

Drones: Strategic shortcomings of a remotely conducted war



The rapid introduction of Unmanned Aerial Systems (UAS) into the military could harm pilot morale, dissuade prospective aviators from enlisting in an outdated career path, and erode their invaluable skill sets

By Micah Zenko

The ease and perceived success of unmanned aerial strikes threatens to overshadow the importance of an overall strategy towards adversaries

SINCE late 2001, the United States has used Unmanned Aerial Systems (UAS) for offensive military operations in Afghanistan, Iraq, Yemen, and in the Tribal Areas of Pakistan, where the tempo and scope of strikes against suspected Al Qaeda and Taliban operatives have increased under President Barack Obama. The effectiveness of UAS offensive operations is difficult to evaluate since many of them are covert – meaning they are unacknowledged by American or host-nation officials – and occur beyond the watch of journalists or civil-society groups. Nevertheless, in off-the-record settings, senior civilian and military officials in the George W Bush and Obama administrations have praised the role of UAS in Pakistan, where over one hundred

strikes have killed hundreds of Al Qaeda and Taliban operatives, and civilians. As the Central Intelligence Agency (CIA) Director, Leon Panetta, declared in May 2009, the airstrikes in Pakistan have been “very effective” and “frankly, it’s the only game in town in terms of confronting or trying to disrupt the Al Qaeda leadership.”

The apparent and largely unquestioned success of UAS in conducting offensive operations deserves a closer look, especially as the Pentagon plans to vastly expand their use against a range of targets. Consider three notable facts. First, in 2009, for the first time, more controllers of UAS were trained than pilots of manned aircraft. Second, whereas the US military can presently support thirty-four around-the-clock UAS strike orbits in the US Central Command’s area of operations, within two years military officials want at least fifty. Third, while it took Predator drones twelve years to fly their first 250,000 hours, that amount was doubled in the following twenty months. As the Secretary of Defence, Robert Gates noted in congressional testimony last summer, the best solution against projected future threats, “is not something that has a pilot in it.” Nevertheless, there are sev-

eral potential downsides to the unchecked use of UAS in offensive operations that citizens and policymakers should consider.

Pilot skills: The rapid introduction of UAS into the military could harm pilot morale, dissuade prospective aviators from enlisting in an outdated career path, and erode their invaluable skill sets. This would be problematic for two reasons. First, due to the legacy of nearly 3,500 fixed-wing fighter and attack aircraft currently in use by the US military and impending arrival of a total of 187 F-22 Raptors and 2,400 F-35 Joint Strike Fighters, pilots will remain a necessity. Second, military officials believe that there are certain offensive operations that require a pilot in the cockpit for the foreseeable future, including strike missions that are of the highest priority, occur in fluid or adverse weather conditions and threat environments, and require immediate situational awareness and adaptability such as during air-to-air combat.

Presently, UAS are operated by a ground-control station that includes a sensor operator, mission intelligence coordinator, and a controller, who is also a trained pilot. The growth in UAS flights has meant that pilots are being siphoned off from their

normal operations and training schedules for thirteen week crash-courses in how to control a drone. To keep up with projected mission demands the US military will have to double the number of controllers to 1,100 in the next two years. Not surprisingly, some aviators have had great difficulty adjusting to the limitations of UAS, resulting in a number of Predators crashes. According to an Air Force investigation, seventy percent of serious Predator mishaps between 2003 and 2006 were attributed to "human error factors". What is worse, however, is that some aviators who are converted into UAS controllers have some difficulty readjusting to manned aircraft missions when required. Furthermore, because of the insatiable demand for trained pilots to be used in UAS controller positions, according to the Air Force, there has been a seventy-eight percent shortage in filling "ALFA tour" positions, which are mid-career assignments for pilots – such as air liaison and forward air control duties – that broaden their perspectives since they are outside of the pilot's primary aircraft.

Target acquisition: Like all networked weapons systems, UAS are vulnerable to their signals being jammed, spoofed or stolen. It was recently revealed that Iraqi insurgents were able to intercept unencrypted video feeds from Predator surveillance drones for several years using software that was available on the internet for \$26. Pentagon officials acknowledged that they were aware of the problem, but believed that the vulnerability from unencrypted communications was less significant than assuring that soldiers on the ground could see the video feeds. Fixing this one problem is expected to take at least five years. Moreover, we should expect that potential future adversaries of the United States – in particular China and Russia – will have more highly-developed cyber and electronic warfare capabilities, which will aim to interfere with the ability of UAS to receive the real-time intelligence and authorisation orders required for attacking time-sensitive targets.

Counter-measures: In war, the sustained success of any offensive weapons system will soon be counter-balanced by changes in the defensive tactics of the targeted groups. For example, throughout 2009, it was reported that Taliban and Al Qaeda operatives in northwest Pakistan had adapted to CIA-controlled UAS attacks by killing suspected informants, destroying communications towers, dispersing into smaller cells, and moving to heavily-populated cities. Similarly, ten years earlier, NATO initially claimed that precision airpower had succeeded in crippling Serbia's ground forces during the Operation Allied Force bombing campaign. After the war, however, NATO investigators determined that the initial assessments of Serb weapons systems destroyed were wildly inaccurate: 14 tanks were actually destroyed, not 120; eighteen armoured personnel carriers, not

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220; and twenty mobile artillery pieces, not 450. The Serbian military learned and quickly adapted to NATO's airpower by constructing fake "artillery" consisting of logs and old truck axles, and "surface-to-air missiles" made of metal-line paper. As the offensive capabilities of UAS become better known, potential adversaries will be able to adopt defensive counter-measures more quickly, including camouflage, concealment, hardening, dispersal, deploying decoy targets, or operating from politically or culturally sensitive sites. Such defensive tactics can increase the likelihood of militarily ineffective strikes and result in well-publicised civilian casualties and other collateral damage that can have a major impact on world opinion.

Air-defences: To date, UAS offensive operations have occurred in countries that can be characterised as having a benign air-defence environment. Most first-generation UAS that are big enough to carry bombs fly slow and low enough to occasionally be heard, seen from the ground during daylight hours, or easily identified by rudimentary air-defence radars. In addition, these UAS do not have counter-measures to better protect them, such as flares or stealth capabilities. As such, they could be easily shot down by fighter aircraft or ground-based missiles. Potential adversaries, such as China, Russia, or Iran, could presently shoot down most of the UAS in the US arsenal with their integrated air Defence systems. As US Air Force Lt Gen David Deptula, the Air Force's Deputy Chief of Staff for Intelligence, Surveillance and Reconnaissance, noted with refreshing honesty last summer, "some of the (UAS) systems that we have today, you put in a high-threat environment, and they'll start falling from the sky like rain."

Military solutions: Unmanned aerial systems possess several advantages over manned aircraft, including that they avoid putting pilots at risk of being shot down or captured, are uncon-

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strained by the limits of pilot endurance, and are perceived to be more disposable given that they cost less than one-quarter the amount of many fighter and attack aircraft. The lower-cost and lower-risk characteristics of UAS, however, could also constitute an additional strategic shortcoming. If US presidents and military commanders believe that there are fewer political or budgetary constraints with UAS than with manned aircraft, they could be more likely to order bombing raids against foreign adversaries. This moral hazard raises the alarming possibility of a US foreign policy that is increasingly characterised by the use of limited military force. In addition, the relative ease of UAS strikes could lead political and military leaders to seek short-term military solutions to foreign policy problems in lieu of developing and implementing comprehensive national strategies – using non-military and military means – to resolve the longer-term problems posed by targeted groups or states. As the UAS strikes in northwest Pakistan have demonstrated, a Hellfire anti-tank missile can kill sought-after Al Qaeda and Taliban operatives from a safe distance, disrupt pilots, and make a safe haven less safe. However, they have largely failed to deter or dissuade young Afghani or Pakistani men from replenishing the rank and file membership of either group. Nor, obviously, have the UAS strikes in Pakistan prevented Al Qaeda or Taliban operatives from moving in greater numbers to the next ungoverned area, such as Somalia or Yemen. This demonstrates that while limited military force can be one component of an overall strategy toward an adversary, it should never be a substitution for it.

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