



UNIDIR

FULL REPORT

# The Use of Uncrewed Aerial Systems by Non-State Armed Groups

## Exploring Trends in Africa

BÁRBARA MORAIS FIGUEIREDO



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## About the Series

This report is part of a UNIDIR series titled “**The Use of Uncrewed Systems by Non-State Armed Groups**” intended to explore trends in the use of uncrewed systems – aerial, ground and maritime – by non-State armed groups (NSAGs) in different geographical regions and to assess the implications for regional and international peace and security. Specifically, the series seeks to identify and examine trends in relation to the purpose for which the systems are used; the types of NSAG using the systems; and the ways in which NSAGs are modifying or weaponizing these systems for use. The series is intended to contribute to relevant multilateral processes as well as inform the development and adoption of prevention and response strategies and measures at national and regional levels.

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# Acronyms & Abbreviations

<b>ADF</b>	Allied Democratic Forces
<b>AQAP</b>	Al-Qaida in the Arabian Peninsula
<b>ASWJ</b>	Ahlu Sunna wal-Jama'a (Companions of the Prophet)
<b>CAR</b>	Central African Republic
<b>CJTF</b>	Civilian Joint Task Force
<b>CPC</b>	Coalition des patriotes pour le changement (Coalition of Patriots for Change)
<b>DRC</b>	Democratic Republic of the Congo
<b>FACA</b>	Forces armées centrafricaines (Armed Forces of the Central African Republic)
<b>FADM</b>	Forças Armadas de Defesa de Moçambique (Mozambican Defence Armed Forces)
<b>IED</b>	Improvised explosive device
<b>ISGS</b>	Islamic State in the Greater Sahara
<b>ISWAP</b>	Islamic State West Africa Province
<b>ISR</b>	Intelligence, surveillance and reconnaissance
<b>JNIM</b>	Jama'a Nusrat ul-Islam wa al-Muslimin (Group for Support of Islam and Muslims)
<b>MINUSCA</b>	United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic
<b>MINUSMA</b>	United Nations Multidimensional Integrated Stabilization Mission in Mali
<b>MNJTF</b>	Multinational Joint Task Force
<b>MONUSCO</b>	United Nations Stabilization Mission in the Democratic Republic of the Congo
<b>NSAG</b>	Non-State armed group
<b>PMSC</b>	Private military and security company



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# Summary

This report examines current and emerging trends in the use of uncrewed aerial systems (UASs) by non-State armed groups (NSAGs) in Africa. It provides an overview of the different NSAGs using UASs and their main areas of operation across the subregions of Africa, describing the most prevalent types of use, as well as the most common targets of UAS operations by NSAGs and their impacts. It then identifies and assesses some of the enabling factors and salient trends influencing how these groups currently deploy or could deploy these systems in the future.

This report is intended to provide policymakers and practitioners with an overview of current and emerging trends in NSAGs' use of UAS in Africa, and their implications for national and regional security and stability.





## Key Findings

- ▶ While the use of uncrewed aerial systems by non-State armed groups operating in Africa is still at an early stage, it is increasing in both frequency and geographical scope. Across the continent, NSAGs primarily deploy UASs to conduct intelligence, surveillance and reconnaissance (ISR) missions – including to identify targets and coordinate attacks. The other prominent way in which African NSAGs use UASs is to record footage for communication and propaganda materials. While these groups have not yet used weaponized UASs for strike operations, groups operating in both West and East Africa are reportedly seeking to develop capabilities for offensive UAS operations.
- ▶ NSAGs in Africa tend to employ UASs mostly in an ad hoc and opportunistic manner. None of the groups using UASs on the continent appears to have developed well-resourced capabilities allowing for more consistent and sophisticated uses of the technology. However, there are indications that some of the conditions that motivated and enabled NSAGs to develop UAS programmes in other regions could potentially be replicated by some groups in Africa.
- ▶ Across the continent, UASs are primarily used by terrorist groups, especially those that have ties to groups known for using these systems in other regions, such as Islamic State and Al-Qaida affiliates. Such network affiliations seem to play an important role in facilitating the transfer of knowledge and expertise in the acquisition and deployment of UASs among NSAGs in Africa. Given the fluid nature of many of these groups, as well as cross-border flows of fighters, the sharing of knowledge and expertise among different NSAGs is likely to grow, contributing to the further diffusion of the technology.
- ▶ Most of the reported incidents of UAS use by NSAGs in Africa have taken place in armed conflict settings, particularly in border regions in West Africa such as the Liptako–Gourma region and the Lake Chad Basin. Somalia and Mozambique in East Africa and the Central African Republic and the Democratic Republic of the Congo in Central Africa represent other important “hotspots” for UAS-related incidents involving NSAGs on the continent.
- ▶ Although publicly available information on the types of UAS used by NSAGs in Africa is limited, evidence suggests that these systems are mainly commercially available models, particularly quadcopters. Relevant information on how NSAGs acquire and operate UASs has been obtained primarily through interviews with former combatants and former abductees of groups that operated these systems.
- ▶ As unarmed and armed UASs become more accessible and advanced, and as these systems are deployed by an increasingly diverse set of actors across Africa, the risks posed by NSAGs’ use of UASs to national and regional security could become more acute and should be monitored closely.

# 1. Introduction

Across Africa, many States are facing a myriad of security challenges that undermine political stability, good governance and sustainable development.<sup>1</sup> The deteriorating security landscape is characterized by a proliferation of non-State armed groups (NSAGs), which both fuel and exacerbate the threats associated with armed conflicts, terrorism and organized crime across the continent.<sup>2</sup> Given the rapid growth and geographical expansion of many NSAGs – particularly terrorist groups – in recent years, Africa has been described as the global epicenter of terrorism in 2023, and fatalities linked to the activities of these groups reached unprecedented levels.<sup>3</sup> To counter these threats, African governments are increasingly engaging private military

and security companies (PMSCs) to operate alongside State security and defence forces, while the number of self-defence militias and vigilante groups engaged in the fight against these groups has continued to rise across the continent, especially at the local level.<sup>4</sup> Africa is also host to a number of foreign military bases and operations.<sup>5</sup>

Within this congested security landscape, uncrewed aerial systems (UASs) have become a ubiquitous presence in the skies above Africa.<sup>6</sup> These systems – defined as vehicles that can be piloted either remotely or semi-autonomously<sup>7</sup> – were initially deployed primarily by foreign States to facilitate or execute targeted strikes in the context

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<sup>1</sup> See, for instance, General Assembly and Security Council, A/78/234-S/2023/553, paras 8–12; and UNDP, *Journey to Extremism in Africa: Pathways to Recruitment and Disengagement*, 2023, <https://www.undp.org/publications/journey-extremism-africa-pathways-recruitment-and-disengagement>.

<sup>2</sup> Ibid.

<sup>3</sup> Vision of Humanity, *Global Terrorism Index 2022*, 2023, <https://www.visionofhumanity.org/maps/global-terrorism-index/#/>; Africa Center for Strategic Studies, “African Militant Islamist Group-Linked Fatalities at All-Time High”, 31 July 2023, <https://africacenter.org/spotlight/africa-militant-islamist-group-linked-fatalities-at-all-time-high/>.

<sup>4</sup> See, for instance, UNDP, *Understanding and Managing Vigilante Groups in the Lake Chad Basin Region*, 2022, <https://www.undp.org/africa/publications/understanding-and-managing-vigilante-groups-lake-chad-basin-region>; M. Pellerin, *Self-Defence Groups: Pyromaniac Firefighters in the Sahel*, Ifri, 2022, <https://www.ifri.org/en/publications/notes-de-lifri/self-defence-groups-pyromaniac-firefighters-sahel>; K. de Bruijne, *Self-defence Groups, Politics, and the Sahelian State*, Clingendael, 2022, <https://www.clingendael.org/publication/self-defence-groups-politics-and-sahelian-state>.

<sup>5</sup> A. Attah-Asamoah, “Proceed with Caution: Africa’s Growing Foreign Military Presence”, ISS, 2019, <https://issafrica.org/iss-today/proceed-with-caution-africas-growing-foreign-military-presence>; D. Goxho, “Remote Warfare in the Sahel and a Role for the European Union”, *E-International Relations*, 2021, <https://www.e-ir.info/pdf/89076>.

<sup>6</sup> In October 2023, the second Africa Air Force forum, which brought together Air Force Chiefs of Staff, aerospace industry representatives and government officials in Senegal, discussed the use of UASs by States on the continent under the theme “Adapting air force capabilities and drone deployment to combat modern conflicts”, reflecting the increasing role and attention paid to the role of UASs in Africa. See <https://airforceafrica.com/>. On the use of UASs by African States, see also E.S. Loumtouang, “La guerre vue du ciel : l’usage des drones en terrain africain” [War seen from above: The use of drones on African soil], *A contrario*, 2019, <https://www.cairn.info/revue-a-contrario-2019-2-page-99.htm?ref=doi>; R. Kurpershoek, A. Muñoz Valdez & Zwi-jnenburg, *Remote Horizons: Expanding Use and Proliferation of Military Drones in Africa*, PAX, 2021, [https://paxforpeace.nl/wp-content/uploads/sites/2/import/2021-05/PAX\\_remote\\_horizons\\_FIN\\_lowres.pdf](https://paxforpeace.nl/wp-content/uploads/sites/2/import/2021-05/PAX_remote_horizons_FIN_lowres.pdf); P. Melly (2022), “Turkey’s Bayraktar TB2 Drone: Why African States are Buying Them”, *BBC News*, <https://www.bbc.com/news/world-africa-62485325>; J. Moody, “Drones Aren’t the Sahel’s Silver Bullet”, *Foreign Policy*, 2023, <https://foreignpolicy.com/2023/06/14/sahel-western-africa-drones-jihad-ethiopia-mali-burkina-faso-niger/>.

<sup>7</sup> See S. Grand-Clément and T. Bajon, “Uncrewed Aerial Systems: A Primer”, UNIDIR, 2022, <https://unidir.org/publication/uncrewed-aerial-systems-primer>.

of counter-terrorism operations.<sup>8</sup> However, a growing number of African States have acquired armed and unarmed military-grade UASs during the past decade for use in armed conflicts, counter-terrorism operations and domestic law enforcement activities.<sup>9</sup> For instance, UASs have been extensively used in the armed conflicts in Libya and, more recently, Ethiopia and Sudan, and they are increasingly being deployed by African States in the Sahel in the context of counter-terrorism operations.<sup>10</sup> In parallel, the African market for commercial unarmed UASs has grown considerably over recent years, with these systems being used across several sectors, including to support agriculture, humanitarian aid, disaster relief, public safety and peacekeeping operations.<sup>11</sup>

These developments have been accompanied by a gradual but steady increase in the number of NSAGs employing UASs for a variety of purposes across the continent.<sup>12</sup> Several groups in Africa reportedly have access to UASs and deploy these systems in ways that can challenge national and regional security and stability.<sup>13</sup> In the light of these trends, in May 2022 the African Union Peace and Security Council expressed “serious concern” at the threats posed by the illegal use of UASs

by criminal groups, issuing a communiqué that called on African Union member States to introduce legislation to regulate UAS acquisition and use in order to prevent access by armed groups.<sup>14</sup> Despite this call for action, as well as the growing frequency and expanding geographical scope of UAS-related incidents involving NSAGs in Africa, there is a limited understanding of how these groups are using UASs across the continent, as well as of the broader security implications of such developments.

This report attempts to fill this gap by examining current and emerging trends in NSAGs’ use of UASs in Africa. **Section 2** provides an overview of the use of UASs by NSAGs across the subregions of Africa. **Section 3** describes the most prevalent types of use of UASs by African NSAGs, as well as of the most common targets of UAS operations by NSAGs and their impacts. **Section 4** then identifies and assesses some of the enabling factors and salient trends influencing how African NSAGs currently deploy or could deploy these systems in the future. **Section 5** concludes the report, summarizing the key findings. The analysis is based on a data set of incidents of UAS use by NSAGs in Africa in the period January 2018–June 2023 (see Box 1).

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<sup>8</sup> Loumtouang (2019); Kurpershoek et al. (2021); Melly (2022); A. Muñoz, A.M. Pol and W. Zwijnenburg, “Drone Dialogues Geneva: Outcome Report of the Geneva Informal Roundtable Meeting on Military Drones in Africa”, PAX, 2022, <https://paxforpeace.nl/news/dawn-of-the-drones-over-africa/>. On the concerns raised by

<sup>9</sup> Ibid.

<sup>10</sup> Ibid. See also OHCHR, “UN Experts Warn of Potential for Further Atrocities Amid Resumption of Conflict in Ethiopia”, 19 September 2022, <https://www.ohchr.org/en/press-releases/2022/09/un-experts-warn-potential-further-atrocities-amid-resumption-conflict>; “Sudanese Army Kills at Least 40 People in a Drone Attack on Khartoum”, Al Jazeera, 10 September 2023, <https://www.aljazeera.com/news/2023/9/10/sudanese-army-kills-at-least-40-people-in-a-drone-attack-on-khartoum>.

<sup>11</sup> K. Allen, “Weaponised Drones: The Latest Tech Threat to Reach Africa”, ISS, 2022, <https://issafrica.org/iss-today/weaponised-drones-the-latest-tech-threat-to-reach-africa>.

<sup>12</sup> Moody (2023); R. Dass, “The Evolving Threat from Terrorist Drones in Africa”, Lawfare, 1 May 2023, <https://www.lawfaremedia.org/article/the-evolving-threat-from-terrorist-drones-in-africa>; H. Haugstvedt, “A Flying Threat Coming to Sahel and East Africa? A Brief Review”, Journal of Strategic Security, vol. 14, no. 1, 2020, <https://www.jstor.org/stable/26999979>.

<sup>13</sup> Ibid.

<sup>14</sup> African Union Peace and Security Council, PR/COMM.1085, 2022.

## Box 1. Methodology

The methodology for the data set used to prepare this study involved primarily desk research.

First, a literature review encompassing both grey and academic literature on non-State armed groups' use of uncrewed aerial systems in Africa helped to develop the structure for a data set used for collecting information on UAS-related incidents involving these groups, as well as to assess regional specificities and contextualize the research findings into the broader African security landscape. The data set was structured around the types of system potentially used by NSAGs; the types of NSAG using these systems; the purpose of use, as well as the primary targets and potential impact; the incident location; and the incident date.

Second, a collection and systematic review of publicly reported data on UAS-related incidents involving African NSAGs that took place between January 2018 and June 2023 was undertaken. It relied primarily on publicly available information drawn from existing data sets, such as the Armed Conflict Location & Event Data Project (ACLED), as well as from reports by United Nations entities,<sup>15</sup> studies from relevant think tanks and specialized non-governmental organizations, and international and local media reporting in English, French and Portuguese.

The purpose of the data set is not to provide a comprehensive overview of UAS-related incidents involving NSAGs in Africa. Rather, it seeks to identify and offer insights into the most salient trends across the region. Moreover, it is expected that many UAS-related incidents that are not linked to specific attacks might go unnoticed or unreported, while other incidents reported in public sources may be difficult to verify. Where available, the data set also includes information on the means and methods used by NSAGs to acquire UASs or their components. As demonstrated by this research, however, the open sources consulted contained very limited information on acquisitions, and some of the most useful insights have been obtained through interviews conducted with former combatants or former abductees of the groups by United Nations Panel of Experts or specialized research entities.

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<sup>15</sup> The reports reviewed include those of Analytical Support and Sanctions Monitoring Team pursuant to Resolutions 1526 (2004) and 2253 (2015) concerning ISIL (Da'esh), Al-Qaida and the Taliban and associated individuals and entities; Reports of the Panel of Experts on Somalia, and the Security Council Committee pursuant to Resolution 751 (1992) concerning Somalia; Reports of the Panel of Experts on Mali pursuant to Resolution 2374 (2017); and Reports of the Panel of Experts on Libya pursuant to Resolution 1973 (2011); Reports of the Group of Experts on the Democratic Republic of the Congo pursuant to Resolution 2360 (2017); Reports of the Panel of Experts on the Central African Republic pursuant to Resolution 2399 (2018), as well as other thematic and annual reports by United Nations peacekeeping operations deployed in Africa, notably the United Nations Multi-dimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA), the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA), and the United Nations Stabilization Mission in the Democratic Republic of the Congo (MONUSCO).



## 2. Overview of NSAG use of UASs in Africa and their Areas of Operation

This section provides an overview of NSAG use of UASs across the subregions of Africa.<sup>16</sup> It shows that UASs appear to be primarily used

by terrorist groups, especially in conflict-affected environments in West, East and Central Africa.

### 2.1 Types of Groups Using UASs and Geographical Location of Recorded Incidents

In Africa, UASs have primarily been used in armed conflict settings in West and East Africa by groups designated as terrorist organizations,<sup>17</sup> particularly those affiliated with the Islamic State group and Al-Qaida (see Figure 1). In some contexts, rebel groups and PMSCs also seem to use UASs. The

use of these systems by organized criminal groups appears to be much less prevalent in Africa, especially in comparison to other regions.<sup>18</sup> For many of the reported incidents of suspected UAS use by NSAGs, the precise user of the system remains nonetheless unknown or unidentified.

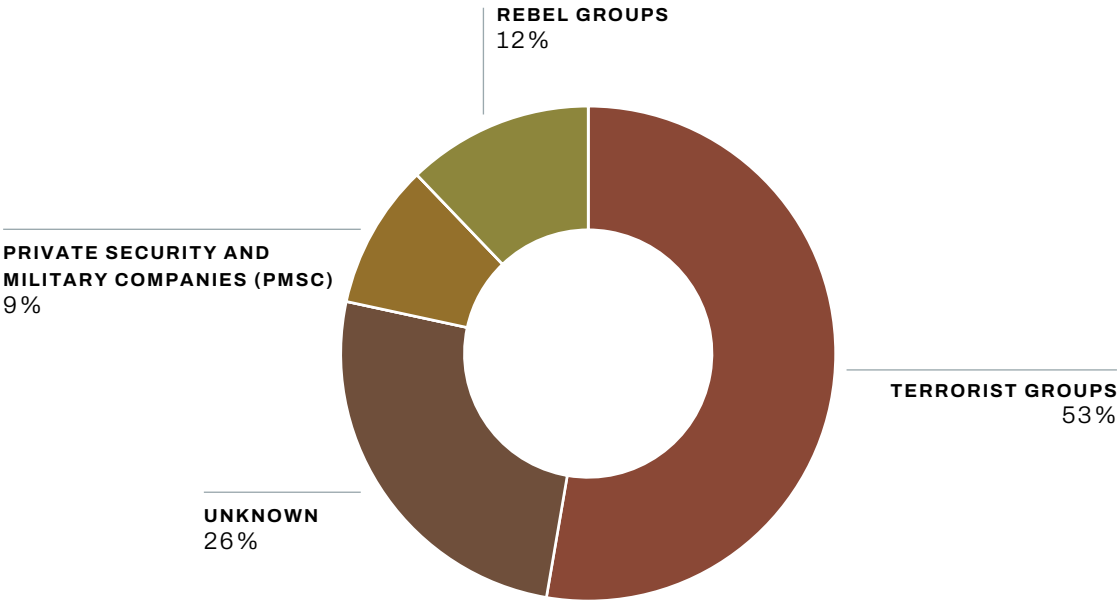


<sup>16</sup> For the categorization and assignment of countries to the geographical regions of Central, East, North, Southern and West Africa, the United Nations Statistical Division classification of Middle, Eastern, Northern, Southern and Western Africa was used: <https://unstats.un.org/unsd/methodology/m49>.

<sup>17</sup> In the context of this research, “terrorist groups” are considered as those listed as such by the United Nations Security Council. See, for instance: [https://www.un.org/securitycouncil/sanctions/1267/aq\\_sanctions\\_list/summaries](https://www.un.org/securitycouncil/sanctions/1267/aq_sanctions_list/summaries). On different types of terrorist designations or listings and related challenges, see United Nations Office on Drugs and Crime (UNODC), “Counter-Terrorism in the International Law Context”, Vienna, 2021; and United Nations Department of Peace Operations (DPO) OROLSI and Bonn International Center for Conversion (BICC), “The Evolving Nature of DDR: Study on Engaging Armed Groups across the Peace Continuum” July 9, 2021, pp. 24-27.

<sup>18</sup> See, for instance, G. Krame, V. Vivoda and A. Davies, “Narco Drones: Tracing the Evolution of Cartel Aerial Tactics in Mexico’s Low-Intensity Conflicts”, 2023, <https://doi.org/10.1080/09592318.2023.2226382>. See also <https://thewire.in/south-asia/drones-give-new-dimensions-to-narcoterrorism-at-the-india-pakistan-border>; <https://www.theguardian.com/world/2023/dec/27/wave-of-drug-carrying-drones-flying-into-india-from-pakistan-officials-say>.

**Figure 1. Number of Recorded Incidents of UASs’ Use Attributed to Types of NSAGs in Africa, January 2018–June 2023**

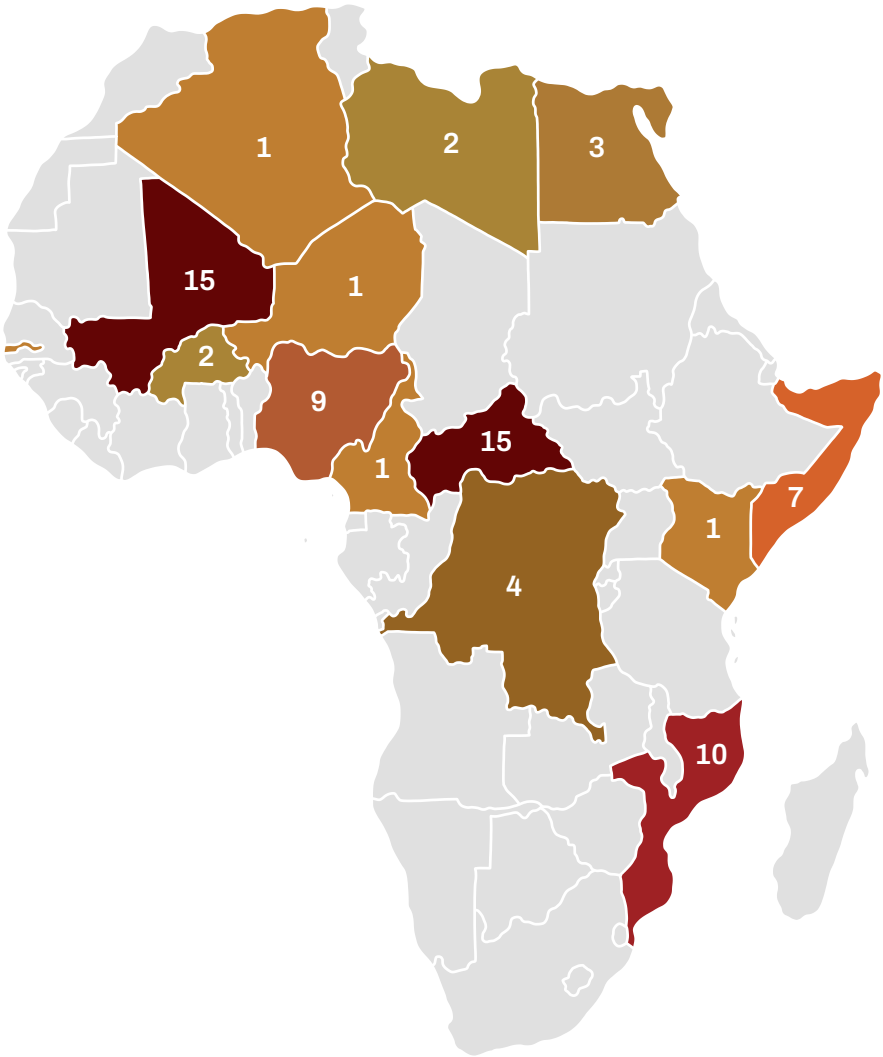


In terms of geographical spread, most of the incidents occurred in Central Africa, East Africa and West Africa (see Figures 2 and 3). In West Africa the incidents occurred especially in porous border regions where State control is weak and where territorial disputes between States and NSAGs or among NSAGs themselves are common (e.g., the Lake Chad Basin and the Liptako–Gourma region). In East Africa the incidents occurred in Somalia, Kenya, and Mozambique, while in Central Africa they occurred in the east of the Democratic

Republic of the Congo (DRC) and in the Central African Republic (CAR). Some incidents of UAS use by NSAGs have also been reported in North Africa, primarily by Islamic State-affiliated groups (e.g., in Egypt, Algeria and Libya), while Southern Africa appears to be the least affected subregion. As NSAGs, particularly terrorist groups, continue to proliferate and expand to West African coastal States (e.g., Benin, Côte d’Ivoire and, to a lesser extent, Ghana, Togo, Senegal and Guinea) this will also remain a space to watch.<sup>19</sup>

<sup>19</sup> On the expansion of the terrorist threat to West African coastal States see, for instance, M. Pellerin, “Les pays côtiers d’Afrique de l’Ouest: Nouvelle terre d’expansion des groupes djihadistes sahéliens?”, Ifri, 2022, [https://www.ifri.org/sites/default/files/atoms/files/pellerin\\_afrique\\_ouest\\_djihadisme\\_sahel\\_2022\\_0.pdf](https://www.ifri.org/sites/default/files/atoms/files/pellerin_afrique_ouest_djihadisme_sahel_2022_0.pdf); and L. Brottem, “The Growing Threat of Violent Extremism in Coastal West Africa”, ACSS, 2022, <https://africacenter.org/spotlight/the-growing-threat-of-violent-extremism-in-coastal-west-africa/>. In the beginning of 2024, it has been reported that the US is seeking to establish military UAS bases in West African coastal States, see M. M. Phillips (2024), “U.S. Seeks Drone Bases in Coastal West Africa to Stem Islamist Advance”, WSJ, <https://www.wsj.com/world/africa/u-s-seeks-drone-bases-in-coastal-west-africa-to-stem-islamist-advance-21282861?mod=e2tw>.

**Figure 2. Recorded Incidents of Use of UASs by NSAGs in Africa, by State, January 2018–June 2023**



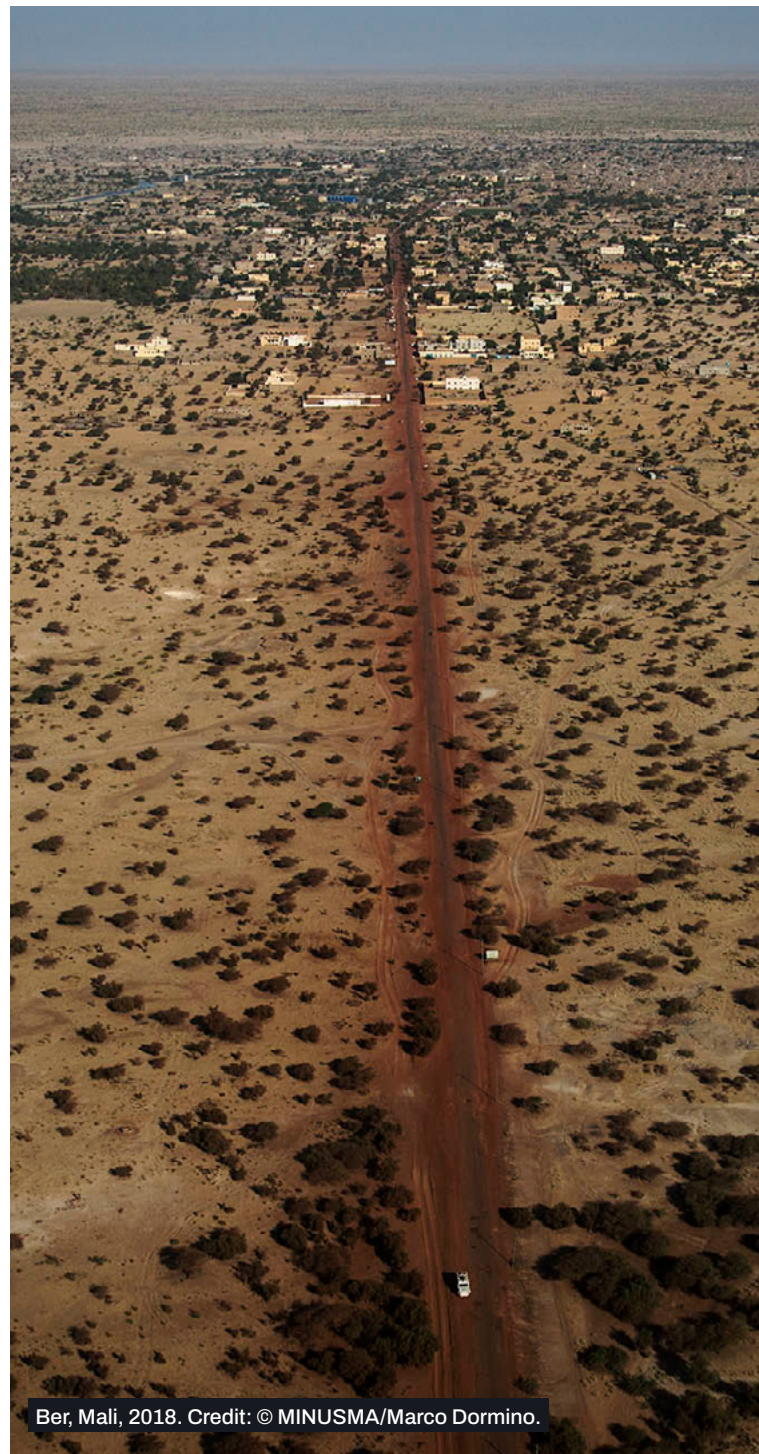
In addition, the United Nations peacekeeping operations deployed in the DRC, CAR and Mali, as well as the African Union-mandated mission in Somalia, have frequently reported on sightings of UASs suspected to be used by NSAGs, especially near military bases or camps. For instance, the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA) has often reported unidentified UASs hovering over its

premises, including before attacks by armed groups against the mission.<sup>20</sup> Likewise, on several occasions the United Nations Stabilization Mission in the DRC (MONUSCO) has detected unidentified UASs over its bases and flying along the provincial border between North Kivu and Ituri in eastern DRC, where different NSAGs operate.<sup>21</sup> The African Union Transition Mission in Somalia (ATMIS) has similarly reported on sightings of small

<sup>20</sup> Security Council, S/2023/21, para. 63.

<sup>21</sup> Security Council, S/2021/987, para. 14.

UASs over its military bases in Somalia.<sup>22</sup> In such hostile and high-risk operational environments, where mission camps, convoys or personnel are often targeted in attacks conducted by NSAGs, the difficulties in determining the identity of the individual or group operating the UAS and hence distinguishing between malicious and legitimate uses of these systems add to the security concerns confronting the missions, with negative repercussions for their operations (see Box 2).<sup>23</sup> In an assessment released in March 2022, the United Nations Department of Peace Operations (DPO) recognized that, while most threats from the use of UASs by NSAGs stemmed from their use for ISR, they could evolve towards being used for attacks, including through the delivery of explosive payloads.<sup>24</sup>



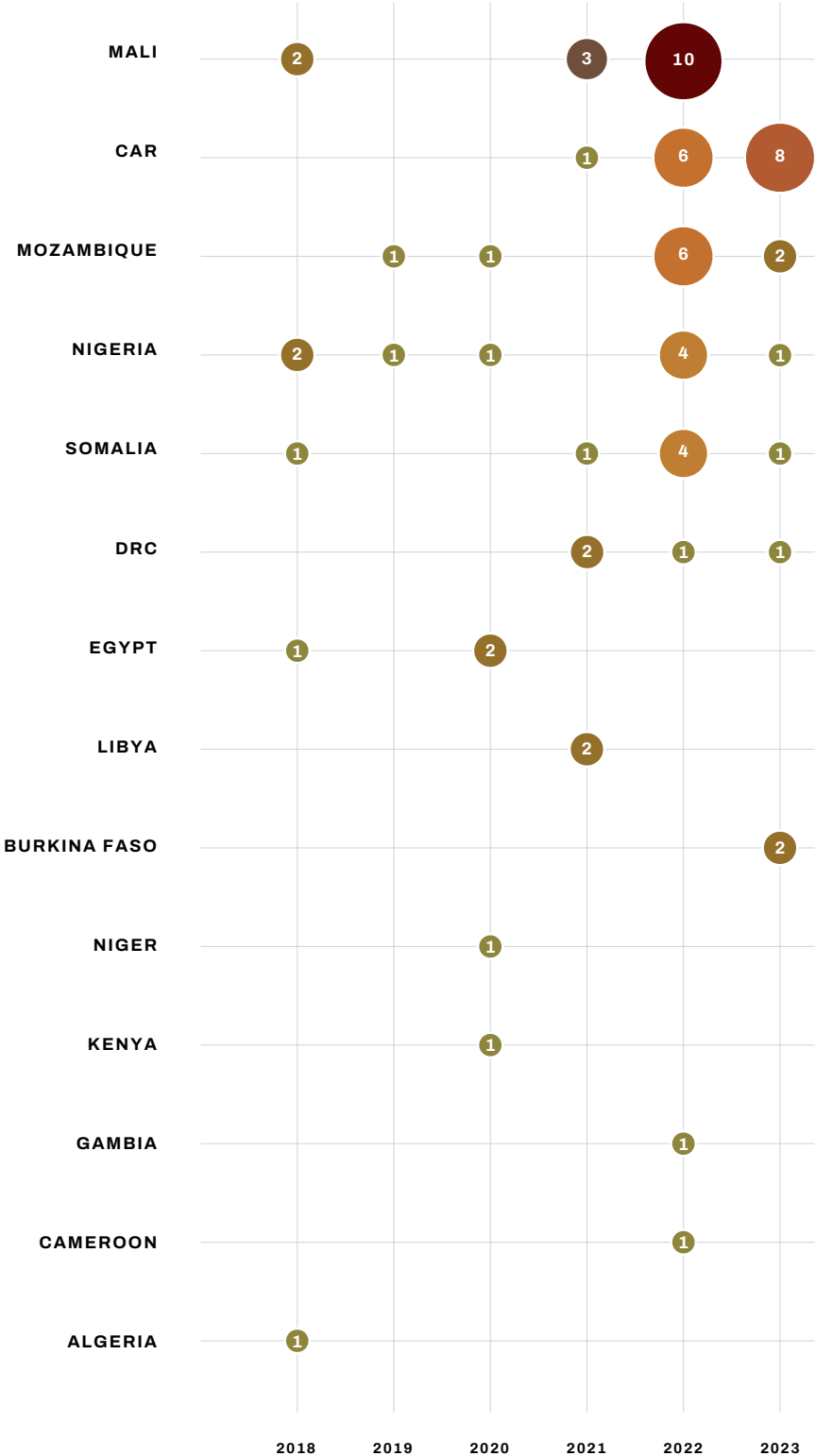
Ber, Mali, 2018. Credit: © MINUSMA/Marco Dormino.

<sup>22</sup> Security Council, S/2023/95, para.101.

<sup>23</sup> Security Council, S/2023/21, para. 63; Security Council, S/2021/1117, para. 68.

<sup>24</sup> In the light of these risks, the need for monitoring UAS-related threats features prominently in the United Nations Strategy for the Digital Transformation of Peacekeeping, launched by the United Nations DPO in September 2021. Many missions have also introduced counter-UAS training for their personnel. See UN Peacekeeping, “Strategy for the Digital Transformation of UN Peacekeeping”, 2021, <https://peacekeeping.un.org/en/strategy-digital-transformation-of-un-peacekeeping>. See also DPO, “Current and Emerging Uniformed Capability Requirements for United Nations Peacekeeping”, 2022, [https://pcrs.un.org/Lists/Resources/03- Uniformed Capability Requirements for UN Peacekeeping/2022/Uniformed Capability Requirements for UN Peacekeeping\\_Mar 22\\_Final.pdf](https://pcrs.un.org/Lists/Resources/03-Uniformed%20Capability%20Requirements%20for%20UN%20Peacekeeping/2022/Uniformed%20Capability%20Requirements%20for%20UN%20Peacekeeping_Mar%2022_Final.pdf).

**Figure 3. Recorded Incidents of UASs' Use by NSAGs in Africa, by State and Year, 2018–2023**



*Note: Figures for 2023 cover only the first 6 months of the year.*



## Box 2. UAS Flight Restrictions in the Central African Republic Affecting MINUSCA’s Operations Following an Incident of Alleged UAS Use by a Rebel Group

In early 2023, the Minister of National Defence and Army Reconstruction of the Central African Republic issued a communiqué suspending all flights by UASs in CAR except for those owned by the CAR Armed Forces (Forces armées centrafricaines, FACA).<sup>25</sup> The suspension, which also affected the operations of the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA), was reportedly linked to an incident that took place in January 2023, where a rebel group allegedly used a UAS to attack the position of “other security personnel”, in a possible allusion to the Wagner Group, a PMSC. The attack was reportedly directed against the Wagner Group’s base in the north-eastern town of Ndélé. In a February 2023 report, the United Nations Panel of Experts on CAR noted the use of UASs by armed groups in the country for the first time during 2022–2023. However, it underscored that the January incident was likely to have been a “one-off” following the capture of the UAS by the FACA or “other international security presences”.<sup>26</sup>

While the UAS flight restrictions were eventually lifted by the CAR authorities and new notification requirements were stipulated for UAS operations by MINUSCA, the restrictions had a negative repercussions for the mission’s activities.<sup>27</sup> Moreover, MINUSCA was targeted by a disinformation campaign in connection with the incident, as some local media reports and social media posts alleged that the UAS used in the January 2023 attack in Ndélé had taken off from a MINUSCA airbase.<sup>28</sup>

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<sup>25</sup> Security Council, S/2023/108, para. 18.

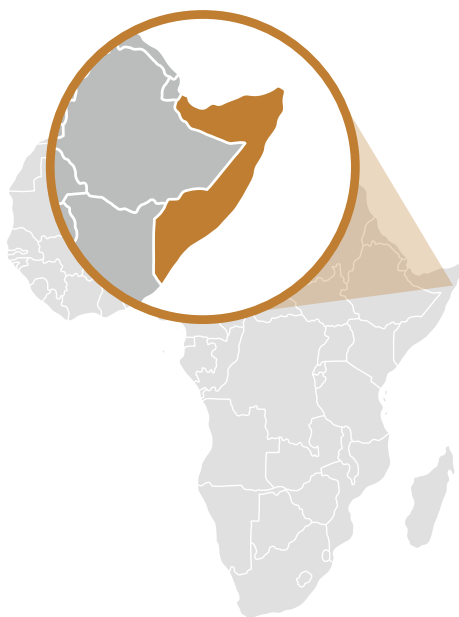
<sup>26</sup> Security Council, S/2023/87, paras 30, 37; Security Council, S/2022/527, para. 36.

<sup>27</sup> Security Council, S/2023/442, para. 91

<sup>28</sup> Following a series of allegations regarding the use of UASs in CAR, MINUSCA issued a statement denouncing an online disinformation campaign “aimed at tarnishing the image of its force”, <https://minusca.unmissions.org/la-minusca-contribue-à-la-baisse-des-crimes-et-délits-enregistrés-sur-le-territoire-centrafricain>. Disinformation campaigns targeting United Nations peacekeeping operations, particularly MINUSCA, MONUSCO and MINUSMA, became a more frequent occurrence in recent years. See A. Tritthart, “Disinformation against UN Peacekeeping Operations”, IPI, 2022, [https://www.ipinst.org/wp-content/uploads/2022/11/2212\\_Disinformation-against-UN-Peacekeeping-Ops.pdf](https://www.ipinst.org/wp-content/uploads/2022/11/2212_Disinformation-against-UN-Peacekeeping-Ops.pdf).



## 2.2 NSAGs Using UASs in Africa: Spotlights



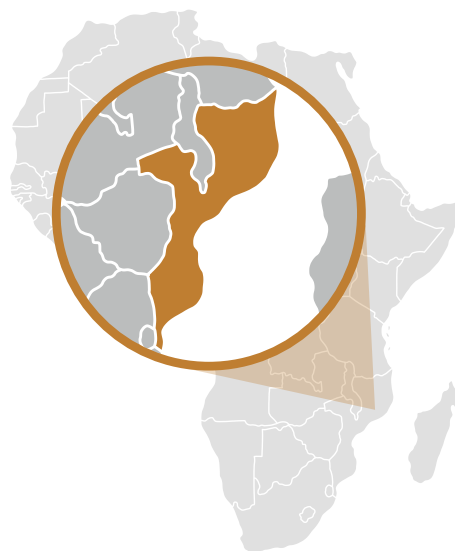
### 2.2.1 Somalia: Al-Shabaab

Since at least 2018, Al-Shabaab has been using commercially available UASs – both rotary wing and small fixed-wing systems – for ISR and propaganda in Somalia and neighbouring countries, such as Kenya.<sup>29</sup> The group significantly increased its use of UASs to conduct reconnaissance missions and monitor the activities of security forces in 2021.<sup>30</sup> Sightings of mini and micro UASs allegedly used by the group have also been reported on different occasions near military camps and facilities.<sup>31</sup> Although Al-Shabaab has not yet employed UASs to conduct strike operations, its use of these systems has reportedly facilitated high-profile attacks carried out by the group against Somali, Kenyan and foreign military personnel.<sup>32</sup>

Concerns have been raised regarding Al-Shabaab’s ability and intent to weaponize UASs for attacks against civil aviation infrastructure; more recently, the group appears to have initiated experimental trials of the use of UASs for strike operations. The group’s connections to Al-Qaida in the Arabian Peninsula (AQAP), which operates in Yemen, has compounded the latter concerns (see Section 4.1).<sup>33</sup> Al-Shabaab’s use of UASs to plan and coordinate the complex attacks in Somalia on which it increasingly relies also remains an issue of concern.<sup>34</sup>

### 2.2.2 Mozambique: Ahlu Sunna wal-Jama’a (ASWJ, Companions of the Prophet)

In Cabo Delgado province, northern Mozambique, ASWJ (which pledged its allegiance to Islamic State in 2019) has deployed commercially available UASs to gather intelligence and coordinate attacks against Mozambican and regional defence and security forces on several occasions since at least 2020.<sup>35</sup> The group notably used



<sup>29</sup> In the same year, the group allegedly seized a military UAS used by US forces that was reportedly used in an attack against the group.

<sup>30</sup> Security Council, S/2021/655, para. 22.

<sup>31</sup> Security Council, S/2023/95, para. 101.

<sup>32</sup> Haugstvedt (2020).

<sup>33</sup> Security Council, S/2021/655, para. 22.

<sup>34</sup> Security Council, S/2021/655, para. 22; S/2023/539, para. 105; and Security Council, S/2023/724, paras 21, 22.

<sup>35</sup> <https://clubofmozambique.com/news/mozambique-attacks-government-says-armed-groups-wear-army-uniforms-and-use-drones-161507/>.

UASs to identify targets in the Mocímboa da Praia offensive in 2020, as well as for its attack on Palma in 2021.<sup>36</sup> In early 2022, the Mozambican Defence Armed Forces (Forças Armadas de Defesa de Moçambique, FADM) reported on the interception and neutralization of several formations of UASs that were reportedly being used by ASWJ to gather intelligence on the positions these forces.<sup>37</sup>

In the same year, the Mozambican police shot down two UASs suspected of being deployed by the group that were flying over the barracks of the police's special reserve forces near Nampula International Airport.<sup>38</sup> There have been other reports of UAS sightings near the Mozambican Navy base at Pemba harbour, which raised concerns regarding a possible armed attack by the group.<sup>39</sup> In early 2023, ASWJ reportedly captured a surveillance UAS among other military equipment following an attack on the FADM, according to a statement published in an Islamic State newspaper which included a photo of the UAS.<sup>40</sup>

In parallel, ASWJ has been intensifying its reliance on IED attacks, which have grown in sophistication over recent years. As the group is likely to have benefited from the involvement of outside trainers for the manufacturing of IEDs, the possibility that knowledge and expertise relating to the development and use of UASs have also been transferred cannot be dismissed.<sup>41</sup>

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<sup>36</sup> Dass (May 2023); K. Allen, "Drones and Violent Non-State Actors in Africa", ACSS, 2021, <https://africacenter.org/spotlight/drones-and-violent-nonstate-actors-in-africa/>.

<sup>37</sup> Security Council, S/2022/547, para. 103.

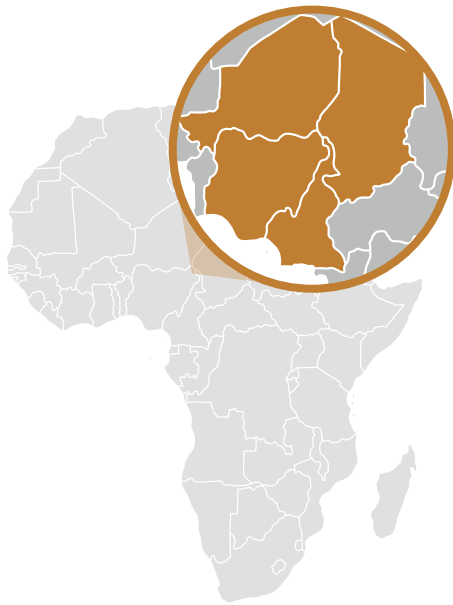
<sup>38</sup> Security Council, S/2023/95, para. 103. See also <https://opais.co.mz/prm-diz-que-abateu-drones-suspeitos-em-nampula/>.

<sup>39</sup> <https://www.iol.co.za/news/africa/using-drones-and-disguises-terrorists-target-northern-mozambique-48690955>; <https://acleddata.com/acleddatanew/wp-content/uploads/2022/05/CaboLigado-99.pdf>.

<sup>40</sup> <https://www.cabologado.com/reports/cabo-ligado-weekly-9-15-january-2023>.

<sup>41</sup> Security Council, S/2023/95, para. 99.

## 2.2.3 Nigeria and the Lake Chad Basin: Islamic State West Africa Province (ISWAP)



ISWAP was one of the earliest adopters and is one of the most prolific users of UASs in Africa.<sup>42</sup> Since 2014, the group (which emerged as a splinter faction of Boko Haram in 2016)<sup>43</sup> has reportedly been employing UASs to conduct ISR and to record propaganda materials.<sup>44</sup> Since its emergence, the group has significantly expanded its areas of activity in north-eastern Nigeria and the Lake Chad Basin, enhancing its operational capabilities and deploying increasingly sophisticated tactics to fight armed forces.<sup>45</sup>

Despite the setbacks suffered by the group following counter-terrorism operations carried out by the Nigerian armed forces, ISWAP has continued to attract attention for its technological and media savviness, including its use of UASs.<sup>46</sup> In particular, the group is now reportedly seeking to develop UAS capabilities for carrying out attacks.<sup>47</sup>



ISWAP uses UASs to direct fire in attack against the Nigerian Army's positions. Credit: X (formerly Twitter) / @SimNasr.

<sup>42</sup> Security Council, S/2019/50, para. 103; Security Council, S/2020/50, para. 41; Soufan Center, "Intel-Brief: The Islamic State in West Africa Province is Growing in Strength and Sophistication", 2019, <https://thesoufancenter.org/intelbrief-the-islamic-state-in-west-africa-province-is-growing-in-strength-and-sophistication/>.

<sup>43</sup> Security Council, S/2017/467, para. 23. Boko Haram, which pledged its allegiance to Islamic State in 2015, was one of the first African-based terrorist groups to resort to UASs. See Soufan Center (2019); <https://www.nytimes.com/2019/09/13/world/africa/nigeria-boko-haram.html>.

<sup>44</sup> Security Council, S/2019/50, para. 103; Security Council, S/2023/95, para. 101.

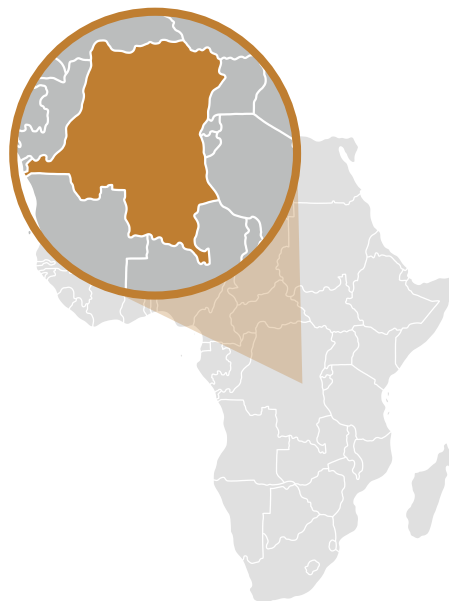
<sup>45</sup> Vision of Humanity (2023), p. 28; Soufan Center (2019); C. Anna (2018), "Nigerian leader: Islamic State is now using drones", AP News, <https://apnews.com/article/766b4d71c21f43d496550a2eb16e64a9>.

<sup>46</sup> M. Samuel, "ISWAP's use of Tech Could Prolong the Lake Chad Basin Violence", ISS, 2023, <https://issafrica.org/iss-today/iswaps-use-of-tech-could-prolong-lake-chad-basin-violence>.

<sup>47</sup> Ibid. Security Council, S/2019/50, para. 103.

## 2.2.4 Democratic Republic of the Congo: Allied Democratic Forces (ADF)

In the DRC, the Allied Democratic Forces (ADF) have reportedly used UASs for surveillance on different occasions since early 2021.<sup>48</sup> According to information obtained by the United Nations Panel of Experts on the DRC, the ADF has allegedly operated UASs from their headquarters, although the exact purposes of the use could not be confirmed. Based on accounts of former combatants as well as former abductees interviewed by the Panel, the group used UASs to monitor the camp's surroundings when foodstuffs, medicine, weaponry or IED components were being brought by ADF collaborators. Others also said that the ADF used UASs to record videos and take pictures of its camps for propaganda, as well as of camps of the DRC armed forces for intelligence purposes, especially when preparing attacks on these camps.<sup>49</sup>



Most testimonies pointed at a specific individual – Meddie Nkalubo (known as “Punisher”) – as the person responsible for operating UASs in the group’s headquarters.<sup>50</sup> He is also believed to have been involved in the manufacturing of IEDs and to have been responsible for directing several lethal IED attacks carried out by the group.<sup>51</sup> The ADF has been increasingly relying on IED attacks,<sup>52</sup> and allegedly discussed operational strategy and tactics with representatives of the core Islamic State or ASWJ in meetings held in South Kivu. Islamic State has claimed responsibility for several of the attacks perpetrated by the ADF.<sup>53</sup> Other reports also point at individuals with Islamic State links who were involved in helping the ADF to improve its technological capacity, including in deploying UASs.<sup>54</sup> They also highlight attempts by Islamic State operatives based in South Africa to transfer commercially available UASs to the ADF.<sup>55</sup>

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<sup>48</sup> Security Council, S/2021/560, para. 23; Security Council, S/2023/95, para. 101.

<sup>49</sup> Security Council, S/2021/560, Annex 14, p. 73. In the same area where the use of UASs was reported between February and March 2021, the ADF carried out consecutive attacks.

<sup>50</sup> International Crisis Group, “The Kampala Attacks and their Regional Implications”, 2021, <https://www.crisisgroup.org/africa/great-lakes/uganda/kampala-attacks-and-their-regional-implications>.

<sup>51</sup> Security Council, S/2021/560, para. 23 and Annex 14; Security Council, S/2023/95, para. 16.

<sup>52</sup> Security Council, S/2023/549, paras. 15 and 16.

<sup>53</sup> Security Council, S/2023/431, para. 14 and annex 3.

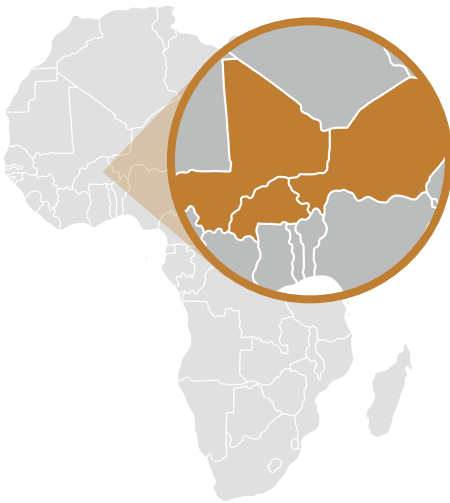
<sup>54</sup> T. Candland et al., “The Rising Threat to Central Africa: The 2021 Transformation of the Islamic State Congolese Branch” Combating Terrorism Center at West Point, 2022, <https://ctc.westpoint.edu/the-rising-threat-to-central-africa-the-2021-transformation-of-the-islamic-states-congolese-branch/>.

<sup>55</sup> Security Council, S/2023/431, para. 37 and Annex 12.



Photographs of the UASs and cameras seized during the arrest of a South-African-based Islamic State operative with links to ADF, Final report of the United Nations Group of Experts on the DRC (Security Council, S/2023/431, Annex 13).

## 2.2.5 Burkina Faso, Mali, Niger: Group for Support of Islam and Muslims (Jama'at Nasr al-Islam wal Muslimin, JNIM)



JNIM (Al-Qaida's branch in West Africa and the Sahel) has used UASs to record propaganda videos as well as to monitor and coordinate attacks on several occasions since at least 2018.<sup>56</sup> The group has relied in particular on UASs for ISR, including to gather intelligence and plan offensive operations against national and international forces and rival NSAGs (notably ISGS).<sup>57</sup> Since JNIM and ISGS operate in the same area in north-eastern Mali, they often clash for control, with JNIM deploying UASs to coordinate their operations in some of these incidents.<sup>58</sup> The group has also captured UASs used by different actors in the areas in which it operates,<sup>59</sup> and recently started deploying these systems to film their attacks on security and defence forces.<sup>60</sup>

<sup>56</sup> In 2018, for instance, the group has recorded a propaganda video showcasing multiple training camps and military raids with cameras and a commercially available UAS. See C. Weiss, "Al Qaeda group JNIM releases high-level production video", Long War Journal, 2018, <https://www.longwarjournal.org/archives/2018/03/al-qaeda-group-jnim-releases-high-level-production-video.php>.

<sup>57</sup> In 2018, the group allegedly resorted to UAS to collect intelligence prior to an attack against the MINUSMA camp in Timbuktu.

<sup>58</sup> On JNIM's areas of operation, see also N. Holger Anders, "Peacekeeping in Hostile Environments: The Impact of Illicit Arms on MINUSMA", UNIDIR, 2023, p. 13, <https://unidir.org/publication/peacekeeping-in-hostile-environments-the-impact-of-illicit-arms-on-minusma-2/>.

<sup>59</sup> ACLED data. See also Wassim Nasr, "JNIM claims two attacks against the (Burkinabé) army between Dédougou and Nouna, '32 death, 4 vehicles and one drone captured'", X (formerly Twitter), 31 May 2023, <https://twitter.com/simnasr/status/1663880396256231425?s=12&t=Z0Kxk7JyShVShJDH1DMRw>.

<sup>60</sup> Wassim Nasr, "Mali: the start of the attack on the Niafounké FAMA base with the JNIM kamikaze attack filmed by drone",



# 3. The Purposes, Targets and Impacts of NSAG Use of UASs in Africa

This section provides an overview of the different ways in which NSAGs deploy UASs in Africa, highlighting the most common targets of UAS operations by NSAGs and their actual or potential impacts. Although NSAGs' deployment of UASs in Africa is not widespread and the number of groups with access to these systems remains limited across the continent, the research has revealed a relative increase in both the frequency and geographical scope of such uses in recent years (see Figures 2–3). African NSAGs deploy UASs mainly

for ISR, including to coordinate and facilitate attacks directed primarily against military and security personnel. In contrast to some groups operating UASs in other regions,<sup>61</sup> however, none of the NSAGs using UASs in Africa appear to have developed systematic or comprehensive UAS programmes. Instead, they seem to use these systems in a more sporadic and opportunistic manner. However, the conditions that motivated and enabled groups to develop such programmes could nonetheless emerge for African NSAGs.

## 3.1 The Purposes of NSAG Use of UASs in Africa

Across Africa, NSAGs appear to use UASs primarily for **intelligence, surveillance and reconnaissance** activities (see Figure 4). This includes the monitoring of their areas of operation for security reasons, as well as reconnaissance and surveillance prior to or during offensive operations, including to identify targets and coordinate armed or explosive attacks (e.g. in Nigeria, Somalia, Mali and Mozambique). In some cases, the employment of UASs for ISR by NSAGs has proven highly effective, enabling groups to carry out complex attacks with a higher degree of accuracy and impact, including by guiding

the deployment of other weapon systems. For instance, in early 2022, Islamic State West Africa Province (ISWAP) reportedly used a UAS to support an attack by a mortar squad against a joint military base of the Multinational Joint Task Force (MNJTF) in north-eastern Nigeria.<sup>62</sup> The use of the UAS allegedly served both surveillance and target-correction functions to increase the precision of the mortar bombs.<sup>63</sup> Other groups in West and East Africa, such as Al-Shabaab, Ahlu Sunna wal-Jama'a (ASWJ, Companions of the Prophet), Islamic State in the Greater Sahara (ISGS) and Jama'a Nusrat ul-Islam wa

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X (formerly Twitter), 25 November 2023, <https://x.com/simnasr/status/1728366718794260793?s=12&t=Z0Kxk7JyShVShJDH1DMRw>

<sup>61</sup> A UAS programme is typically characterized by the presence of “more structured, integrated and resourced” capabilities. See D. Ressler, “Remotely Piloted Innovation: Terrorism, Drones and Supportive Technology”, Combating Terrorism Center, 2016, <https://ctc.usma.edu/remotely-piloted-innovation-terrorism-drones-and-supportive-technology/>; Y. Veilleux-Lepage and E. Archambault, “A Comparative Study of Non-State Violent Drone Use in the Middle East”, ICCT, 2022, <https://www.icct.nl/publication/comparative-study-non-state-violent-drone-use-middle-east>.

<sup>62</sup> <https://africacenter.org/daily-media-review/africa-media-review-for-february-24-2022/>.

<sup>63</sup> Ibid.



al-Muslimin (JNIM, Group for Support of Islam and Muslims), have used UASs for similar purposes.<sup>64</sup> It also appears that criminal groups in South Africa could be using UASs to monitor the activities of law enforcement personnel in Cape Town,<sup>65</sup> while PMSCs such as the Wagner Group rely on these systems for surveillance and possibly attacks in CAR and Mali. While most of the incidents observed involved the use of only one system, there have also been cases of multi-system deployment – when more than one UAS is used at one time – such as in Mozambique.<sup>66</sup> However, such cases appear to be limited and isolated to date.

Although African NSAGs have reportedly not yet successfully weaponized UASs to carry out **strike operations**, there are indications that this could change soon. In 2022, African States confiscated Islamic State manuals on the use of UASs for targeted attacks.<sup>67</sup> Recent research by the Institute for Strategic Studies (ISS) has revealed that ISWAP is testing UASs to carry and deliver explosives in offensive operations, with the group reportedly assessing the payload capacity, endurance and range of the systems at their disposal.<sup>68</sup> Similar developments have also been observed in the activities of Al-Shabaab in Somalia, with indications that the group has initiated experimental

trials of the use of commercially available mini and micro UASs for offensive operations.<sup>69</sup> In addition to both ISWAP and Al-Shabaab, many of the groups known to have deployed UASs in Africa have extensive expertise in manufacturing and deploying improvised explosive devices (IEDs) to carry out large-scale attacks against defence and security personnel and civilians.<sup>70</sup> The potential weaponization of commercially available UASs by NSAGs through the inclusion of conventional munitions or improvised explosive payloads therefore remains a credible threat in the foreseeable future, especially as these groups seek to diversify their tactical arsenals.

The other prominent way in which African NSAGs use UASs is to record footage for **propaganda activities**. Many NSAGs, particularly terrorist groups, rely on commercially available systems to capture videos and imagery of attacks and other engagements to feed into their propaganda and communication materials. This is particularly prominent among affiliates of Islamic State and Al-Qaida, such as ISWAP, JNIM and Al-Shabaab. In some cases, these groups have also recorded videos showing them seizing UASs and other remote surveillance devices. Al-Shabaab claimed to have used a UAS to film its attack against positions of United States and Kenyan

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<sup>64</sup> ACLED data.

<sup>65</sup> Daily Maverick, “Are our numbers up? Cape Town’s 26, 27 and 28s gangs up the ante by becoming tech-savvy”, 11 September 2022, <https://www.dailymaverick.co.za/article/2022-09-11-are-our-numbers-up-cape-towns-26-27-and-28s-gangs-up-the-ante-by-becoming-tech-savvy/>. On the use of UASs by law enforcement against criminal groups in South Africa, see <https://businesstech.co.za/news/technology/597928/south-africas-police-to-start-using-drones-across-the-country/>.

<sup>66</sup> Mozambican authorities intercepted several formations of UAS used by ASWJ to gather intelligence on the positions of local and regional forces. See Security Council, S/2022/547, para. 103.

<sup>67</sup> Ibid.

<sup>68</sup> Samuel (2023).

<sup>69</sup> Security Council, S/2023/549, para. 105.

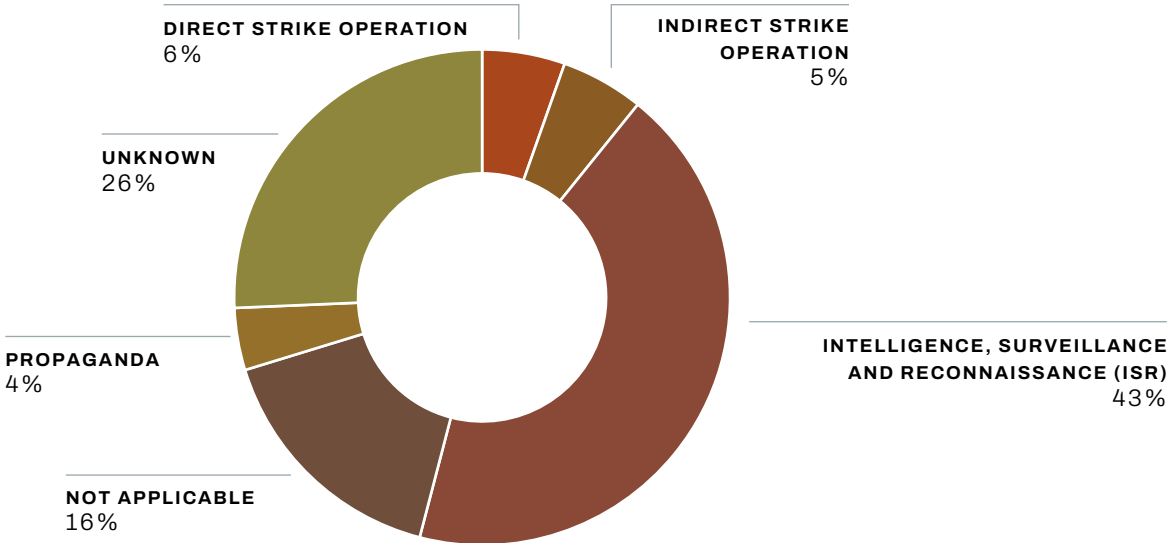
<sup>70</sup> On the use of IEDs by NSAGs in West Africa, see Small Arms Survey, “Out of Control: The Trafficking of Improvised Explosive Device Components and Commercial Explosives in West Africa”, 2023, <https://www.smallarmssurvey.org/highlight/new-report-improvised-explosive-devices-west-africa>.

soldiers inside the Manda Bay airfield in Kenya in early 2020. The attack was carried out with indirect fire and small arms and resulted in the deaths of three US personnel and the destruction of several military aircraft and vehicles.<sup>71</sup> In Nigeria, ISWAP has used cameras and commercially available UASs to record a video showing its activities across the region, including multiple training camps as well as military raids carried out by the group.<sup>72</sup> In addition to potentially helping recruitment and fundraising efforts, the use of UASs by these groups increases the psychological impacts of their operations and may boost their image among adversaries as well as current and

prospective supporters by demonstrating technological superiority and capability.<sup>73</sup>

There is limited evidence to suggest that African NSAGs are using UASs for **smuggling activities**, including to transport weapons or drugs across borders, as has been seen in other regions.<sup>74</sup> Furthermore, for many of the allegedly suspicious UAS sightings reported by national, regional or multinational forces in Africa, the exact purposes for which the systems are used remain difficult to ascertain. Many incidents, including ISR uses, are also likely to be underreported if not carried out in connection with an attack.

Figure 4. Types of Use of UAS by NSAGs in Africa, January 2018–June 2023



<sup>71</sup> E. Lionel (2022), “Al-Shabaab drones, and the African conundrum”, Military Africa, <https://www.military.africa/2022/09/al-shabaab-drones-and-the-african-conundrum/>; <https://rewardsforjustice.net/rewards/attack-on-manda-bay-airfield-kenya/>.

<sup>72</sup> Dass (April 2023)

<sup>73</sup> Dass (May 2023).

<sup>74</sup> See, for instance, Krame et al. (2023).

## 3.2 The Main Targets and Impacts of UAS Operations by NSAGs in Africa

African NSAGs have deployed UASs primarily to support operations against members of **national defence and security forces**, as well as contingents from **regional or multi-national forces** and **peacekeeping operations** – including United Nations and African Union-mandated peacekeeping operations (see Figure 5). For instance, in August 2022, ISGS reportedly used UASs to collect intelligence and guide the deployment of other weapon systems during a complex attack on a military base of the Malian armed forces in central Mali, which killed 42 soldiers and left a further 22 injured.<sup>75</sup> NSAGs have used UASs near bases and other military premises, as was found to be the case in the DRC, Mali, Nigeria, Somalia and Mozambique. In Mali, the DRC and CAR, NSAGs have used UASs near the premises of United Nations peacekeeping operations. In 2018, for instance, JNIM allegedly used UASs to gather intelligence prior to an attack on a MINUSMA camp in Timbuktu.<sup>76</sup>

While it appears that African NSAGs have not successfully employed UASs to coordinate or execute attacks on **critical infrastructure**, there are indications that some groups have

used these systems in proximity to critical infrastructure and other vulnerable targets and may have planned attacks against them.<sup>77</sup> In Mozambique, for instance, ASWJ has used UASs for surveillance prior to attacks on military targets located near ports and airports in Cabo Delgado province in the north of the country. In Somalia, concerns have been raised about Al-Shabaab's potential plans to weaponize UASs to carry out attacks on aircraft and civil aviation infrastructure along Somalia's border with Kenya, a crucial corridor for humanitarian and commercial flights.<sup>78</sup> In early 2023, Libyan security services dismantled an Islamic State-affiliated cell that was reportedly planning an operation using an armed UAS to target gas supply pipelines.<sup>79</sup> Among the items seized was a handbook with instructions for manufacturing toxins and biological materials, which raised additional concerns regarding the group's intentions to use UASs as a delivery platform for biological agents.<sup>80</sup> Islamic State's activities in Libya are considered an integral part of the group's overall strategic objectives in Africa, as the country represents an important outreach post between Islamic State and its affiliated groups

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<sup>75</sup> In a communiqué issued by the FAMA General Staff, the incident was described as “a complex and coordinated attack by an armed group with UAS and artillery support, using explosives and booby-trapped vehicles”, see <https://fr.apanews.net/news/afrique-le-drone-civil-future-arme-des-jihadistes/>; <https://www.france24.com/fr/afrique/20220810-mali-l-attaque-jhadiste-de-tessit-a-tué-42-soldats-la-plus-meurtrière-contre-l-armée-depuis-2019>. See also Security Council, S/2022/731, para. 30.

<sup>76</sup> Ibid. See also: Security Council, S/2018/541, para. 26

<sup>77</sup> See the Thematic Module 5 on Protecting Vulnerable Targets from Terrorist Attacks involving Unmanned Aircraft Systems, from the CTED-UNOCT-INTERPOL publication “The protection of critical infrastructures against terrorist attacks: Compendium of good practices”, 2022. Vulnerable (“soft”) targets include critical infrastructure and public places. See General Assembly, A/RES/75/291.

<sup>78</sup> Security Council, S/2021/655, para. 22.

<sup>79</sup> Security Council, S/2023/549, para. 41.

<sup>80</sup> Security Council, S/2023/549, para. 41.

elsewhere on the continent.<sup>81</sup> In the past, Islamic State in Libya declared that it regards oil facilities and foreign companies in Libya as legitimate targets, and it has conducted armed attacks against the Libyan National Oil Corporation headquarters in Tripoli and oil fields in the country.<sup>82</sup> Currently, Islamic State is reportedly seeking to strengthen its ranks in the Sahel and West Africa through training activities and logistical support, which could raise additional concerns about the possibility of other groups in the region adopting similar tactics.<sup>83</sup> Moreover, criminal groups and networks operating in southern Libya remain facilitators of weapon trafficking for groups in West Africa and the Sahel.<sup>84</sup>

Although African NSAGs have deployed UASs primarily against State actors, some groups may also have relied on these systems for planning and coordinating offensive operations against **other NSAGs**, especially in border areas where State presence is weak and disputes over territorial control among NSAGs themselves are not uncommon. For instance, during armed clashes with ISGS in central Mali in December 2022, JNIM (Al-Qaida's branch in West Africa and the Sahel) allegedly used UASs to monitor its offensive

operations and coordinate attacks against ISGS.<sup>85</sup> This is possibly the first instance of UASs being used by an NSAG to support operations against another NSAG – but is unlikely to be the last, with further claims that JNIM may have also attempted to weaponize UASs for attacks against ISGS in Mali in 2023,<sup>86</sup> in addition to allegedly using UASs to monitor the Wagner Group's operations in the region.

Moreover, African NSAGs appear to have employed UASs to support their operations against **self-defence militias and other vigilante groups**.<sup>87</sup> For instance, in July 2022, ISWAP used UASs for surveillance before an armed attack against members of the Civilian Joint Task Force (CJTF), a government-backed militia in north-eastern Nigeria, leading to the deaths of five members of the CJTF.<sup>88</sup> In Somalia, Al-Shabaab has reportedly used UASs to gather intelligence prior to an attack against a base of the Hawadle clan militia in the Shabelle region.<sup>89</sup> In Burkina Faso, members of the vigilante group *Volontaires pour la défense de la patrie* (VDP) shot down a UAS allegedly operated by JNIM in early 2023.<sup>90</sup>

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<sup>81</sup> Security Council, S/2020/717, para. 26; Security Council, S/2022/547, para. 36.

<sup>82</sup> Security Council, S/2019/50, para. 30. On Islamic State in Libya, see also <https://www.un.org/securitycouncil/content/islamic-state-iraq-and-levant-libya>; <https://www.sciencedirect.com/science/article/pii/S2211467X19300288>.

<sup>83</sup> Security Council, S/2023/549, para. 40.

<sup>84</sup> Security Council, S/2023/539, para. 106.

<sup>85</sup> ACLED data.

<sup>86</sup> Unverified reports indicate that JNIM may have conducted their first two (rudimentary) failed attempts using UAS to deliver explosives in September 2023.

<sup>87</sup> UNDP (2022).

<sup>88</sup> ACLED data.

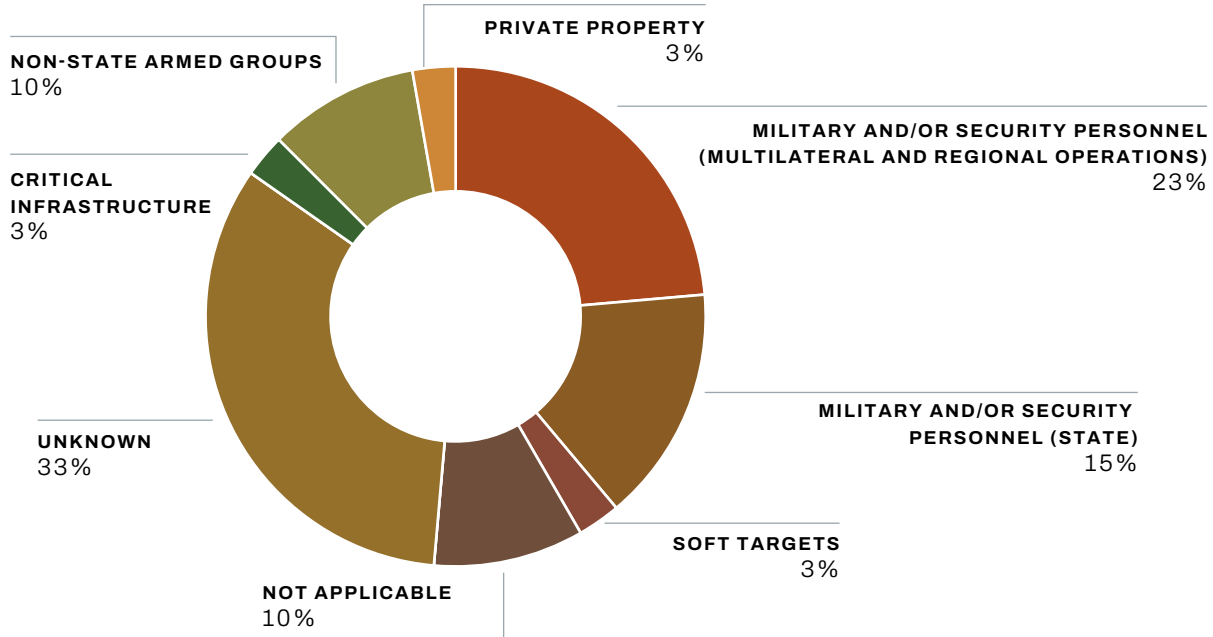
<sup>89</sup> ACLED data. In Somalia, clan militias often fight alongside the Somali armed forces in operation against NSAGs, particularly terrorist groups. See, for instance, V. Velbab-Brown, "The problem with militias in Somalia: almost everyone wants them despite their dangers", Brookings Institution, 2020, <https://www.brookings.edu/articles/the-problem-with-militias-in-somalia-almost-everyone-wants-them-despite-their-dangers/>.

<sup>90</sup> ACLED data. On VDP's role supporting counter-terrorism efforts in Burkina Faso, see M. Demuyne, "Civilians on the Front

It appears that African NSAGs have not used UASs in operations against **civilians** or **resulting in civilian casualties**, notwithstanding potential outlier incidents. Such patterns of use seem to reflect broader trends in the offensive operations carried out by NSAGs in armed conflict settings, which have been primarily directed against state security forces

and actors supporting them.<sup>91</sup> However, with the growing proliferation and use of these systems by a multitude of actors in Africa, as well as these groups’ constantly shifting operational priorities, the potential use of UASs to facilitate or execute complex attacks targeting the civilian population cannot be dismissed.

**Figure 5. Targets of UASs Operations by NSAGs in Africa, January 2018–June 2023**



### 3.3 Types of UAS Used by NSAGs in Africa and Potential Future Trends

In most of the incidents observed in Africa, the types and models of UAS used by NSAGs are either unclear or unreported. Available evidence, primarily from propaganda materials produced by the groups themselves, suggests that commercially available quadcopters are

the most commonly used systems by African NSAGs. In some countries (e.g., Nigeria, CAR and the DRC) the use of systems manufactured by DJI, a Chinese company, has been reported.<sup>92</sup>

Lines of Counter-Terrorism: Lessons from the Volunteers for the Defence of the Homeland in Burkina Faso”, ICCT, 2021, <https://www.icct.nl/sites/default/files/2023-01/Civilians-on-the-Front-Lines-of-Counter-Terrorism-1.pdf>.

<sup>91</sup> Vision of Humanity (2023).

<sup>92</sup> Dass (May 2023). ISWAP reported on social media that it had captured a “Phantom” (likely a DJI Phantom commercial UAS)

Cameras and sensors appear to be the most common type of payloads added to a UAS, if not already integrated in the system. While there is limited evidence to date to suggest that African NSAGs have successfully modified these systems to include conventional munitions or improvised explosives for use in offensive strike operations, there are increasing indications that some groups are attempting to develop such capabilities (see Section 3.1). Moreover, many of the groups that are known to have deployed UASs in Africa are also prolific IED users, often relying on them to carry out large-scale attacks on both defence and security personnel and civilians. The possibility of UASs being modified to include spraying or other dispersal mechanisms capable of serving as a delivery platform for chemical, biological, radiological and nuclear (CBRN) agents in limited-scale attacks cannot be dismissed either (see Section 3.1 and Box 3). United Nations Security Council resolution 1540 (2004) requires States to enforce effective measures to establish domestic controls to prevent the proliferation of nuclear,

chemical or biological weapons and their means of delivery, particularly to NSAGs. To the extent that UASs constitute such a means of delivery, the proliferation of these systems should be monitored closely by States in connection with the implementation of the resolution.<sup>93</sup>

Another possible trend that warrants monitoring is the potential acquisition, development and use of loitering munitions – also referred to as “kamikaze” UASs – by African NSAGs, especially small or improvised systems.<sup>94</sup> These systems are increasingly being used in conflict theatres globally, including in Africa as seen more recently in Sudan.<sup>95</sup> Moreover, rapid developments in UAS technology, such as advances in speed, endurance, payload capacity and sensor technology, could expand their possible uses by NSAGs, as well as lower the threshold for these groups to access different types of UASs.<sup>96</sup> As such, potential threats associated with such developments should be followed closely.<sup>97</sup>

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during an attack on Nigerian forces in September 2020.

<sup>93</sup> See United Nations Security Council resolution 1540 (2004). See also R. Dass, “Militant and Drones: A Trend That is Here to Stay”, RUSI, 2022, <https://www.rusi.org/explore-our-research/publications/commentary/militants-and-drones-trend-here-stay>; Global Counterterrorism Forum, Berlin Memorandum on Good Practices for Countering Terrorist Use of Unmanned Aerial Systems, 2019, <https://www.thegctf.org/Portals/1/Documents/Framework Documents/2019/Berlin Memorandum EN.pdf?ver=2020-01-13-143548-187>.

<sup>94</sup> In particular, “miniature” loitering munitions, such as the Switchblade and Phoenix Ghost, are a specific type of UASs to watch given their small size and weight. See Dass (2022). Similarly, with the rapid spread of FPV UASs and the expertise in converting them into improvised loitering munitions, this is another trend to be monitored.

<sup>95</sup> Sudan is reportedly an important transit point of foreign terrorist fighters within Africa, with North African fighters in particular using the country as a hub for arrival and onward transfer to southern Libya, Mali and other countries in West Africa. See Security Council, S/2023/549, para. 28. On the use of improvised “kamikaze” UASs in the conflict in Sudan in 2023 and risks of increased proliferation of FPV technology since its widespread use in 2022 in the conflict in Ukraine, see D. Hambling (2023), “Kamikaze Drone Videos from Sudan Conflict Signal Rapid Proliferation (Updated)”, Forbes, <https://www.forbes.com/sites/davidhambling/2023/09/15/kamikaze-drone-videos-from-sudan-conflict-signal-rapid-proliferation/?sh=459d995b2926>.

<sup>96</sup> For an overview of areas of technological developments related to UASs and their implications for international security more broadly, see Grand-Clément and Bajon (2023). See also Dass (2022).

<sup>97</sup> See Global Counterterrorism Forum (2019), Good Practice 1, and CTED, UNOCT-UNCCT, and UNIDIR (2022), “Technical Guidelines to Facilitate the Implementation of Security Council 2370 (2017) and Related International Standards and Good Practices on Preventing Terrorists from Acquiring Weapons, Submodule II, section 3.8., <https://unidir.org/publication/technical-guidelines-to-facilitate-the-implementation-of-security-council-resolution-2370-2017-and-related-international-standards-and-good-practices-on-preventing-terrorists-from-acquiring-weapons/>.



## 4. Enabling Factors and Salient Trends Influencing NSAG Use of UASs in Africa

This section examines some of the enabling factors and salient trends that are influencing the ways in which NSAGs currently deploy UASs across Africa or may deploy them in the future. It highlights the prominent role played by network affiliations in facilitating the transfer of knowledge and expertise in NSAGs'

acquisition, development and deployment of UASs, as well as the role of the broader social and strategic environment in which these groups operate in enabling the diffusion of the technology to and among NSAGs, especially in the context of counter-terrorism and law enforcement operations.

### 4.1 The Role of Network Affiliations in Influencing NSAGs' Acquisition and Use of UASs in Africa

For many NSAGs operating UASs in Africa, it appears that network affiliations have had an important influence on their decision and capacity to acquire and deploy these systems.<sup>98</sup> Many of the groups known to have used UASs in Africa have ties to groups known for using them in other regions, especially in the Middle East. This is particularly the case for groups affiliated to Islamic State and Al-Qaida, which have seen a rapid expansion on the continent in recent years.<sup>99</sup>

**Islamic State affiliates** in Africa seem to have benefited from the **transfer of technology and training** on the use of UASs – including through online and social media channels.<sup>100</sup>

In recent years, African States have confiscated manuals providing instructions on how to use these systems to launch attacks.<sup>101</sup> Such developments mirror similar trends in the sharing of expertise in the manufacturing and deployment of IEDs. This is notably seen with groups operating in Mozambique and the DRC, which benefited from training and guidance related to IEDs from Islamic State operatives (see Section 2.2.2 and 2.2.4 on ASWJ and ADF respectively). For instance, it has been suggested that ISWAP's use of UASs could indicate knowledge transfers between the group and Islamic State.<sup>102</sup> While there is no evidence of the direct supply of material from Islamic State to ISWAP, the former reportedly

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<sup>98</sup> On the role of networks in influencing the adoption of UAS technology by NSAGs in general, see K. Chávez and O. Swed, "The Empirical Determinants of Violent Non-State Actor Drone Adoption", *Armed Forces & Society*, 2023, <https://journals.sagepub.com/doi/full/10.1177/0095327X231164570>.

<sup>99</sup> While these affiliated groups have contributed to advancing the strategic goals of Islamic State and Al-Qaida in Africa, they have also retained an important degree of autonomy, especially in the context of local agendas. See Security Council, S/2023/549; CTED, "Civil Society Perspectives: ISIL in Africa – Key Trends and Developments", 2022, <https://www.un.org/securitycouncil/ctc/content/civil-society-perspectives-isil-africa-key-trends-and-developments>.

<sup>100</sup> Security Council, S/2023/539, para. 105. On use of the Internet by terrorist groups in Africa, see <https://www.thecommonwealthlibrary.org/index.php/comsec/catalog/book/1068>.

<sup>101</sup> Security Council, S/2022/547, para. 103; Security Council, S/2023/95, para. 99.

<sup>102</sup> J. Warner et al., "The Islamic State in Africa: The Emergence, Evolution, and Future of the Next Jihadist Battlefield", 2021.

transferred money on an irregular basis to the latter, including to procure materiel.<sup>103</sup> Communications between the groups, including over social media channels, are also likely to have facilitated the diffusion of expertise on the use of UASs. For instance, ISWAP reportedly shared a photo of a crashed UAS used by the Cameroonian armed forces in 2014 with Islamic State and in return received instructions on how to assemble and use the UAS.<sup>104</sup> In the DRC, the links between the ADF and Islamic State cells and operatives based in South Africa may have also facilitated the diffusion of UASs to the group.<sup>105</sup> In 2017, a suspected operative arrested by South African authorities was carrying at least two commercially available UASs and a camera, which were reportedly intended for delivery to the ADF.<sup>106</sup>

Moreover, since late 2021, the ADF has allegedly held several meetings with representatives of ASWJ to discuss operational strategy and tactics, which could include use of UASs. As there are reports that Islamic State has recently established an “Industry Committee” within its structures to explore new avenues to advance weapon technology (e.g., IEDs and increased payloads for UASs), it is possible that such knowledge transfers could increase in the near future,<sup>107</sup> especially with strengthened coordination among different affiliates on the continent (see Box 3). Beyond transfers of knowledge and expertise through established networks, Islamic State’s prominent use of UASs in the Middle East is also likely to have influenced the decision of its affiliates and other like-minded groups in Africa to adopt these systems in their own operations.<sup>108</sup>

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<sup>103</sup> DPO, United Nations Office for Disarmament Affairs (ODA) & Lake Chad Basin Commission (LCBC), Weapons and Ammunition Dynamics in the Lake Chad Basin, United Nations, 2022, <https://peacekeeping.un.org/en/weapons-and-ammunition-dynamics-lake-chad-basin>.

<sup>104</sup> International Crisis Group (2020), “The Islamic State Franchises in Africa: Lessons from Lake Chad”, <https://www.crisis-group.org/africa/west-africa/nigeria/islamic-state-franchises-africa-lessons-lake-chad>.

<sup>105</sup> Security Council, S/2023/431, para. 14 and annex 3.

<sup>106</sup> Ibid.

<sup>107</sup> Security Council, S/2023/549, para. 103; Security Council, S/2023/568, para. 15.

<sup>108</sup> Security Council, S/2019/50, para. 103.

### Box 3. The Expansion of Islamic State Affiliates in the Sahel and Potential UAS-Related Threats

In the Liptako–Gourma region bordering Burkina Faso, Mali and Niger in the central Sahel, ISGS has been gradually expanding its presence and influence over recent years amidst armed confrontations with the Malian defence and security forces – sometimes supported by the Wagner Group – as well as rival NSAGs, including JNIM.<sup>109</sup> As reported in July 2023 by the United Nations Panel of Experts on Mali, ISGS almost doubled the territory it controls in Mali in less than a year.<sup>110</sup> Although the situation on the ground remains volatile, the group is said to control important areas in central Mali,<sup>111</sup> and has also managed to revamp its supply routes from Nigeria through Niger and Libya, which represents an important route for the smuggling of weapons.<sup>112</sup>

In the light of these developments, concerns have been raised that a potential greater collaboration between ISGS and ISWAP could help create the conditions for the establishment of a new “territorial caliphate” in the region.<sup>113</sup> Although ISGS’s use of UASs appears to have been limited to isolated incidents, the group has notably relied on these systems to collect intelligence and guide the deployment of other weapon systems during complex attacks against Malian armed forces (see Section 3.2).<sup>114</sup> In this context, an enhanced collaboration between ISGS and ISWAP – the latter a more prolific UAS user – coupled with the control of larger portions of territory and trafficking routes,<sup>115</sup> could potentially help create the conditions for the development and deployment of more advanced UAS capabilities by these groups.

Likewise, it is possible that **Al-Qaida affiliates** in Africa – such as JNIM and Al-Shabaab – have benefited from the sharing of knowledge and expertise on the use of UASs. Al Qaida is reportedly actively attempting to develop

systems that have the capacity to deliver larger explosive payloads,<sup>116</sup> which could have an impact on the activities of its affiliates across the globe. In particular, Al-Shabaab’s connections with AQAP in Yemen have compounded

<sup>109</sup> Security Council, S/2023/549, para. 30.

<sup>110</sup> Security Council, S/2023/578, para. 63.

<sup>111</sup> As of September 2023.

<sup>112</sup> Security Council, S/2023/578, para. 63.

<sup>113</sup> Security Council, S/2023, 549, para. 36.

<sup>114</sup> In a communiqué issued by the General Staff of the Malian Armed Forces, the incident was described as “a complex and coordinated attack by an armed group with UAS and artillery support, using explosives and booby-trapped vehicles”. <https://fr.apa-news.net/news/afrique-le-drone-civil-future-arme-des-jihadistes/>; <https://www.france24.com/fr/afrique/20220810-mali-l-attaque-jihadiste-de-tessit-a-tué-42-soldats-la-plus-meurtrière-contre-l-armée-depuis-2019>. See also Security Council, S/2022/731, para. 30.

<sup>115</sup> Across the globe, the control of territory can be an important factor enabling NSAGs to develop and deploy advanced UAS capabilities. Primarily, it provides security for the development of such capabilities. Beyond that, holding territory enables access to trafficking routes that can facilitate the acquisition of different types of UAS or their components. See Veilleux-Lepage and Archambault (2022) and Dass (2022).

<sup>116</sup> Security Council, S/2022/547, para. 102. As the report highlights, Al-Qaida has attempted to develop systems with an increased capacity for the delivery of explosive payloads. According to information provided to the Monitoring Team, the first time an Al-Qaida affiliate used a UAS was in 2012. See Security Council, S/2017/573, para. 97, footnote 87.

concerns about the group's intentions to weaponize commercially available UASs for carrying out strike operations in Somalia. AQAP – which conducted several attacks in southern Yemen using weaponized UASs in the first half of 2023<sup>117</sup> – has allegedly hosted fighters from Al-Shabaab for training on the use of heavy weapons, with additional investigations examining possible attempts by the group to supply anti-tank guided missiles to Al-Shabaab.<sup>118</sup> Al-Shabaab is also part of a weapon-trafficking network in Yemen and has transported IED components, ammunition and arms from there to Somalia via boats, according to information obtained by the United Nations Panel of Experts on Somalia.<sup>119</sup> While there has been no evidence of UASs being transported via this network, or of AQAP providing specific UAS-related training to Al-Shabaab, the recent incidents, along with reports of Al-Shabaab's attempts at weaponizing UASs for use in offensive operations, could increase the likelihood of such occurrences in the foreseeable future.<sup>120</sup>

Moreover, **foreign fighters** may have contributed to bolstering the operational capacity of terrorist groups in Africa, including by strengthening coordination between different affiliates of Islamic State and Al-Qaida operating on the continent and beyond.<sup>121</sup> As the African branches of these groups continue to grow and achieve greater tactical and operational successes, the region's attractiveness as a destination for foreign fighters is likely to increase even more.<sup>122</sup> This refers both to fighters from African States who travelled to the conflict zones in Syria and Iraq to fight alongside Islamic State and are now returning to Africa, as well as to potential new recruits from Africa and beyond who may be attracted by the group's propaganda and appeal.<sup>123</sup> Such developments aggravate concerns that returning fighters may enhance the capabilities of groups operating in Africa, particularly in West Africa and the Sahel.<sup>124</sup> Movements of foreign fighters are also recognized as a factor that increases the probability of cross-border flows of weapons and ammunition, while

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<sup>117</sup> Security Council, S/2023/549, para. 104; R. Dass, "Al Qaida in the Arabian Peninsula Drone Attacks Signal Strategic Shift", Lawfare, 20 August 2023, <https://www.lawfaremedia.org/article/al-qaeda-in-the-arabian-peninsula-s-drone-attacks-indicate-a-strategic-shift>;

<sup>118</sup> Security Council, S/2022/754, para. 82 and 83.

<sup>119</sup> Security Council, S/2023/95, para. 58 and para. 102.

<sup>120</sup> Dass (August 2023).

<sup>121</sup> In the context of this research, a foreign fighter is understood as "an individual who leaves his or her country of origin or habitual residence to join a non-State armed group in an armed conflict abroad and who is primarily motivated by ideology, religion, and/or kinship". See S. Krähenmann, *Foreign Fighters under International Law*, Academy Briefing No. 7, Geneva Academy of International Humanitarian Law and Human Rights, 2014. On threats posed by foreign terrorist fighters in the Sahel-Sahara region of Africa, see F. Edu-Afful., F. Kofi Aubyn and A. Banunle, "Foreign Terrorist Fighters in the Sahel-Sahara Region of Africa: Recommendations for Stemming a Long-Lasting Threat", African Centre for the Study and Research on Terrorism, 2022, <https://www.peaceau.org/uploads/policy-paper-ftfs200522-foreign-terrorist-fighters-in-the-sahel-sahara-rigion-of-africa.pdf>.

<sup>122</sup> In several communiqués over recent years, the African Union Peace and Security Council has expressed a "deep concern over the worsening scourge of terrorism and violent extremism in Africa, including the influx of foreign terrorist fighters (FTFs), as well as the growing linkages between terrorism, violent extremism and transnational organized crime, and the attendant social, economic and humanitarian impact". See for instance PSC/MIN/COMM.1040(2021); PSC/PR/COMM (DCCCXII) (2020). See also Edu-Afful et al. (2022).

<sup>123</sup> On the difficulties of defining "foreign fighters" in the African context, where ethnic groups often traverse state borders, see A. Oloyo, U. Yenwong-Fai, A. Ngari and W. Elsand, "How Foreign are Foreign Terrorist Fighters in Africa?", ISS, 2018, <https://issafrica.org/iss-today/how-foreign-are-foreign-terrorist-fighters-in-africa>.

<sup>124</sup> Security Council, S/2023/539, para. 105. On risks posed by returning foreign fighters in relation to the manufacture, use and weaponization of UASs, see also Global Counterterrorism Forum (2019), Good Practice 1.

returning fighters often bring with them battlefield experience and expertise in the manufacturing and deployment of different weapon systems.<sup>125</sup> Although there is no evidence to date of UASs being successfully transferred by foreign fighters travelling to Africa, there are indications that this may have been attempted, as demonstrated by a case that came to court in the United Kingdom in 2023 (see Box 4). The potential for the dissemination of knowledge and skills related to the development of UASs by these fighters, particularly Islamic State's expertise in weaponizing commercially available systems, is recognized

as an important threat to the entire region.<sup>126</sup>

Given the fluid nature of many of the NSAGs operating in Africa and the blurred lines between them, especially within conflict and post-conflict settings, the transfer of knowledge and technical expertise relating to the development UAS capabilities could also occur **among different types of groups**.<sup>127</sup> Many terrorist groups, including Islamic State and Al-Qaida affiliates, are known to have established links with organized criminal networks, and collaborations between these groups are not uncommon, especially at the local level.<sup>128</sup>

#### Box 4. Student in the United Kingdom used a 3D printer to build a UAS that he intended to take to Islamic State affiliates in Africa

In the United Kingdom, a doctoral student in mechanical engineering at the University of Birmingham was convicted in 2023 for “preparing acts of terrorism”, after investigations revealed that he had designed a “single use” UAS to deliver chemical or explosive payloads and attempted to build it using a 3D printer.<sup>129</sup> According to the prosecutor of the case, evidence from encrypted online chats and other digital materials revealed that the student allegedly supported Islamic State and intended to transport the UAS for use by Islamic State affiliates in Africa, travelling to the region via Turkey.<sup>130</sup> The counter-terrorism police of the West Midlands region of England, where the case was filed, noted that the student was also exploring options for travelling with the UAS without raising suspicions and being stopped by authorities, and had set up a fake company so that he could pretend to be travelling on business.<sup>131</sup>

<sup>125</sup> United Nations Security Council resolution 2178 (2014); Security Council, S/2018/1177; Security Council, S/2018/705, para. 92, Security Council, S/2021/839. See also S. Woldemichael, “Africa needs a continental strategy on foreign terrorist fighters”, ISS, 2019, <https://issafrica.org/iss-today/africa-needs-a-continental-strategy-on-foreign-terrorist-fighters>.

<sup>126</sup> Security Council, S/2018/705, para. 52. See also Global Counterterrorism Forum (2019).

<sup>127</sup> Indeed, many States in Africa have turned into “virtual laboratories” for the complex and diverse forms of interaction between organized criminal and terrorist groups. See L. Shelley, *Dirty Entanglements: Corruption, Crime, and Terrorism*, 2014, p. 116; and L. Pinson, “Addressing the Linkages between Illicit Arms, Organized Crime and Armed Conflict”, UNIDIR, 2022, <https://www.unidir.org/publication/addressing-linkages-between-illicit-arms-organized-crime-and-armed-conflict>.

<sup>128</sup> Security Council, S/2023/76, para. 12 and Security Council, S/2023/823, para. 53.

<sup>129</sup> <https://www.counterterrorism.police.uk/man-found-guilty-of-terror-charge-after-building-drone-to-give-to-isis/>; <https://www.bbc.com/news/uk-england-coventry-warwickshire-66947311>.

<sup>130</sup> Ibid. For images of the system built by the student, see <https://www.youtube.com/watch?v=nyKMIR-O1xs>; [https://www.theguardian.com/uk-news/2023/sep/28/birmingham-phd-student-mohamad-al-bared-guilty-using-3d-printer-to-build-kamikaze-drone?CMP=Share\\_AndroidApp\\_Other](https://www.theguardian.com/uk-news/2023/sep/28/birmingham-phd-student-mohamad-al-bared-guilty-using-3d-printer-to-build-kamikaze-drone?CMP=Share_AndroidApp_Other).

<sup>131</sup> Ibid.



In Nigeria, for instance, there are consistent reports of individuals engaged in banditry and criminal activities operating alongside groups such as Boko Haram and ISWAP, as well as of fighters from these groups joining bandit and

organized criminal groups due to the allure of economic gain.<sup>132</sup> This could potentially contribute to the further diffusion of UAS technology between these different groups.

## 4.2 Use of UASs in Counter-Terrorism Operations and Self-Reinforcing Proliferation Dynamics

As UASs proliferate across Africa, they are being used by more and more of the actors with which African NSAGs interact – whether allies or adversaries. This factor is further enabling the diffusion of the technology to NSAGs in the region.<sup>133</sup> African NSAGs, including some of the earliest groups to adopt UASs on the continent, seem to deploy these systems primarily in areas where States – both African and non-African<sup>134</sup> – deploy armed and

unarmed UASs for counter-terrorism and law enforcement operations<sup>135</sup> against them.

In Somalia, Al-Shabaab has been consistently targeted by US-led or supported counter-terrorism operations, which have relied on UASs and crewed aircraft for strikes against the group.<sup>136</sup> Similarly, groups affiliated to Islamic State and Al-Qaida that are operating in the central Sahel, such as ISGS and JNIM, were often targeted by military UASs by the former

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<sup>132</sup> On banditry in Nigeria, see T. Osasona, “The Question of Definition: Armed Banditry in Nigeria’s North-West in the Context of International Humanitarian Law”, IRRC, 2023, <https://international-review.icrc.org/articles/the-question-of-definition-armed-banditry-in-nigeria-923>; and M. Samuel, “Boko Haram Teams Up with Bandits in Nigeria”, ISS, 2021, <https://issafrica.org/iss-today/boko-haram-teams-up-with-bandits-in-nigeria>.

<sup>133</sup> On the different determinants of UAS adoption by NSAGs, including the role of network-based determinants, see Chávez and Swed (2023).

<sup>134</sup> In a resolution adopted in August 2019, the African Commission on Human and People’s Rights expressed deep concerns at the increased use of foreign operated UASs to address instability in parts of Africa, including the deployment of armed and reconnaissance UASs in Somalia and the Sahel region. It urged governments of States Parties to the Africa Charter “to ensure that the expansion of the use of foreign armed forces, in particular armed drones in countering terrorism, is subject to rigorous regulation and control, and that all measures are put in place to prevent civilian casualties resulting from such use”, see ACHPR/Res.422(EXT.OS/XXVI), 21 August 2019, <https://achpr.au.int/en/adopted-resolutions/422-resolution-human-rights-and-humanitarian-law-violations-resulting-forei>.

<sup>135</sup> Globally, the use of UASs by law enforcement agencies has expanded significantly in recent years. While these systems were initially primarily employed for the monitoring of criminal and other suspicious activities, including as part of border management and early-warning activities, they are increasingly being used for offensive operations and embedded with non-lethal weapons. For instance, a South African UAS manufacturer, Desert Wolf, has developed a UAS with high-capacity paint-ball barrels capable of firing solid pellets, paint balls or pepper spray. In Nigeria, the police have also been using UASs to support their activities against both criminal and terrorist groups. See, for instance, OHCHR, “Position Paper of the Special Rapporteur on the Protection and Promotion of Human Rights and Fundamental Freedoms while Countering Terrorism on the Use of Armed Drones in Counter-Terrorism Context”, 2023, para. 66, <https://www.ohchr.org/sites/default/files/documents/issues/terrorism/sr/activities/20230103-Position-Paper-Use-Armed-Drones.pdf>

<sup>136</sup> On United States’ airstrikes and UAS operations in Somalia, see <https://airwars.org/conflict/us-forces-in-somalia/>; <https://www.newamerica.org/future-security/reports/americas-counterterrorism-wars/the-war-in-somalia/>; United States African Command (AFRICOM), <https://www.africom.mil/search?query=somalia>. See also Watson, Gupta, Goxho and Oliveira Martins, “Why Al-Shabaab’s Attack on US Drone Base Shouldn’t be Ignored”, Open Democracy, 22 October 2019; and United States Congressional Research Service, Al-Shabaab (2023), version 9; <https://www.cfr.org/in-brief/controversy-over-us-strikes-somalia>

French-led Operation Barkhane.<sup>137</sup> They are also increasingly being targeted by African States that have acquired these systems in recent years, including Burkina Faso, Mali, and Niger.<sup>138</sup> In Nigeria and the Lake Chad Basin, both Boko Haram and ISWAP have been targeted in military UAS operations carried out primarily by the Nigerian armed forces, as well as by other members of the MNJTF and, formerly, Operation Barkhane.<sup>139</sup>

At the same time, the growth and expansion of terrorist groups across the continent seems to be one of the main factors driving African States to acquire armed and unarmed UAS technology for use in offensive operations. This is the case both for States that have been grappling with terrorist-related threats for many years, such as the Burkina Faso, DRC, Mali, Mozambique, and Niger, as well as for States in which these groups have been expanding in recent years, such as West African coastal States.<sup>140</sup> The increased reliance of States on armed UASs in the context of counter-terrorism and

law enforcement operations has led to serious concerns over disproportionate civilian casualties and lack of transparency and accountability.<sup>141</sup> In addition, their deployment by a greater number of States across Africa could increase the likelihood of these systems being acquired and used by the very groups they are being used against.<sup>142</sup> Indeed, the broader strategic environments in which NSAGs operate can influence their decisions to use UASs in their own operations, as these groups learn and adapt their tactics not only through engagement with allies, but also “through observation and emulation of enemies”.<sup>143</sup>

In addition, there have been incidents in which UASs used by both African and non-African States, as well as by other armed security actors engaged in the fight against NSAGs, have been shot down or seized by these groups upon crashing or landing. There have also been alleged incidents of NSAGs capturing these systems following attacks on national and international security forces in

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<sup>137</sup> On Operation Barkhane, see <https://www.defense.gouv.fr/operations/bande-sahelo-saharienne/operation-barkhane>.

<sup>138</sup> In August 2021, France used a military-grade UAS to kill Adnan Abu Walid al-Sahrawi, the head of ISGS in northern Mali. See <https://www.france24.com/en/africa/20210916-the-assassinated-abou-walid-al-sahrawi-france-s-major-enemy-in-the-sahel>.

<sup>139</sup> On the Multinational Joint Task Force (MNJTF), see <https://mnjtfmm.org/about/>. Nigeria has acquired UASs for both counter-terrorism and law enforcement operations. See <https://humanglemedia.com/armed-drones-making-a-strong-entrance-in-nigerias-anti-terror-campaign/>.

<sup>140</sup> Phillips (2024); Moody (2023); Melly (2022); Kurpershoek et al. (2021). <https://humanglemedia.com/niger-receives-6-turkish-armed-drones-to-boost-war-against-terror-groups/>; <https://www.military.africa/2023/09/mozambique-seeks-combat-drones-for-cabo-delgado-counter-insurgency/>; <https://www.africaintelligence.com/central-africa/2023/02/21/kinshasa-calls-on-armed-chinese-drones-and-foreign-legion-vet-to-take-on-m23-rebels,109915644-eve>; <https://www.military.africa/2023/11/nigerian-air-force-to-acquire-indigenous-tsaigumi-drone/>. On allegations of a potential delivery of Turkish Bayraktar TB-2 UAS to Somalia without notifications to the Panel, see Security Council, S/2021/849, paras 126, 127.

<sup>141</sup> Ibid. See also African Commission on Human and People's Rights (ACHPR), “The African Commission expresses deep shock about the death of more than 80 civilians in Northern Kaduna, Nigeria from a drone strike”, 6 December 2023, <https://achpr.au.int/en/news/press-releases/2023-12-09/african-commission-expresses-deep-shock-death>; M. Le Cam (2023), “Malian army drones strike Kidal, northern rebel stronghold”, *Le Monde Afrique*, [https://www.lemonde.fr/en/le-monde-africa/article/2023/11/09/malian-army-drones-strike-kidal-northern-rebel-stronghold\\_6240473\\_124.html](https://www.lemonde.fr/en/le-monde-africa/article/2023/11/09/malian-army-drones-strike-kidal-northern-rebel-stronghold_6240473_124.html); T. Ndiaga (2022), “Burkina Faso army admits killing civilians in counter-terrorist strike”, *Reuters*, <https://www.reuters.com/world/africa/burkina-faso-army-admits-killing-civilians-counter-terrorist-strike-2022-08-03/>; see also see ACHPR/Res.422 (EXT.OS/XXVI).

<sup>142</sup> Dass (May 2023); and Moody (2023).

<sup>143</sup> Chávez and Swed (2023), p. 9.

Mali, Mozambique, Nigeria, and Somalia.<sup>144</sup> In September 2020, for instance, ISWAP claimed to have ambushed a convoy from the Nigerian armed forces in Borno state, killing 10 soldiers and seizing weapons and ammunition, including a UAS.<sup>145</sup> In early 2023, ASWJ reportedly captured an unarmed UAS used for surveillance among other military equipment following an attack against the Mozambican armed forces, according to a statement published in an Islamic State newspaper which included a photo of the UAS.<sup>146</sup>

While there is limited available evidence on whether the UASs or their components have been repurposed for use following such incidents, this might have occurred on some occasions. In CAR, it is possible that the members of the Coalition of Patriots for Change (CPC) attempted to use a UAS captured from a neutralized soldier of the FACA. According to video footage obtained by the United Nations Panel of Experts on CAR, CPC fighters were using a UAS (a “DJI Mavic 2”) allegedly recovered from the backpack of a neutralized FACA soldier following confrontations in May 2022.<sup>147</sup>



CPC combatants unpacking and showing DJI MAVIC II UAV from a military bag, video obtained from a confidential source, Midterm report of the United Nations Panel of Experts on CAR, February 2023 (Security Council, S/2023/87, Annex 14).

<sup>144</sup> ACLED data. Violent captures represent an important way through which different NSAGs acquire weapons in Africa. See, for instance, Security Council, S/2023/76, para. 13; DPO, ODA and LCBC (2022); Conflict Armament Research (2022).

<sup>145</sup> ACLED data.

<sup>146</sup> <https://www.cabologado.com/reports/cabo-ligado-weekly-9-15-january-2023>.

<sup>147</sup> Security Council, S/2022/527, para. 36 and Security Council, S/2023/87, para. 37 and Annex 14. According to a report of the Panel of Experts on CAR, no import of UAS had ever been notified to or exempted by the CAR Sanctions Committee, and the FACA denied the possession of the UAS. The Panel considered that, while armed groups may not have purchased the UAS, with all necessary accessories, they could, within four months between the Nzako attack and the flyovers, have acquired these batteries as well as the necessary expertise to operate the UAS. The fact that no flyovers were reported afterwards may imply that the UASs were already dysfunctional.

A UAS suspected to be of the same model was later spotted by MINUSCA near the mission premises in September 2022 (see Box 2).<sup>148</sup> In the Lake Chad Basin, ISWAP allegedly received video instructions from Islamic State on how to assemble and deploy an unarmed UAS that it had captured from the Cameroonian military during an attack in October 2014,

and it began using UASs for ISR shortly afterwards (see Section 3.2).<sup>149</sup> As more States acquire and deploy these systems across Africa, and if proper safeguards are not put in place, the incidence of seizures or violent captures could increase significantly in the coming years.

## 5. Conclusion

Over recent years, the use of uncrewed aerial systems by non-State armed groups in Africa has increased in both frequency and geographical scope. A growing number of groups have access to UASs – particularly commercially available models – and deploy these systems to support their operations on the continent. African NSAGs have used UASs primarily for ISR missions in conflict-affected areas in West, East and Central Africa. Although it appears that none of the groups deploying these systems has successfully weaponized them to conduct offensive strike operations, some groups have effectively used UASs to plan and facilitate attacks directed against members of national and international defence and security forces.

For African NSAGs, particularly terrorist groups, network affiliations seem to have played an important role in contributing to the transfer of knowledge and expertise on the acquisition and deployment of UASs. Such transfers appear to be primarily facilitated through online and social media channels, as well as through additional guidance and training enabled by the cross-border flows

of fighters. Moreover, given the fluid nature of many NSAGs operating in Africa and the frequent interactions between them, such transfers of knowledge and expertise could also occur among different types of groups.

The strategic environment in which African NSAGs operate is another factor which could influence the adoption of UASs by these groups. Many of the NSAGs deploying UASs in Africa, including the first groups to have reportedly used the technology on the continent, have been consistently targeted by both non-African and African States with armed UASs, especially in the context of counter-terrorism operations. The increasing affordability and accessibility of both civilian and military UAS technology, coupled with its growing use by a wide range of actors in Africa, is likely to contribute to the further diffusion of these systems to and among African NSAGs. Moreover, technological developments and global trends in the use of UASs could similarly have an impact on their acquisition and deployment by NSAGs in Africa.

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<sup>148</sup> Security Council, S/2023/87, para. 37.

<sup>149</sup> International Crisis Group, “The Islamic State Franchises in Africa: Lessons from Lake Chad”, 2020, <https://www.crisisgroup.org/africa/west-africa/nigeria/islamic-state-franchises-africa-lessons-lake-chad>.



Overall, the research for this report highlights the importance of strengthening efforts to map and monitor trends in NSAGs' acquisition and use of UASs in Africa. Crucially, increased efforts are needed to identify and investigate the different strategies utilized by African NSAGs to acquire UASs and their components. Within the African context, some of the most useful insights on acquisition patterns have been obtained through interviews conducted by United Nations Panels of Experts and specialized research entities with

former combatants and former abductees of these groups. Enhanced knowledge of these trends and continuous monitoring of evolving patterns of use are essential to inform the development of appropriate strategies, policies and countermeasures at both domestic and regional levels. As UAS technology becomes more advanced and affordable and the skies above Africa become increasingly congested, the challenges associated with the use of UASs by NSAGs will only grow more acute, and should be monitored closely.







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