# Kill Empowerment: The Proliferation of Remotely Piloted Vehicles

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The proliferation of remotely piloted vehicles (RPVs) and remote/robotic weapons systems (RWS) in the form of armed drones, and states' capacities to engage in the practice of targeted killings by means of armed drones (hereafter, "drone kills") continues to expand (Callamard and Rogers, 2020). This article will analyze armed drone proliferation at the structural level by addressing four key elements as drivers of lethal autonomous weapons systems proliferation: the plasticity of killing via drones (i.e., the empowerment of capabilities or what we refer to as "kill empowerment"), the systems, the expertise (or guidance by knowledge brokers), and the material instruments employed for the performance of "targeted killings" or "precision killings". Our analysis resides on two broad levels: those of state exporters and importers. We apply these proliferation mechanisms to the People's Republic of China (PRC, hereafter China) as a drone exporter and to Nigeria as a drone importer. In the company of the conditions presented, we posit that the Missile Technology Control Regime (MTCR) has supported China's entry into the drone market with the MTCR's recent revamping subsequently exhibiting (still in an embryonic phase) a negative recoil effect that is likely to bring more drones into the global market, intensifying armed drone proliferation.

These instruments and the larger systems to which they belong go by a variety of names: unmanned aerial vehicles (UAVs), unmanned combat aerial vehicles (UCAVs), autonomous weapons systems (AWS), lethal autonomous weapon systems (LAWS), and lesser-used vernacular or colloquial labels such as "robot(ic) weapons", "killer (ro)bots)", "killer drones", "slaughterbots", and "obombers". Considering their potential to reach and perform far beyond the operator's location, we support the use of the term "autonomous weapons systems" but opt for using the term "remotely piloted vehicles" or simply "drones". We also draw a distinction between automated instruments operated by remote means and those instruments and systems that are totally independent or autonomous. While we acknowledge a progression towards fully independent or autonomous drones, our subsequent argument and analysis resides in the understanding that drone operators remain in full control of their machines and determine the courses of action of their armed instruments.

**The Military Drone Age: Producers and Exporters**

In stride with the United States, Israel, Russia, Turkey, China, India, Iran, the United Kingdom, and France are among the more than 100 countries that have an active drone inventory, and the 40 or so that possess drones and are currently seeking to weaponize them (United Nations General Assembly, UNGA, 2010; Callamard and Rogers 2020). The United States and Israel have demonstrated the flexible utility of armed drones: they can be used in distant locations (from the safety of the home state), used with relatively low (material) costs to the operating state, present little-to-no risk to military personnel, and leave scant immediate trace-evidence of a strike, at least beyond the immediate strike region and surrounding communities. As more states develop drone technology and work to weaponize their version of them, it was inevitable that other states in the international system would eventually use this form of security technology as the United State and Israel have (Ephron 2006; UNGA 2010; see Schmid 2018).

The United States and Israel are near-universally acknowledged leaders in armed drone development, production, and export. As Calhoun (2018: 358 and 362) notes, "Israel was the first drone-killer nation, having fired missiles from drones against suspected Palestinian terrorists, primarily in the Gaza strip" with the United States following closely

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behind and setting a new precedent for secret and indiscriminate killing and destruction of human targets regarded as "'imminent threats' to the people of the United States and were destroyed by missile strikes because capture was 'infeasible'". Restrictions placed on their sale, however, through the US Conventional Arms Transfer (CAT) Policy, initially limited the proliferation of the practice of drone warfare, confining it to these two major (in)security actors. The CAT Policy, approved in early 2018, reflected US security ambitions in numerous regions, its desire to protect advanced (military) technology, reservations over undermining the its arms industry, and concerns (as indicated by its government) about the "risk[s] of adverse economic, political or social impact within the recipient nation and the degree to which security needs can be addressed by other means" (United States Department of State 2009). A major shift in restrictions occurred in 2020 under the Trump Administration, when it updated the rules concerning the sale of armed drones. This was partially a response to Israeli and Chinese drone sales and to those states' access and inroads into international markets. As part of the Trump Administration's initiative, renovation of the rules governing the 35-state MTCR regime were underway in 2020.

As the pioneer of "unmanned" aircraft, Israel developed into the principal exporter of this technology between 2010 and 2014 (Bodner 2014; Haaretz 2018). Although an official member of the MTCR abiding by its rules, Israel interprets the regime's provisions uniquely, thus serving as a condition that has contributed to Israel's continued drone sales. Israeli drones could be armed by states that have purchased them. Israel's drone sales have equipped more than 50 countries with its machines, but these countries remain unidentified (O'Gorman and Abbott 2013). In their 2017 report, Ewers, Fish, Horowitz, Sander, and Scharre (2017: 8) noted that, "Israel is the top exporter of military drones, accounting for over 60 percent of international transfers over the past three decades…". Israel's internal security situation prefigured significantly in its embrace of kill operations using sophisticated military device such as jets, helicopters, and drones carrying mainly Hellfire missiles. The Hellfire missile has a blast or "kill radius" of approximately 15 meters and a "wound-radius" of 20 meters. Shrapnel and objects can reach even further, causing extensive injury, depending on the surroundings and number of people in the vicinity. As we show later, we see a similar embrace of these instruments in the case study.

China's sales of armed drones satisfy an almost natural demand that has surfaced due to arms sales regulations and barriers on specific types of weaponry and technology, notably the policy and regime stated. Where states could not access the coveted equipment from other nations, China as a builder, but more importantly as a seller despite having also become a member of the MTCR, filled this vacuum. Although China's drones are arguably of lesser-quality compared to its American and Israeli counterparts and are the result of spin-off drone technology (in part), they have come to be highly attractive options for states facing the restrictions we address. Alongside its Wing Loong I (Yilong/Pterodactyl) machines, China's successive editions carry and deliver significant munitions payloads and operate for extended periods of time, covering vast expanses of terrain. They carry a variety of weapons, giving its operator many options for attacking soldiers, armored vehicles, "high-value targets" (HVTs). As further variants of Chinese drones are developed, their capabilities and overall quality have risen while their costs have remained extremely low. An already-materialized demand has only matured as few restrictions on sales exist and mutually beneficial seller-buyer relationships continue to emerge.

In late 2020, Russia's state media, RIA Novosti (2020), publicized news of Russia's armed drone developments. Russia's armed drone, which goes by the name "Orion", successfully fired its small S-5 guided missile, marking the development of its fully developed armed drone capable of kill missions. Russia's Ministry of Defense, in cooperation with private firms, continues to advance Russia's autonomous weapons systems, with prospects of enhanced systems and weapons trials through 2021. However, Russia has previously filled only a slender role in the export and proliferation of armed drones and their systems but has invested considerably in its research. Thus, with the advent of its latest product, Russia will likely be more active in drone proliferation. But for now, Russia can be identified as a "nascent proliferator" of armed drones.

## Nigeria

Nigeria's acquisition of drones extends from a range of factors that include structural barriers, unanticipated opportunity, and a shift in geostrategic security imperatives. Boko Haram (BH), Ansaru (or al-Qaeda in the Land Beyond the Sahel), and ISIS West Africa (ISIS-WA) operate primarily in Nigeria's northeastern region, with the

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majority of attacks from the former occurring in 2013, 2014, and 2015. Following a moderate ebb, the frequency of attacks has risen since 2019, with Islamic militancy in Nigeria exceeding the 2014-2015 peak (African Center for Strategic Studies 2020). BH's profile of violence has included thousands of deaths (mainly civilians), hundreds of abductions, and the displacement of hundreds of thousands of vulnerable people. These factors are the central foundations of Nigerian military and the policymakers' underlying logic for the recent adoption of armed drones (Senior officer in the Nigerian Army, personal communication, Abuja, Nigeria, April 19, 2016).

The United States has not treated Nigeria the same way it has treated states like Afghanistan, Iraq, and Libya, among other where United States drone operations are conducted. The is because the kind of terrorism seen in Nigeria, according to a General in the Nigerian Army, is "home-grown and still highly localized", which has not, "in the medium-term, [shown] any real threats to the American states". He reasoned that, "[until] only recently America didn't even call what we [Nigeria] have here as international terrorism. It is domestic terrorism. It is one reason why they have not yet brought in very high-technology" (Brigadier-General in the Nigerian Army, personal communication, Abuja, Nigeria, April 19, 2016). While Nigeria possesses both drones and an active "space command" that uses drones, they are not American (Brigadier-General in the Nigerian Army, personal communication, Abuja, Nigeria, April 19, 2016). Rather, they are older versions only capable of surveillance and have been considerably neglected. Some local drones have not even been flown.

Nigeria has recently incorporated armed drones into its CT toolbox with the purchase of Wing Loong machines (Senior officer in the Nigerian Army, personal communication, Abuja, Nigeria, January 10, 2021). We explain this procurement vis-à-vis several factors. First, the threat posed by BH and local insurgents has increased. Second, the United States has distanced itself from even the prospect of supplying Nigeria with armed drones, nor does it conduct its own drone kills in the country. Three, obstacles associated with American and Israeli drones have not been reflected in the Chinese dimension. Instead, the Chinese drone option points to the inverse: readily available and usable, reliable, cutting-edge, and untrammeled by the scrutiny associated with American regulations and policies (Security analyst, University of Lagos, personal communication, Ibadan, Nigeria, January 15, 2021).

Chinese drones are, relative to the operational environment, state-of-the-art and can readily support a state's CT requirements. As a senior military officer explains, "Nigeria can fulfill two essential CT needs on its own level: putting boots on the ground and maintaining popular support" (Brigadier-General in the Nigerian Army, personal communication, Abuja, Nigeria, April 19, 2016). Chinese armed drones accentuate the satisfaction of these capabilities while addressing existing needs by demonstrating that the government can combat terrorism and banditry, maintain popular support through its efforts, and optimize the financial dimension of its CT endeavors. Additionally, a practical dimension is the purchasing power that Chinese drones have granted states like Nigeria. "In a sense, it is a kind of proliferation as such as you describe, but not beyond this nation's borders. We do not operate them outside of Nigeria, unlike as they are doing in those other places: Libya, Yemen, Iraq" (Senior officer in the Nigerian Army, personal communication, Abuja, Nigeria, January 5, 2021).

The Nigeria case illustrates the limitations of civil society in acting as government watch-dogs for the abuse of human rights and the rule of law in armed conflict. Indeed, lethal force in any form during armed conflict is legally permissible as long as the deliverable force is "necessary" and "directly proportional". However, Nigeria, under President Muhammadu Buhari, and previously President Goodluck Jonathan, reproached many critics including non-profits for allegedly supporting terrorism by serving as conduits of recruitment, funding, and ideological dissemination (Senior member of a civil society organization focusing on human rights, personal communication, Abuja, Nigeria, January 8, 2021). Whereas the military officers that we interviewed emphasize the importance of their work and the impact of drones on operational (e.g., counter-terrorism, CT) success, an anti-corruption group in Nigeria explains that the vilification of organizations tasked with holding the government accountable, opens a course for unethical CT practices or moral questionability. "The very purpose of rules in times like these", explains a civil society program officer, "is to assure compliance with standards, precisely to foil wrongdoing by those in charge" (Program officer of a civil society organization focusing on anti-corruption, personal communication, Abuja, Nigeria, December 6, 2020). "Any discussions between the government and its citizenry and opposition", explains a member of a group focusing on government transparency, "is outright absent. They will tell you that they are protecting values in place but they restructure the system to fit their domestic policy actions" (Program officer of a civil society organization focusing on

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anti-corruption, personal communication, Abuja, Nigeria, December 6, 2020).

Where the government might struggle to meet the financial requirements to continue its internal war against terrorism, it is likely to consider alternatives to continue a fight that it cannot afford to halt. To overcome financial limitations and human resource shortages, the Nigerian military has turned to Chinese drone as an alternative to costlier and publicly undesirable means of conducting CT campaigns. "The military budget consumes large fortunes of the state's funds with delivery of moneys left uncertain and I cannot delay my thanks for the supplies that we need and have received [speaking of drones]" (Senior officer in the Nigerian Army, personal communication, Abuja, Nigeria, January 5, 2021). As a Colonel in the Nigerian Army notes,

the Nigerian military consists of many men and has some necessary equipment, but it pledged itself to plentiful security missions and operations around the country. The armed bandits, pirates, insurgents, and violent gangs require a determined response by way of equipment and we have to understand the nuances in efficient usage of those […] It is now with us that the valuable advantage lies" (Colonel in the Nigerian Army, personal communication, Ibadan, Nigeria, April 19, 2016).

Thus, the turn to Chinese drones has been rationalized on the basis of utilizing more convenient and efficient weapons that are now available instead of continuing to tolerate human and material costs.

## Discussion

Persistent asymmetric threats are a significant factor in developing states' interest and willingness to add armed drones to their CT arsenals. Through our semi-structured interviews, we underscore some key factors in drone proliferation.

Geography is one such factor with the others reinforced by this particular characteristic. This is due to topographical challenges acting as practical barriers to government CT operations while simultaneously supporting terrorists and insurgents (Colonel in the Nigerian Army, personal communication, Ibadan, Nigeria, April 19, 2016). In Nigeria, oversight and concern for human rights, and possible civilian deaths and injuries are identified as a would-be hindrance to the incorporation of armed drones and practice of drone kills. But this barrier has also proven rather simple to overcome with governments regularly citing the human costs to legitimate armed drone adoption and depicting non-profits as supporters of terrorism. As a political and security analyst in Pakistan reasons on the advantage of armed drones, "it's a commonsensical thing. It's to avoid ground losses, and number two, to avoid legal action at home. When you're employing such a technology then you can't hold the intelligence [agency] responsible because it's less obvious, less traceable" (Senior member of the Institute of Strategic Studies Islamabad (ISSI), personal communication, Islamabad, Pakistan, January 8, 2016).

In terms of the acquisition of machines and expertise to operate the systems, the logic of state funding (or the absence thereof) is turned on its head given the comparable cost-effective option of Chinese drones. Wing Loong variants are highly advanced weapons for states that would otherwise rely on basic and less-dexterous CT means. Therefore, the argument of drones as the "poor man's CT weapon" seems to no longer apply, and even modest military budgets can ensure the acquisition not only of drones, but drones in bulk together with special operations-guidance by the experts who designed and built them. This perspective tenders deeper support for the position that replacement needs are no longer encumbering (Senior officer in the Nigerian Army, personal communication, Abuja, Nigeria, January 10, 2021).

Low-intensity conflict zones beyond the realm of Western focus are environments in which drone kills proliferate. The perceived negative feedback, as faced by the United States and Israel in such places as Iraq, Afghanistan, the Horn of Africa, and Libya, among other locales, is minimized by comparison due to the absence of major conflict, coverage, and due to the enablers described. In addition to lowering the threshold for the practice of drone kills, we will likely observe further use of killing with drones as drone-dependent states lean on builder-exporter states' capacities and relaxing disposition towards sharing their instruments, systems, and knowhow. As such, the American and Israeli practice, and their initiative to perform drone kills, and absence of legal framework limiting them, have

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established an early and resilient precedent. That precedent of American frontier or "Wild West" lawlessness, even indifference, extends to more nations using the same means to achieve similar goals. Moreover, we identify an extension of killing with drones, facilitating the normalization of armed drone use, or (expanded) "kill empowerment", in domestic and international settings through the revamping of policies and emergence of new suppliers seeking to profit.

The perceived and portrayed necessity of combatting terrorism and insurgencies as existential threats to and enemies of humanity have been powerful forces in the narratives for state acquisition and the instrumentality of armed drones. However, in tandem with the symbolic strength portrayed, practical concerns serve armed drone proliferation two decades after the United States' first drone strike in Afghanistan in 2001 following the launch of its War on Terror. Less-stable and even vulnerable governments and regimes have proven to be enthusiastic buyers ostensibly because drones bring a simple, cost-effective response to serious threats. The confluence of actors involved in armed drone proliferation provide essential elements that connect neatly to the conditions addressed.

## Conclusion

In this article, we addressed the proliferation of armed drones in two general veins, including those of: manufacturing and exporting states, and states that seeks to procure them. Our argument was nested in a range of discernible conditions such as a paucity of immoral and ethical consideration for armed drone procurement and use, the existence of domestic terrorist threats, insufficient or scarce state financial capacities, and a shortage of the requisite skills and knowledge to operate drone systems and perform the targeted kills. Whereas the United States and Israel were seminal actors in the initial wave of drone proliferation, others have since joined in supplying weaker states with the lethal instruments to constitute the second wave, with further states wanting to acquire armed drones on the cheap, parallel to structural adjustments to the MTCR regime potentially facilitating state perceptions of drone export competition. Our analysis has incorporated, on one level, the United States, Israel, China, and Russia as builder-exporter states, and Nigeria as an example of a purchasing state, on another. Other states can be incorporated into assessments of drone proliferation; not all drone exporters are the same. Some are users and exporters while other are merely exporters, like China. Turkey, Iran, and now Russia, as a nascent proliferator, can inhabit subsequent examinations for their role in global armed drone proliferation.

## References

African Center for Security Studies (2020, November 13) Boko Haram Violence against Civilians Spiking in Northern Cameroon, Washington, DC. https://africacenter.org/spotlight/boko-haram-violence-against-civilians-spiking-in-northern-cameroon/

Bodner M (2014, August 21) UAVs: An (unexploited) Seller's Market, *Federation of American Scientists*. https://fas.org/pir-pubs/uavs-unexploited-sellers-market/

Calhoun, L (2018) Totalitarian Tendencies In Drone Strikes By States, *Critical Studies on Terrorism*, *11*(2): 357-375.

Callamand A and Rogers J (2020, December 1) We Need a New International Accord to Control Drone Proliferation, *Bulletin of the Atomic Scientists*. https://thebulletin.org/2020/12/we-need-a-new-international-accord-to-control-drone-proliferation/

Ewers EC, Fish L, Horowitz, MC, Sander A and Scharre P (2017, June) Drone Proliferation: Policy Choices for the Trump Administration. Center for a New American Security, Washington, DC. https://drones.cnas.org/wp-content/uploads/2017/06/CNASReport-DroneProliferation-Final.pdf

Haaretz (2018, January 11) Israel Is World's Largest Exporter of Drones, Study Finds. https://haaretz.com/.premium-israel-is-greatest-exporter-of-drones-1.5243373

Meyer J (2013, July 10) Why Israel Dominates Global Drone Exports, *Quartz*. http://qz.com/102200/why-israel-

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O'Gorman M and Abbott C (2013, September 20) Remote Control War: Unmanned Combat Air Vehicles in China, India, Israel, Iran, Russia and Turkey, Open Briefing. https://www.files.ethz.ch/isn/170021/Remote-Control-War.pdf

Schmid J (2018) The Diffusion of Military Technology, *Defence and Peace Economics*, *29*(6): 595-613.

United States Department of State (2001-2009, January 20) Conventional Arms Transfer (CAT) Policy. https://2001-2009.state.gov/t/pm/rsat/c14023.htm

РИА Новости (2020, December 12) Российский беспилотник впервые применил управляемые ракеты. https://ria.ru/20201228/bespilotnik-1591191802.html

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