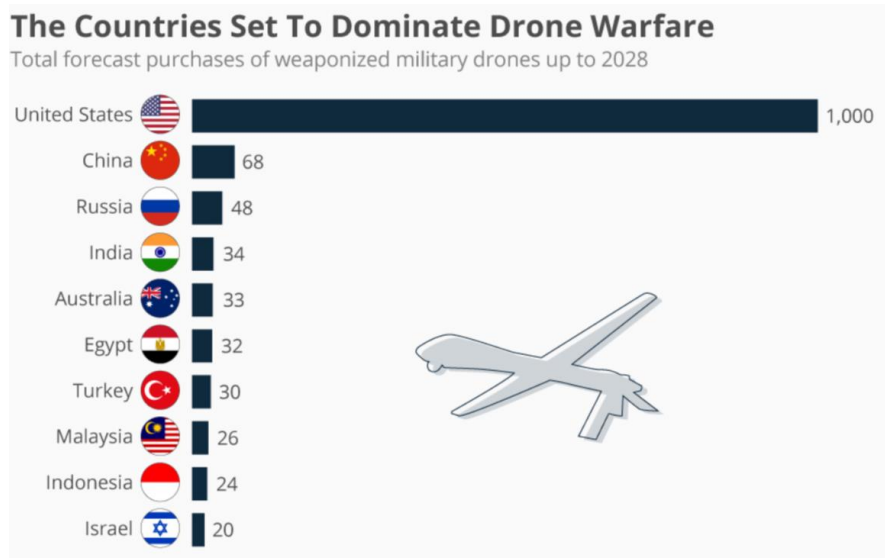
With the increasing use of drones, several countries are developing and using combat drones, which are increasingly being seen in recent conflicts. It became a weapon of choice by many states in the 21st century. The United States is the largest producer and supplier of drones, with the MQ-9 Reaper being its primary combat drone. The RQ-7 Shadow and MQ-9 Reaper allowed the U.S. forces to gain supremacy in Iraq and Afghanistan. The convergence of this technology with the post-9/11 security environment has led to a new form of warfare that poses a series of challenges to traditional warfare. China is a growing exporter with Chengdu Wing Loong-3 in operation since 2022.

---

1 “The Game Changer Role of Drones in Modern Warfare,” The Official Website of Lebanese Army, January 18, 2024, <https://www.lebarmy.gov.lb/en/content/game-changer-role-drones-modern-warfare>.

2 Ahmad Ali, “Drone Warfare and Threshold of the Use of Force,” *BTTN Journal* 3, no. 1, July 31, 2024, 148–62, <https://doi.org/10.61732/bj.v3i1.94>.

Russia is developing the Aarok the largest combat drone and the Okhotnik, designed to work with the Su-57 jet fighter.<sup>3</sup>



**Source:** <https://www.statista.com/chart/20005/total-forecast-purchases-of-weaponized-military-drones/>

The use of drones has allowed Russia during the Ukraine war to gain a significant advantage over its opponents by providing real-time intelligence, reconnaissance, and targeting support. The Orlan-10 UAV system, in particular, has been extensively used by Russia in the conflict.

Russia's use of drones in Ukraine has profoundly impacted the conflict. Russia has been able to execute airstrikes, obtain a tactical advantage in combat, and acquire intelligence by using UAVs. It's conceivable that additional nations will use drones in future conflicts as drone technology advances. There's a chance that drone warfare will eventually become the standard in existing wars as a result of the growing employment of drones in combat.

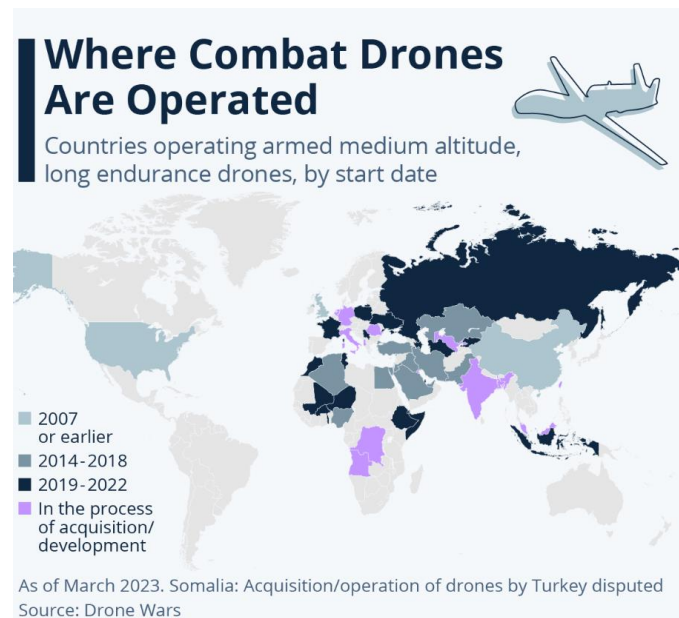
Iran and Turkey are increasing military drone exports due to rising demand for drones. Turkey's Bayraktar TB 2 drone, a "middle power" arms exporter, is cost-effective. It uses laser-guided weapons in operations in Libya, Syria, and Ukraine, countering Moscow's armor advantage.<sup>4</sup> Russia

<sup>3</sup> "World of Drones," New America, n.d., <https://www.newamerica.org/future-security/reports/world-drones/introduction-how-we-became-a-world-of-drones/>.

<sup>4</sup> Alexey Lenkov, "Russians Grasp Ukrainian UAV With Pakistan-Turkey Connection," *Bulgarian Military Industry Review*, February 10, 2024, <https://bulgarianmilitary.com/2024/02/10/russians-grasp-ukrainian-uav-with-pakistan-turkey-connection/>.

has heavily depended on Iran for drones and direct attack munitions, such as the Shahed-131 and Shahed-136, to employ against Ukraine.<sup>5</sup>

Drone warfare has been the pinnacle in the aftermath of the recent conflict between Armenia and Azerbaijan over Nagorno-Karabakh. Azerbaijan's superior drone armament, which included the Israeli Heron TP, Hermes 450, Turkish Bayraktar TB2, Sky Striker, Harop, Orbiter-1K, and Orbiter-3, as well as the Krunk surveillance UAV, was proved decisive in the conflict.<sup>6</sup> Armenia's dependence on Soviet and Russian-built air defense systems, specifically intended for conventional manned aircraft, rendered it vulnerable to attacks perpetrated by unmanned aerial vehicles. The Bayraktar TB2 drone, in particular, exhibited extraordinary skills in intelligence gathering, surveillance, and precision strikes, confirming its status as a game changer in modern warfare.



Source: Katharina Buchholz, "Where Combat Drones Are Operated," June 14, 2023, <https://www.statista.com/chart/30194/countries-operating-combat-drones/>

Maritime drones exist in both surface vessel and submarine systems. Before the war in Ukraine, airborne drones were extensively used in military operations. While maritime drone technology is not yet proliferating at the pace of aerial drones, countries like the United States, the UK, and Russia are looking seaward in terms of drone development.

<sup>5</sup> Dominika Kunertova, "Drones have Boots: Learning from Russia's War in Ukraine," *Contemporary Security Policy* 44, no. 4 (October 2023): 576–91, <https://doi.org/10.1080/13523260.2023.2262792>.

<sup>6</sup> Hubert Królikowski, "The Use of Unmanned Aerial Vehicles in Contemporary Armed Conflicts – Selected Issues," *Politeja* 19, no. 4 (79) (December 21, 2022), <https://doi.org/10.12797/politeja.19.2022.79.02>.

Drone exports to India by regional powers like Israel and the United States are upsetting the military balance in South Asia. Accordingly, the Indian government has set the lofty goal of becoming a worldwide center for drone technology by 2030.<sup>7</sup> India recently inducted 75 indigenous drones that can be used during combat in swarm formation. Besides that, India has Harpy, Heron, and the indigenous Rustom. **On February 2, 2024, the U.S. defense agency approved the sale of 31 MQ-9B predator-armed drones to India at an estimated cost of US\$3.99 billion.**<sup>8</sup> India might utilize armed drones in a confrontation with Pakistan. It will provide India with ISR capabilities on the battlefield as well as precise attack capabilities. With increasingly sophisticated drone technology, they can disrupt communication in the adversary's battle units.

Pakistan is also acquiring several drones. Pakistan's drone arsenal consists of the indigenous Burraq, a combat MALE category drone, recently acquired Wing Loong, and CH-4 drones from China. Moreover, Pakistan has some strategic drones for ISR purposes, like Shahpar, Falco, and SATUMA. The addition of an armed version and the subsequent introduction of the Shahpar-2 ISR drone in 2021 indicate a dynamic evolution. Presenting Shahpar-2 as a possible Buraq replacement, highlights Pakistan's dedication to technological advancement in the sector.<sup>9</sup> India and Pakistan are keen to adopt drone technology for military doctrines, as it has proven efficient and could be the future weapons of choice.

The advent of powerful military drones has marked a significant shift in the modern battlefield. Drones are growing increasingly intelligent and adaptable as technology develops enabling them to carry out difficult jobs that were previously limited to manned planes. Due to their increased height, speed, and duration of flight, they are perfect for precision strikes, surveillance of enemy movements, and reconnaissance missions. Recent conflicts in Libya, Syria, Nagorno-Karabakh, and Ukraine have highlighted drones' critical role in interstate warfare. A shift marked not only by lower dangers and repercussions but also drones lower cost of operation when compared to human aircraft. These variables have raised the likelihood of states and non-state actors engaging in armed acts, altering the dynamics of international conflicts. Military drones are increasingly being used as a low-cost, low-risk solution. Even precise drone strikes can have far-reaching political effects and unforeseen consequences, including worsening wars or sparking new hostilities. The growing deployment of drones raises serious problems regarding the nature and morality of asymmetrical

---

<sup>7</sup> Azfar Bilal and Abdul Samad, "Impact of India's Drone Capabilities on Pakistan," *Journal of Security & Strategic Analyses* 10, no. 1 (July 11, 2024): 22–38, <https://doi.org/10.57169/jssa.0010.01.0308>.

<sup>8</sup> "US Approves \$4bn Drone Deal for India," *Dawn*, February 2, 2024, <https://www.dawn.com/news/1810525>.

<sup>9</sup> "Understanding Pakistan's Unmanned Aerial Vehicle (UAV) Programme," *International Centre for Peace Studies*, n.d., <https://www.icpsnet.org/comments/Pakistan-Unmanned-Aerial-Vehicle-UAV-Programme>.

warfare between opposing belligerents. Therefore, states are prioritizing the development of precision guided indigenous drones and improving their air defense capabilities to effectively combat hostile drone assaults.