

The Drone Democratisation: When Non-State Actors Outfly State Militaries

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Image: Yelim Lee/AFP/Getty Images

Introduction

For over a century, air power has remained one of the defining symbols of state sovereignty and military superiority. Fighter aircrafts, sophisticated radar systems, military airbases, satellite intelligence, and highly trained personnel etc. are the defining factors of how much a country can dominate in the skies. The first wartime airplanes use was in 1911. Airplanes were the most effective offensive weapons used by militaries back then. From the Allied strategic bombing campaigns of World War II to the precision air operations conducted by the United States during

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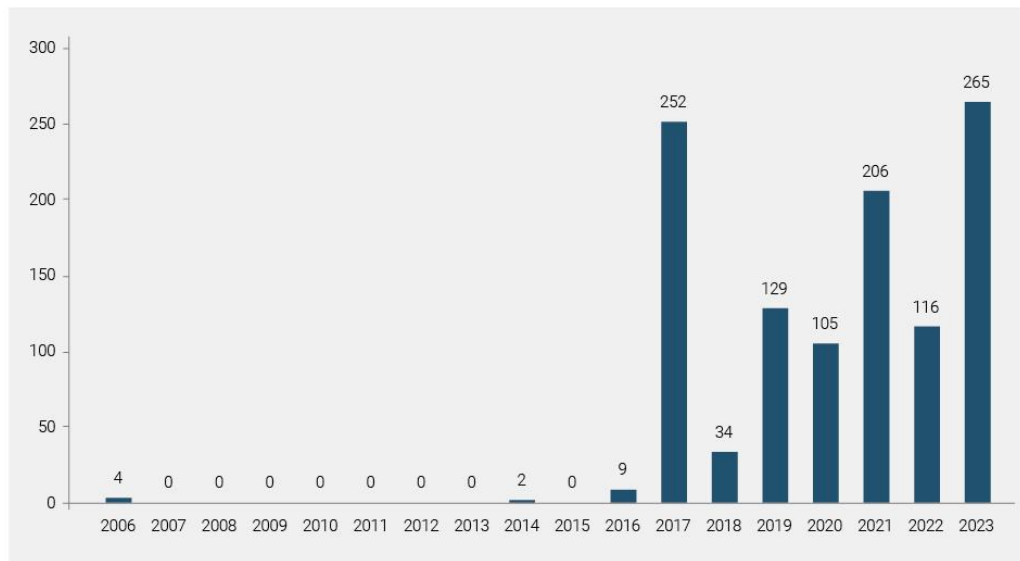
the Gulf War and subsequent interventions in Iraq and Afghanistan, control of the air largely determined the outcome of modern conflicts. But that phenomenon quietly collapsed because of the development of modern technologies over time. Unmanned aerial systems (UAS), combined with advances in artificial intelligence, open-source navigation software, satellite communications, and affordable precision-guidance technologies, has fundamentally altered the character of aerial warfare. What once required billion-dollar defense budgets now can increasingly be bought with a few hundred dollars. This also made such technologies easily obtainable by non-state actors. These systems have features like improvised explosives, real time video transmission, and autonomous flight capabilities, which empowered non-state actors to conduct reconnaissance, targeted strikes, psychological operations, and infrastructure attacks with unprecedented efficiency. The result can be described as “democratisation of air power”; where acquiring airpower once was limited only to national militaries is now accessible to anyone. Unlike previous military revolutions that were driven by governments, this transformation has largely been fueled by globalization, commercial innovation, and the civilian technology sector. Militant organizations, insurgent groups, and terrorist networks can now exploit availability of recreational drones with minimal technical expertise for their purpose.

How the Skies Got Cheap?

For decades, military aviation remained among the most exclusive and expensive domains of state power. Establishing an effective air force demanded industrial capacity, technological sophistication, highly trained pilots, advanced maintenance systems, and sustained financial investment. The acquisition of a single fourth-generation fighter aircraft often required expenditures exceeding US\$70–100 million, while fifth-generation platforms such as the F-35 cost substantially more when training, logistics, and lifecycle maintenance are **considered**.² Consequently, air power became both a military capability and a geopolitical status symbol, because it reinforced global hierarchies between technologically advanced states and less developed nations.

² Lockheed Martin. 2018. “F-35 Lightning II.” Lockheed Martin. <https://www.lockheedmartin.com/en-us/products/f-35.html>.

Figure 2. Number of attacks by unmanned aerial vehicles or drones by violent non-state actors



Source: Haugstvedt, H., 2024. Still Aiming at the Harder Targets: An Update on Violent Non-State Actors' Use of Armed UAVs. *Perspectives on Terrorism*. Volume XVIII (Issue 1), p. 134

The emergence of commercially manufactured Unmanned Aerial Vehicles (UAVs) has fundamentally disrupted this paradigm. Drones do not require pilots onboard, expensive runways, or complex maintenance infrastructure, unlike conventional aircraft. Manufacturers have driven down the production cost of drones as it is widely used for photography, agriculture, surveying or other business purposes. Open-source software, GPS navigation, high-resolution cameras, and increasingly capable onboard processors have collectively transformed drones into adaptable dual-use technologies whose applications extend far beyond common civilian purposes. An open-source dataset tracking armed drone use by non-state groups recorded 1,122 such incidents between 2006 and 2023, majority occurring after 2016, with over 90 percent concentrated in the Middle East and **North Africa**.³ Companies such as DJI, Autel Robotics, and Parrot have made increasingly sophisticated drones available at prices ranging from a few hundred to a few thousand dollars. This placed advanced aerial capabilities within reach of individuals, businesses, and, unfortunately, non-state armed groups. At the same time, online marketplaces and global supply chains have made drone components widely accessible. Open-source software and online technical communities have lowered the expertise required to modify civilian platforms for military

³ Hummel, Kristina. 2025. "The Rising Threat of Non-State Actor Commercial Drone Use: Emerging Capabilities and Threats." *Combating Terrorism Center at West Point*. <https://ctc.westpoint.edu/the-rising-threat-of-non-state-actor-commercial-drone-use-emerging-capabilities-and-threats/>.

purposes. As a result, capabilities once reserved for state militaries such as aerial surveillance, precision targeting, and real-time intelligence gathering can now be replicated using inexpensive commercial technologies.

Here are some non-state actors who have been using these drone technologies in their operations:

ISIS: The Islamic State (ISIS) demonstrated perhaps the earliest and most systematic military application of commercial drones by a terrorist organization. During the battles for Mosul and Raqqa between 2016 and 2017, ISIS integrated commercial, off-the-shelf drones into its operational **planning**.⁴ The group began dropping small munitions from modified commercial quadcopters on Iraqi and Kurdish positions. Initially those drones were used for battlefield reconnaissance and artillery spotting, these systems were soon modified to carry small explosive devices capable of targeting soldiers, armored vehicles, and civilian infrastructure.

ISIS established dedicated drone workshops where commercially purchased quadcopters were modified with improvised release mechanisms and enhanced communication equipment. The organization also exploited drone footage extensively for propaganda, broadcasting aerial videos of attacks to project an image of technological sophistication and **operational competence**.⁵ Although the physical damage caused by these drones remained relatively limited, their psychological impact far exceeded their kinetic capabilities. Coalition forces were compelled to allocate additional resources to electronic warfare, air defense, and counter-drone technologies, illustrating how inexpensive systems could impose significant operational costs on advanced militaries.

The Houthis: The Houthi campaign against commercial and naval shipping is the starkest illustration of cost inversion in modern warfare. Houthi drones, estimated at roughly \$10,000 a piece, and short-range ballistic missiles have been met by a US Navy interceptor inventory costing between \$2 million and \$4.3 million per **shot**.⁶ Supported by Iranian technological assistance, the

⁴ Hummel, Kristina. 2017. "The Battle for Raqqa and the Challenges after Liberation." Combating Terrorism Center at West Point. <https://ctc.westpoint.edu/the-battle-for-raqqa-and-the-challenges-after-liberation/>.

⁵ Hambling, David. 2016. "How Islamic State Is Using Consumer Drones." Bbc.Com. BBC. <https://www.bbc.com/future/article/20161208-how-is-is-using-consumer-drones>.

⁶ GeopoliticsUnplugged. 2025. "Drones vs. Dollars: The Costly Calculus of U.S.-Houthi Warfare." Substack.Com. GeopoliticsUnplugged Substack. <https://geopoliticsunplugged.substack.com/p/drones-vs-dollars-the-costly-calculus>.

Houthis developed increasingly sophisticated long-range drones capable of targeting critical infrastructure far beyond Yemen's borders. The September 2019 attacks on Saudi Arabia's Abqaiq and Khurais oil processing facilities illustrated the transformative nature of low-cost aerial systems. Although responsibility remains contested in some assessments, the attacks exposed the vulnerability of heavily defended strategic assets to relatively inexpensive unmanned systems. The strikes temporarily disrupted approximately five percent of global oil **production**.⁷ This sent shockwaves through international energy markets and highlighting how non-state actors could generate geopolitical consequences. Moreover, the attacks demonstrated a profound asymmetry in defense economics. Intercepting low-cost drones often requires sophisticated and expensive missile defense system which can cost up to hundreds of thousands of dollars. This cost imbalance increasingly favors attackers, enabling non-state actors to exhaust advanced air defense networks. The Houthis have disrupted a significant share of Red Sea shipping traffic and forced large volumes of global trade to reroute around the Cape of Good Hope, all while holding geographic leverage over the Bab el-Mandeb **chokepoint**.⁸

Hezbollah: Among contemporary non-state actors, Hezbollah possesses one of the most advanced and enduring drone capabilities. Since the early 2000s, the organization has gradually expanded its unmanned aerial program with substantial Iranian assistance, employing drones for surveillance, intelligence collection, border reconnaissance, and psychological signaling against Israel. Unlike ISIS, Hezbollah has integrated drones into a broader military doctrine combining missiles, cyber capabilities, electronic warfare, and decentralized command structures. Israeli defense planners increasingly regard Hezbollah's expanding drone inventory as a significant operational challenge because drones can identify vulnerabilities, overwhelm surveillance systems, and complement larger missile attacks. Recent confrontations have demonstrated that drones are no longer isolated tactical instruments but integral components of coordinated multi-domain operation.

⁷ ELDoh, Mohamed, and Mohamed ELDoh. 2026. "Red Sea Uncertainty: A 2026 Forecast for the Houthis Actions — Global Security Review." Global Security Review. <https://globalsecurityreview.com/red-sea-uncertainty-a-2026-forecast-for-the-houthis-actions/>.

⁸ "CRS INSIGHT Prepared for Members and Committees of Congress INSIGHTi Attacks on Saudi Oil Facilities: Effects and Responses." 2019. https://www.congress.gov/crs_external_products/IN/PDF/IN11173/IN11173.2.pdf.

Hamas and the October 2023 Attack: The October 2023 Hamas attack against Israel marked another important evolution in drone warfare. Commercially available quadcopters were used to drop explosives onto observation towers along the Gaza border fence, disabling the remote-controlled sensors, cameras and machine-gun systems that Israel had built specifically to reduce its reliance on soldiers at the perimeter.⁹ Although these drones carried relatively small payloads, their strategic function was to degrade Israel's situational awareness and create temporary operational blind spots that facilitated broader ground operations. One Israeli analysis later noted, was that the very automation meant to keep soldiers out of harm's way meant those systems could also be destroyed remotely, without a single Hamas fighter needing to breach the fence first. An Israeli defence-research assessment concluded that the country had underestimated drones as a serious tactical threat relative to rockets and suicide UAVs — a categorization error that a \$500 quadcopter exploited to devastating effect.¹⁰ The attack demonstrated how drones could support combined-arms tactics by suppressing defensive systems before conventional assaults. In this sense, drones increasingly resemble precision support platforms rather than merely improvised airborne explosives.

Myanmar and the Rise of Improvised Drone Warfare: Myanmar offers one of the clearest illustrations of drone democratization beyond internationally recognized terrorist organizations. Since the 2021 military coup, ethnic armed organisations and People's Defence Force units, with limited financial resources have turned agricultural and commercial drones into indigenous drone capabilities against the military. Unable to match the military junta's conventional firepower, resistance forces increasingly relied on drones for surveillance, targeted strikes against military installations, and logistical support. Crowdfunding campaigns, online engineering communities, and decentralized production networks enabled these groups to rapidly improve their technological capabilities despite limited industrial infrastructure. One assessment goes so far as to describe Myanmar as having become the world's second-largest active drone conflict after Ukraine, with

⁹ Byman, Daniel, Riley McCabe, Alexander Palmer, Catrina Doxsee, Mackenzie Holtz, and Delaney Duff. 2023. "Hamas's October 7 Attack: Visualizing the Data." Center for Strategic and International Studies, December. <https://www.csis.org/analysis/hamass-october-7-attack-visualizing-data>.

¹⁰ 2024. Inss.Org.II. <https://www.inss.org.il/publication/hamas-drones/>.

resistance-operated drones instrumental in the territorial gains that have left pro-democracy and ethnic forces controlling more of the country than the junta **itself**.¹¹



A squad of Myanmar rebels works to ready a drone for an attack on a nearby military base.

Credit: AFP/Getty Images

This matters directly for Bangladesh. The Arakan Army is now the de facto governing authority across the townships adjoining Bangladesh's 271-kilometre border with Rakhine State. They have turned drones against fleeing civilians. In August 2024, drone strikes on Rohingya crossing the Naf River near Maungdaw were reported to have killed large numbers of people, according to **survivors**.¹² Dhaka's response has been to fold drone surveillance into planned border-fence upgrades alongside thermal imaging and CCTV. Bangladesh Home Minister Salahuddin Ahmed announced the border fencing initiative during a parliamentary session on June 17, stating the project aims to strengthen national **security**.¹³

¹¹ "How Myanmar's War Became the World's Second Biggest Drone Fight." 2026. The London School of Economics and Political Science. 2026. <https://www.lse.ac.uk/ideas/publications/research-reports/how-myanmars-war-became-the-worlds-second-biggest-drone-fight>.

¹² "Myanmar: New Atrocities Against Rohingya." 2024. Human Rights Watch. August 22, 2024. <https://www.hrw.org/news/2024/08/22/myanmar-new-atrocities-against-rohingya>.

¹³ Staff Correspondent. 2026. "Fences Planned along Myanmar Border: Minister." The Daily Star. 2026. <https://www.thedailystar.net/news/bangladesh/news/fences-planned-along-myanmar-border-minister-4201601>.

Why State Militaries Are Struggling Against Cheap Drones



Image: Global Power

Despite possessing vastly superior resources, advanced militaries are finding it increasingly difficult to counter the proliferation of inexpensive drones. This paradox stems from a fundamental mismatch between traditional defense architectures and the evolving nature of unmanned threats. Most modern air defense systems were designed to detect and intercept high-speed fighter aircraft, cruise missiles, or ballistic missiles. Small commercial drones, however, fly at low altitudes, have minimal radar signatures, and often move slowly enough to evade systems optimized for much larger and faster targets. Consequently, even technologically advanced armed forces have struggled to adapt to an operational environment saturated with inexpensive unmanned systems. For example, in the ongoing U.S.-Israeli war against Iran, The U.S. military and its allies across the Middle East are struggling to combat Iran's swarms of cheap attack drones. To combat Iran's Shahed 136 drones, a relatively inexpensive weapon that costs around \$20,000 to quickly produce, America's armed forces are losing costly Patriot and THAAD interceptors that take years and millions of dollars to build.¹⁴ Since the U.S. and Israel launched a war against Iran last week,

¹⁴ Mitchell, Ellen. 2026. "America's Military Has an Iranian Drone Problem." The Hill. March 7, 2026.

Tehran has launched more than 1,500 drones and hundreds of missiles at nearby Persian Gulf states allied with Washington or housing American troops. Most were intercepted by air defenses, but six U.S. service members were killed in a drone strike in Kuwait on March 1. The U.S. Embassy in Saudi Arabia was also attacked via drones. What's striking is that these drones aren't that much high-tech compared to U.S. ones.

The challenge is not purely technological but also economic. Modern interceptor missiles used in sophisticated air defense systems often cost hundreds of thousands or even millions of dollars per launch, whereas many commercial drones are available for less than US\$1,000. This creates a cost-exchange ratio in which defenders expend significantly greater resources than attackers. Non-state actors exploit this asymmetry by deploying multiple drones simultaneously, forcing defenders to either absorb repeated attacks or exhaust expensive defensive inventories. The growing use of drone swarms further compounds this dilemma, as dozens of inexpensive unmanned systems can overwhelm conventional air defense networks through sheer volume. The U.S. military is very good at building the most advanced, most expensive weapons in the world, but it struggles to build cheap, simple things fast. That is the opposite of what this new kind of warfare **demands**.¹⁵

Artificial Intelligence and the Next Phase of Drone Warfare

The next evolution of drone warfare will likely be driven by advances in artificial intelligence (AI), machine learning, and autonomous decision-making. AI-enabled drones are increasingly capable of navigating contested environments, recognizing targets through computer vision, coordinating with other unmanned systems, and adapting to electronic interference with minimal human intervention. These capabilities significantly enhance operational effectiveness while reducing dependence on continuous communication with human operators. Perhaps the most concerning development is the emergence of autonomous drone swarms. Unlike individual drones, swarms operate collectively through distributed algorithms, allowing dozens or even hundreds of systems to coordinate attacks, share information, and dynamically reassign tasks if individual units are destroyed. Such capabilities can overwhelm conventional defenses by saturating radar systems

<https://thehill.com/policy/defense/5772379-iran-drone-threat-us-allies/>.

¹⁵ Brynildson, Aaron. 2026. "Why the US Military Is Stuck Using \$1 Million Missiles against Iran's \$20,000 Drones." Edited by Alfonso Serrano, April. <https://doi.org/10.64628/aai.67yhncvjv>.

and exhausting interceptor inventories. Although large-scale autonomous swarms remain in developmental stages, rapid advances in AI indicate that these technologies may become operational within the coming decade.

For non-state actors, AI represents a force multiplier. Open-source machine learning software, increasingly powerful consumer processors, and publicly available engineering resources substantially reduce barriers to developing autonomous capabilities, while sophisticated military-grade systems remain beyond the reach of most militant organizations. As these technologies continue to diffuse, the distinction between state and non-state aerial capabilities is likely to narrow further.

Strategic Implications for South Asia and Bangladesh

The democratisation of drone technology carries important implications for South Asia, a region characterized by contested borders, dense populations, persistent insurgencies, and complex geopolitical rivalries. India and Pakistan have both reported increasing instances of drones being used for cross-border smuggling, intelligence gathering, and the transportation of weapons and **narcotics**.¹⁶ These developments underscore how commercially available unmanned systems are reshaping regional security dynamics beyond conventional interstate competition. The India-Pakistan frontier is especially instructive: drones provide non-state networks with a relatively low-risk means of moving illicit materials across heavily monitored borders, while forcing states to invest in increasingly sophisticated counter-drone technologies.

The Myanmar border is no longer a conventional interstate boundary problem. It is a frontier governed by a non-state armed actor that has already used drones offensively against civilians within sight of Bangladeshi territory. Border security planning premised on state-to-state diplomacy with Naypyidaw increasingly misreads the actual distribution of power and capability on the ground. Any Rohingya repatriation framework, refugee-camp security posture, or border infrastructure plan needs to account for an armed non-state actor with demonstrated aerial strike capability as a de facto counterpart, whether or not it is formally recognized as one. Bangladesh also look deeper into its counter-UAS posture. It should be built around refugee camps, border installations, ports, and any future critical infrastructure. Bangladesh's security institutions should

¹⁶ Kumar, Ankit, and Arun Vishwanathan. 2025. "Use of Drones in Indo-Pak Cross Border Terrorism: Challenges, Regulations and Evolving Responses." *Asian Politics & Policy* 17 (1). <https://doi.org/10.1111/aspp.70003>.

strengthen the ability to detect, identify, track, and respond to unauthorized drones around airports, military installations, ports, power plants, government facilities, and other critical infrastructure. This requires more than purchasing expensive counter-drone equipment. Effective C-UAS architecture should involve coordination among civil aviation authorities, law-enforcement agencies, armed forces, intelligence organizations, and private infrastructure operators. For Bangladesh, the broader strategic challenge is to remain ahead of this technology. A forward-looking approach should combine responsible civilian drone development, supply-chain monitoring, targeted regulation, counter-drone preparedness, and regional information-sharing. Bangladesh could also explore cooperation with South Asian partners on emerging drone threats, particularly concerning border security, trafficking, maritime surveillance, and disaster management.

Conclusion

The widespread diffusion of drone technology represents one of the most consequential transformations in contemporary warfare. By dramatically lowering the financial, technological, and operational barriers to aerial warfare, commercial unmanned systems have weakened the long-standing monopoly that states once exercised over the skies. Non-state actors no longer require conventional air forces to project power, gather intelligence, or conduct precision attacks. Instead, relatively inexpensive drones have become strategic tools capable of altering battlefield dynamics, which imposes great costs on advanced militaries, and affects regional security environments. Future conflicts are likely to accelerate this trend as artificial intelligence, autonomous navigation, and swarm technologies become increasingly accessible. Ultimately, the democratisation of drone technology is a story of shifting power. Coming decade's question is not who possesses the most advanced aircraft, but who can integrate affordable UAVs into broader strategic objectives.