
A Flying Threat Coming to Sahel and East Africa? A Brief Review

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A Flying Threat Coming to Sahel and East Africa? A Brief Review

Abstract

Non-state actors have been experimenting with unmanned aerial vehicles (UAVs) for two decades. This has become widely known over the 5 years, as both ISIS and the Houthis have adapted weaponized UAVs into their repertoires. As the Sahel and East Africa regions experience a rise in violence from non-state actors, and given that groups here are affiliated with groups in the Middle East, this paper seeks to explore the possibility and likelihood of weaponized UAVs being used on the battlefield in these regions. By utilizing both scholarly work and other reporting from these regions, this paper finds that there is a low risk of weaponized UAVs being adapted in these regions through organizational ties to groups in the Middle East. However, as UAVs are commercially available all over the world, groups with bomb-making experience and technical know-how in general may themselves develop local variations and adaptations of what Jihadist groups have done in the Middle East over the last decade.

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Introduction

Jihadist groups in the Sahel, Maghreb, and East Africa have committed a growing amount of violence.¹ In particular, deadly attacks have been carried out against military bases in Mali, Niger, Nigeria, and Burkina Faso.² As these acts are conducted by regional militant groups with possible ties to groups in the Middle East, such as the Islamic State of Iraq and Syria (ISIS) and al-Qaida (AQ), a transfer of knowledge and expertise regarding battle-proven weapons and tactics may flow into this region.³

Until recently, air power was a tool wielded only by wealthy actors in combat and conflict, and over the past 100 years, nation-led armies have developed it.⁴ However, unmanned aerial vehicles (UAVs) have become increasingly available and affordable for others.⁵ As such, nonstate operations have also incorporated them over the last decade, mainly for reconnaissance.⁶ In the last four years, nonstate actors have utilized weaponized UAVs as well.⁷ Whether in war or other conflict situations, knowing what kind of weaponry and tactics the enemy has is vital to preparing for defense and countermeasures. As can be interpreted from Sun Tzu's famous "know your enemy" observation of military tactics, insight into a competitor or opponent is considered valuable in business, sports, and the treatment of disease, to name a few examples.⁸

The scholarly literature has not provided adequate descriptions of nonstate actors' use of weaponized UAVs, with some valuable exceptions, such as Ressler's various reports from the Combating Terrorism Center at West Point.⁹ Perhaps, the main concern is that such reports have largely focused on the Middle East, leaving the African continent unexplored in terms of nonstate actors' application of weaponized UAVs. With this in mind, this article looks at the organizational ties between groups in the Middle East and those in regions of Africa to explore to what degree knowledge and know-how of weaponized UAVs may move from one conflict zone to another. To do this, findings from scholarly publications, reports, commentaries, and news stories have been used.

In addition, terrorists do not innovate technologically for the sake of innovation itself. Rather, they do so because they believe that something can be gained by the innovation.¹⁰ The capacity for innovation is contingent on the desire to acquire new technologies,

such as UAV technology, and the existence of technical and infrastructural capabilities to support the innovation.¹¹

This article draws upon the findings from extensive data collection by the author, who searched open sources for incidents where nonstate actors utilized weaponized UAVs in attacks. This resulted in 277 incidents. In addition to incidents identified in news stories and various reports, 48 incidents were imported from the Global Terrorism Database.¹² Lastly, the dataset incorporates 203 incidents from *Bellingcat* analyst Nick Waters' collection of ISIS UAV attacks.¹³ The methodology for this data collection is presented in the first publication using the dataset.¹⁴ Currently, the nonstate actor UAV attack dataset consists of 528 unique incidents from 2006 throughout 2020.

Review of Earlier Findings

This brief summary focuses primarily on nonstate actors that have utilized weaponized UAVs. The secondary focus is on nonstate actors that have adapted UAVs for reconnaissance and surveillance.¹⁵ The first step is a thorough review of relevant nonstate actors that are operating in the Middle East, followed by a similar review of nonstate actors in Africa.

Middle East

The Lebanese Shiite group Hezbollah has proven itself to be the pioneering nonstate actor in terms of UAV capabilities. The Iran-connected group has utilized UAVs for almost 15 years, primarily in its struggle with Israel but also with other nonstate actors.¹⁶ While the initial use was explosive-laden UAVs, by 2016, Hezbollah had demonstrated the capability of dropping explosives from a UAV hovering over a target.¹⁷ Hezbollah's UAV repertoire varies, consisting of both Iranian-made Ayoub UAVs and modified commercially available ones, such as the DJI Phantom.¹⁸ Both are used for reconnaissance, kamikaze-style strikes with explosives, and dropping explosives.¹⁹ According to aerial photo analysis, Hezbollah has established UAV runways and control centers in both Lebanon and Syria as bases for UAV operations.²⁰ Hezbollah may also have acquired the Iranian-made Shahed 129 UAV, which is capable of deploying missiles; in 2014, Hezbollah may have used this particular UAV to attack a position held by Jabhat al Nusra, al-Qaida's affiliate in Syria.²¹

Hezbollah's on-and-off ally Hamas first announced its UAV capabilities through press releases in 2014, stating that the organization had manufactured three versions of the Ababil UAV platform.²² This gave Hamas the capability of conducting various missions, such as reconnaissance, kamikaze attacks, and dropping explosives.²³ Later, after the targeted killing of Hamas UAV engineer Mohammed al-Zawari, Hamas utilized less sophisticated UAVs, such as balloons and kites armed with explosives.²⁴

The Islamic State in Iraq and Syria was the first nonstate actor to incorporate weaponized UAVs widely. Since 2014, ISIS has used UAVs for both reconnaissance and surveillance.²⁵ While reports have suggested that ISIS had kamikaze UAVs as far back as 2015, the first reported attacks from ISIS UAVs were in late September and early October of 2016 in strikes against the Turkish, Kurdish, and French armed forces.²⁶ Documents and facilities discovered after ISIS lost ground in and around Raqqa revealed that ISIS modified commercially available drones, and evidence has revealed efforts to reverse engineer UAVs belonging to the United States-led coalition.²⁷ The UAVs utilized by ISIS are typically in the price range of US\$600 to US\$1,100. ISIS uses both fixed-wing UAVs and modified commercial quadcopters, such as the DJI Phantom. These have the capacity to carry armaments, such as grenades and other improvised explosive devices, and ISIS propaganda videos have indicated that the group uses open-source aviation software to plan and execute UAV flights and attacks.²⁸ In a review of ISIS UAV imagery, *Bellingcat* analyst Waters identified the explosives dropped from ISIS UAVs. The main finding was that nearly 50 percent of the explosives were 40 mm grenades, 26.4 percent were unknown, and 13.2 percent were regular grenades.²⁹ However, since the killing of key UAV developers in September 2019 and the group's failing ability to hold territory, ISIS has halted UAV attacks.³⁰

Since 2019, Yemen's Houthi movement has demonstrated its capability to attack and inflict damage on targets in both Yemen and Saudi Arabia. Most notable are the attacks on a military parade in Aden in January 2019 and the Aramco oil facilities in Saudi Arabia in September 2019.³¹ Based on the trajectories and range, a UN investigation deemed the attack to likely originate from Iran.³² In 2018, the Houthis launched attacks with weaponized UAVs that flew directly into the targets and exploded on impact.³³ However, findings from a recent report by London-based Conflict Armament Research suggest that the Houthis also have the capability to drop explosives from

UAVs.³⁴ Research on the actual components and manufacturing of these devices has also indicated that Iran supplies the Houthis and that the Houthis have some domestic manufacturing capability.³⁵ Imagery and reports on Houthi UAV capabilities show mainly fixed-wing UAVs, unlike those of ISIS, Hamas, and Hezbollah.³⁶

Al-Qaida has also used UAVs for reconnaissance.³⁷ Evidence has shown that AQ has previously experimented with remote-controlled planes to deploy chemical weapons, but Iraqi authorities stopped these efforts.³⁸ Al-Qaida affiliate Jund Al-Aqsa has posted a video claiming to contain evidence of a bomb-laden UAV that landed on Syrian military barracks on September 3.³⁹ If correct, this is an exclusive incident of any AQ or AQ-affiliated groups using such UAVs. In Afghanistan, US troops have over several years reported that Taliban UAVs have at times, watched its compounds and troop movements “around the clock”.⁴⁰ Additionally, since October 2020 Taliban have used UAVs with grenade dropping capabilities against mainly Afghan security forces. ⁴¹

Hay'at Tahrir al-Sham (HTS) is a local actor in Syria and operates as an opposing force to the Assad regime since the beginning of the civil war.⁴² The group aims to overthrow the current regime and establish an Islamic Emirate in Syria.⁴³ HTS, previously known as Al Nusra Front, did earlier have strong ties to AQ.⁴⁴ The group has been responsible for several UAV attacks against the Russian Khmeimim airbase in Syria.⁴⁵

Another local opposing organization in Syria is the Free Alawites Movement.⁴⁶ Similar to HTS, the group opposes the Assad regime in Syria and claims responsibility for attacks against the Khmeimim airbase.⁴⁷ Some of the attacks against the airbase have been described as “swarms of drones.”⁴⁸ The Russian deputy defense minister accused the United States of providing guidance for UAVs, but US officials have denied this.⁴⁹ Evidence gathered from crashed HTS UAVs have shown that the UAVs were clearly homemade, with simple chassis but able to carry several grenades to a target.⁵⁰

Presently, Hezbollah, Hamas, the Houthis, HTS, the Free Alawites Movement, ISIS and the Taliban have adopted weaponized UAVs into its repertoire to various extents. The two most common variations are the fixed-wing UAV and the quadcopter-style UAV, such as the DJI Phantom or the more expensive DJI Matrice. The difference in operational movement capabilities is the quadcopter's ability to

maintain its position by hovering over a target and/or dropping an explosive; quadcopters can also conduct vertical take-offs and landings. In contrast, fixed-wing UAVs are traditionally capable of moving at higher speeds and over longer distances.⁵¹

Africa

Groups affiliated with both ISIS and AQ are present and operating in several African regions, such as the Sahel and East Africa. ISIS-affiliated militants have carried out an increasing number of attacks in the region. According to *The Washington Post*, targets have been, among others, the port city of Praia in Mozambique and a wildlife park in Koure, Niger. The Islamic State in the Greater Sahara (ISGS) operates in Mali, Niger, and Burkina Faso and conducts coordinated attacks that display several capabilities.⁵² The group's repertoire includes, among other devices, truck bombs, mortars, and drones for surveillance. One particular attack against a military compound in Mali resulted in the killing of 53 soldiers.⁵³ The Islamic State of Greater Sahara initially claimed responsibility for an attack on military barracks in Inates, Niger, but this was found to have been carried out by the Islamic State West Africa Province (ISWAP). The Islamic State West Africa Province is considered a splinter group of Boko Haram, and both groups use UAVs in surveillance operations in Nigeria.⁵⁴

However, to date, no evidence is available of ISGS, ISWAP, or Boko Haram using UAVs with offensive capabilities, such as by rigging UAVs with explosives. Other Islamic State-affiliated groups, for example, the Islamic State of Somalia, Islamic State of Algeria, Islamic State of Sinai, and Islamic State of Libya, may have experimented with or utilized UAVs. However, no evidence confirms such experimentation.

Jama'at Nusrat al-Islam wal-Muslimeen (JNIM) is a collective of AQ-linked groups, such as al-Qaida in Islamic Maghreb (AQIM) and Ansar al-Din.⁵⁵ Similar to AQ elsewhere, no evidence exists of JNIM using UAVs for any purposes beyond surveillance, reconnaissance, or propaganda.⁵⁶ Jama'at Nusrat al-Islam wa al-Muslimeen has produced high-level propaganda videos, some of which overlap consistently in content with those released by AQIM.⁵⁷ Algerian security forces have targeted AQIM, and seized a large amount of explosives, mortars, and ammunition as well as 11 UAVs in early 2019.⁵⁸ Similarly, the AQ-linked group al-Shabaab has also used UAVs for surveillance

operations in Somalia and Kenya, lastly to record and possibly coordinate the attack on the US base in Manda, on January 5, 2020.⁵⁹

Table 1 presents the pervasiveness of UAV usage by nonstate actors in the Middle East, Sahel, and East Africa. The information is broken down to show the number of attacks and the period of time in which the groups had the capacity to carry out surveillance and attacks with UAVs. While more incidents or usage of UAVs may have occurred, the author of this article could not find evidence of such.

Table 1. Pervasiveness of UAV Capacity among Nonstate Actors

Nonstate actors in the Middle East	No. of attacks	Surveillance	Attack
al-Qaida	0	2016 to 2020	2016
Free Alawites Movement	3	Unknown	2018
Hamas	4	2014–2020	2018–2019
Hay’at Tahrir al-Sham (incl. al-Nusra)	17	2014 - 2019	2019
Hezbollah	8	2004 -2020	2006, 2014-2017
Houthi	151	2015–2020	2018–2020
Islamic State of Iraq and Syria	256	2014–2020	2016–2019
Taliban	13	2016-2020	2020
Nonstate actors in Sahel and East Africa			
al-Shabaab	0	2018–2020	–
Boko Haram	0	2018–2019	–
Jama’at Nusrat al-Islam wal-Muslimeen	0	2017–2019	–
The Islamic State in the Greater Sahara	0	2018–2019	–
The Islamic State West Africa Province	0	2018–2020	–

Source: Author’s own (Nonstate actors UAV attack dataset 2006-2020) and literature review.

Indications of Cooperation and Transfer from the Middle East to Regions in Africa

After the territorial defeat of ISIS in the Middle East, a large number of former foreign North African fighters migrated back, home or to other conflict zones in Africa and brought with them the tactics and operational features that they had observed earlier in the Middle East.⁶⁰ However, the return of former foreign fighters has, to date, not resulted in weaponized UAVs being used by African jihadist groups. Nevertheless, based on the above review of nonstate actors with UAV experience, along with findings from reports on cross-group cooperation, weaponized UAVs might descend upon African conflict zones.

The Islamic State in Greater Sahara pledged allegiance to ISIS in May 2015 and in October 2016, ISIS recognized the group, but it did not receive official ISIS media attention until 2019.⁶¹ In 2020, ISGS reportedly cooperated with JNIM, linking Islamic State affiliates and AQ affiliates in the Sahel area.⁶² However, this cooperation is not an established fact, and other reports have indicated that there may actually be some between-group conflict.⁶³

The Islamic State in Greater Sahara has used UAVs for reconnaissance before and during attacks. However, according to Julie Coleman, a senior researcher at the International Centre for Counter-Terrorism, this does not necessarily mean that ISIS has provided ISGS with materials or guidance in the Middle East. Instead, the use of UAVs could merely be the product of their increased general availability and the materials found in compound raids.⁶⁴ Another indication of cooperation between Middle Eastern and African groups is the transfer of media templates and graphics from ISIS to ISWAP and the incorporation of ISWAP into ISIS's central media system.⁶⁵ The Islamic State West Africa Province has also received guidance from the Islamic State's core on utilizing UAVs tactically.⁶⁶ So far, this has not led to UAV attacks by ISWAP.

Al-Shabaab, AQ's East African affiliate, attempted to simultaneously breach the United States' Baledogle Airfield outside of Mogadishu and attack an Italian military convoy in the capital itself.⁶⁷ While al-Shabaab claimed the attacks were successful, leaving more than a hundred soldiers dead, local government and US troops stopped the attack on the US base, and officials reported no casualties. The attacks however, resulted in substantial and coordinated media attention from AQ and al-Qaida in the Arabian Peninsula (AQAP).⁶⁸ While al-Shabaab has limited local bomb makers and operatives, the group has received both weapons and training from AQAP to carry out sophisticated attacks.⁶⁹

As presented above, clear indications of organizational ties between Middle Eastern and African jihadist groups exist. This has resulted in central organizations directing media attention to their affiliated groups. In addition, ISIS appears to have provided training, guidance, and actual weapon support in some cases.

Conclusion

This article's initial review of nonstate actors' UAV capabilities has revealed two main types of weaponized UAVs that have been adapted for use in the Middle East: Those that have the capacity to hover over a target and drop explosives onto it and those that can crash into a target and detonate on impact. These types of nonstate weaponized UAVs all pose obvious threats to both civilian populations and security forces. However, no evidence shows that nonstate actors in Sahel and East Africa have included these weapons in their repertoires.

The actual flow of weaponry may follow several logistic lines: These weapons may be confiscated after attacks, as in the case of Boko Haram in Nigeria; disseminated through smuggling routes, as with AQIM through Libya; or obtained by seizing the stocks of unstable states.⁷⁰ However, as weaponized UAVs are not widely adapted tools for other nonstate actors or government security forces in the respective regions, the likelihood of procuring them through the above strategies appears to be limited. In addition, nonstate actors' earlier development of UAVs has appeared to be somewhat contingent on specific individuals with experience in aviation or engineering. As such, this particular tool may have been more vulnerable to governmental countermeasures, such as targeted killings, than other tools, as its development requires specialized knowledge that few have.

The brief review presented in this article has demonstrated that several nonstate actors in both the Middle East, Sahel, and East Africa have utilized UAVs for reconnaissance, but fewer have adapted weapons to this tool. Nonstate actors learn from other actors' operations, for example, how AQ have learned from Hezbollah's tactics and operations.⁷¹ How ISIS influenced ISWAP's use of UAVs is another example of between-group learning. These, and others presented in this article, show how knowledge, expertise, and skills are transferred between nonstate actors in some cases.

Initially, this article presented that terrorists' organizations innovate technologically because the innovation serves a purpose and that innovation is contingent on both the organization's desire and capability to innovate.⁷² The absence of nonstate actors on the African continent taking their fight to the skies appears to be explained by a lack of capacity, not desire. The repertoires of groups in both Sahel and East Africa, such as AQIM, JNIM, and ISGS, consist of traditional

weaponry, including mortars.⁷³ Mortars are used to harm the enemy from above while the operator is physically several hundred meters or more from the impact zone.⁷⁴ As such, the desire to inflict damage from afar and from above appears to be present. When nonstate actors first appeared to use weaponized UAVs in conflict, the global reaction was massive in terms of media coverage and commentaries.⁷⁵ The transition from flying to flying with explosives may be halted by the following risk assessment; UAV attacks might result in more decisive counterterrorism efforts by local and national security forces.

While ties between jihadist groups may develop in accordance with the levels of conflict with both state and nonstate actors in respective regions, their efforts, and motivations to procure some level of air power through weaponized UAVs may increase. This might contribute to further bolstering the groups' capacities to control narratives, and hold and conquer geographical land. Currently, the cooperation between nonstate groups in African regions does not appear to be strong, nor is it long lasting; thus, it may not be enough to motivate groups to share the knowledge and know-how they have of weaponized UAVs. This might change as the nature and intensity of the conflicts change and if nonstate actors with experience using weaponized UAVs hold larger areas of land. This might facilitate the possibility of more thoroughly developed drone programs, such as those ISIS experimented with until their territorial setback in 2017.

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