Game of Drones

UAVs and the changing of security architecture in the MENA

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Abstract

Drones, commonly called "Armed Unmanned Aerial Vehicles (UAV)," have been increasingly used in global regions characterized by high levels of conflicts, political instabilities, terrorism activities, and social unrest. The trend is encapsulated in the Middle East and North Africa (MENA) region, where historically, there has not been peace within and amongst countries. However, regardless of the serious ramifications associated with drones, they have positive implications in security and political contexts, especially when utilized appropriately. That is to say, in a country where there are incidences of security and political dynamics, especially from its neighbors, drones can significantly be used to ensure security and political tranquility. Based on the contributions and associated ramifications in the drone technology, and in particular their current rampant application in military operations in MENA, this paper aims at analyzing drone wars in MENA, paying attention to their historical contexts, types of drones in the region, the top and most relied upon drone providers in the region, their capacities alongside wars which the drones have facilitated. This analysis uses credible sources, including peer-reviewed journal articles and news websites, to gather relevant information regarding the concept of drones in MENA. It concludes that most of the MENA region countries are

experiencing unhealthy rivalry, poor governance, social and political unrests, and terror attacks. These factors have influenced the extensive use of drones for surveillance and reconnaissance purposes.

Drone War in MENA

The idea of inventing drones must have begun way back in 1849 during the conflict between Venice city and Austria (Gambone, 2020). In the conflict, Austria unmanned balloons which contained explosives to attach Venice. According to research, Austria used an estimate of over 200 incendiary balloons to attach the people of Venice to the city. In estimate, these balloons carried between 11-14 kg of bombs. Once these incendiary balloons were in strategic positions within Venice, the stuffed explosives/bombs were dropped, causing serious havoc within the city. However, history records that among the balloons used, only one managed to find its mark in the city since most of them were blown off due to sudden changes in the direction of the wind (Jackman, 2020). Ever since technological advancements have found their way into this incendiary balloons' idea, and constant developments have been made within the military technology field. Nowadays, artificial intelligence (AI) is being used in the military field, especially in drones, which operate without a pilot. Countries are increasingly using war drones to protect their political interests and security and resolve conflicts in other countries, especially the developing ones, among other applications.

The Middle East forms one of the greatest known places globally where military drones play a significant role. In particular,

the region is characterized by high levels of volatility in terms of war eruptions, which has influenced most of the countries from the region to equip themselves with modern military military tools, including drones (Quillen, 2017). North Africa is another region that has, over the recent past, experienced conflicts ranging from political interests to resources, a factor that has influenced most of the countries in the region to have a quench for sophisticated military weapons (Svensson, 2013). Additionally, developed countries, especially the United States and others like Turkey, have developed great interests in resolving rampant conflicts in these regions (MENA) and thus carrying out military operations (Quillen, 2017). According to reports, both anecdotal and empirical have confirmed high probabilities of terrorism in the MENA regions. A scenario has been calling peace-making organs and states to intervene with the situations. Thus, this is the major reason why military drones have been increasingly used in the MENA region over the recent past. This research will focus on drones in MENA, paying attention to the types of drones used, top providers, drone capacities, and associated wars in the region.

Historical Background of Drones in MENA

MENA typically stands for "The Middle East and North Africa" and consists of about 19 countries from the two sections of the two continental regions (Africa and Asia), mainly North Africa and West Asia. Over the recent past, the MENA region has been experiencing security dynamics characterized by persistent volatility and deepening fragmentation (Gambone, 2020). The security dynamics linked to this region depict the historical fluidity in the landscape, characterized by entrenched and disruptive social unrests, geopolitical rivalry, and poor governance. In most of the intensely affected regions within MENA, there have been historical issues with economic competitions and rivalry based on the regional powers among the leaders (Jackman, 2020). As a result, most of the political leaders in the region have been failing to take into consideration constructive agendas and instead value constant wars aimed at achieving their interests. Since its invention, military drones have been increasingly applied in wars among rivals in the MENA region with such interests.

The idea of drones was developed over a century ago from rudimentary balloons used when Austria attached Venice city over the rivalry between the two. Its applications in military wars have expanded dramatically over the years (Vyas, 2020). After the

rudimentary balloons incident, consistent developments took effect over the years that led to the invention of a more sophisticated unmanned aerial vehicle (UAV) in the United States in 2001 when the country targeted killing Mullah Omar – a then Taliban leader. Ever since, more advanced war drones have been invented, which increasingly became available to other countries, especially where high cases of terrorism, social and political unrest have been experienced. Do military drones not only attract nations with security and political instabilities but also other countries enjoying serene political and security environments to defend and maintain their security and resources. The Middle East experiences have been experiencing such trends in the use of drones based on the above reasons (Farooq, 2021). According to research, in 2019, the number of drones used in the region in military operations accounted for 82% of all the drones within MENA (Bowman et al., 2021). Reports also indicated that the Middle East forms the largest market share for drones for countries like China and Turkey. Further, research reveals that since the introduction of the UAVs marketplace in MENA, regional countries within the Middle East, except for Israel, have spent an estimate of 1.5 billion dollars in purchasing military drones.

The Northern Africa region, on the other side, has had quests for UAVs for several reasons. First, the region has uncontrolled spaces and porous borders, which makes most of the governments in the region use drones to increase surveillance. As denoted by Welle (2021), the aspect has been helping such governments collect relevant security information, thence enabling them to deal with transnational terrorists and domestic rebel groups and threats. For instance, countries like Egypt and Algeria have, on several occasions, flown military drones during counterterrorism campaigns against the Sinai Peninsula and Islamic State, respectively.

Therefore, the background into the increased use of war drones within the MENA region is attributed to the long existent cases of conflicts within and among regional countries. From Libya to Yemen, to Iraq and Syria, war drones play instrumental roles in military operations aimed to safeguard each country's interests (political, security, economic, etc.). The drones particularly play key roles in providing tactical support to intelligence, surveillance, and reconnaissance (ISR), and air support in military operations (Welle, 2021). Lack of cooperation, poor governance, and unhealthy competition are the key reasons behind the increased use of war drones within the MENA regional countries.

Types of Drones in MENA

Over the recent past, military drones have increased within the MENA regional countries. As seen earlier, this trend results from several factors, among them geopolitical rivalries, security reasons, unhealthy competition amongst countries, among other reasons. Some countries in the region manufacture their drones, while others import from developed countries, in some instances, countries manufacture and import drones based on perhaps the levels of sophistication presented by other countries' drones. As such, varied types of drones are used in each of these regional countries.

Regional countries belonging to MENA from the Middle East contexts have more sophisticated drones and, in most cases, export to other countries, including the MENA region countries in North Africa. Turkey, for instance, is among the leading Middle East MENA countries that have advanced UAVs for use and export to other countries (Urcosta, 2021). Most of the drones developed from the Middle East are applied and utilized in combat operations within the regional countries and others that develop interests and thus purchase them. The major types of drones developed in the region (the Middle East and particularly MENA regional countries) include the "fixed-wing hybrid VTOL," "single-rotor helicopter,"

"fixed-wing," and "multi-rotor" drones. Multi-rotor drones are designed to have more than one propeller and rotor, which helps the drone gain robust stability and enables the operator to control it effectively. Such drones are commonly used for surveillance purposes.

On the other side, Fixed-wing drones contain a single wing that mostly requires a runway or catapult to lift from a position (ground). These drones are used for surveillance roles, especially by the military. Most MENA region countries use these drones to carry out security checks within their borders (Urcosta, 2021). Single-rotor helicopter drones are relatively large than single-rotor and fixed-rotor drones. The most remarkable aspect of these drones is that they are unmanned. Most military operations within MENA are carried out using this type of drone, especially when a country has rebels and threats from terror groups.

In North Africa, geopolitical rivalries among specific countries alongside other interests have compelled some of the countries to acquire military drones. Most military drones are armed and thus enable governments to launch military operations against their rivals (Drones Editorial Office, 2020). Among the widely used drones in the region include armed types such as Anka-S (Tunisia), Bayraktar (Morocco), Harfang MALE (Morocco), and *Bukovel*

UAV (Morocco). Countries like Morocco have been purchasing drones from potential manufacturers like Israel. Their leaders recently denoted their efforts to increase reconnaissance and surveillance against rebels and Jihadists, especially from Western Sahara.

Top Drone Providers in MENA

Since the advent of the concept of drones, specific countries have made robust and significant steps towards the manufacture of more sophisticated drones used for various reasons. Globally, Israel and the United States have been known in history as the key providers of the most sophisticated drones (Farooq, 2021). Regarding the MENA contexts, countries like Turkey, Israel, China, and Russia have been the top-most drone providers for a considerable number of years. According to credible reports and research, Israel has dominated the manufacture of complex drones after the United States. Until 2014, it had been the leading drone exporter to various parts across the globe. The country (Israel) has been among the top providers of drones within the MENA region, even presently. Israel is praised for one of its largest and sophisticated drones (*Heron-TP* MALE), which has the potential to loiter above thirty hours while carrying different ordnance

combinations and sensor suits to a capacity of up to 2700 kg (Farooq, 2021). However, regardless of Israel's capacity to produce the most sophisticated drones in the region, it does not sell its heavy and medium drones within the MENA region but rather considers selling such categories to the rest of the world, particularly Europe to countries like Great Britain and German. Israel decided not to sell its sophisticated drones within MENA to fear that the drones might be potentially used against it. Thus, the country provides the least sophisticated drones within the MENA regional countries.

Turkey is another top potential supplier of drones among the MENA regional countries, with a relatively large market share than Israel currently (Vyas, 2020). The country has, over the years, been using the drone in its various combat operations. Recently, Turkey's incorporation of AI in the drone manufacturing field that has enabled it to carry out mass production of robust drones has made it a potential provider of drones within the MENA region and globally. Within the MENA region, Turkey is relied upon by potential partners, mainly Libya, Tunisia, and Qatar. It is worthy denoting that Turkey has established a large market share within MENA based on its efforts to provide regional countries who purchase drones with training services. The recent instance happened with Tunisia when it

signed a contract worth 240 million dollars with Turkey to supply drones alongside offering training assistance.

China forms another top-most drone provider within the MENA regions. Remarkably, MENA has most of the drones made in Turkey and China, a scenario that implies how the two countries have established positive reputations alongside large market shares. For instance, the common Chinese UCAV and TB_2 made China and Turkey respectively have dominated within the MENA UAV markets and global markets. Recent reports and news established that China, particularly Beijing, has over the recent past sold arms including UAVs to the Middle East and established a large market share. The US government has perceived this scenario as a threat to America's market interests in the region (Bowman et al., 2021). For instance, China recently supplied Saudi Arabia with CH-4 and Wing Loong II drones while supplying the United Arab Emirates with 5 Wing Loong 1 drones. China has also been exporting its drones to Northern African countries like Egypt, Wing Loong I, and II. Therefore, China’s UAV market among MENA countries has been steadily expanding and is projected to grow based on the enormous technological advancements in China.

Russia is also among the top drone providers within the MENA region. It has categories of sophisticated drones, including

the recently developed Orion-E drone that can loiter a distance of 250 km in 24 hours, covering an altitude of up to 8000 m (Vyas, 2020). The country supplies various drones to countries within the Middle East and Northern Africa. Its drones attract most countries within the region based on their potential to achieve security and surveillance combat operations (Facon, 2021). The most recent case in its UAV exports to MENA involves reports that it was to supply Orion UAV to one of the countries, although not much information about the specific country, within the Middle East.

Drones Capacities in MENA

According to credible sources such as news and reports, most drones operating within MENA have high capabilities ranging from causing strikes to carrying out surveillance by providing relevant information on the areas deployed to assess. A good portion of the drones, especially the imported ones, can loiter long distances to execute commands directed by relevant military officers. For instance, the Russian Orion-E drone can loiter over 250 kilometers within 24 hours at an altitude of up to 8000 m (Cebul, 2018). Originally, the Orion-E drone was designed for reconnaissance and surveillance missions, but its latest combat version can carry weights up to 200 kgs. With this capacity of carrying weights, this

drone can carry explosives meant to cause explosions in the directed areas.

In terms of ensuring surveillance, most of the drones in the MENA region are embedded with high-quality cameras which gather data on respective areas of deployment and send them to military offices. Research reveals that a good portion of drones, especially from developed countries such as Turkey, China, and Israel, have sensors to sense human beings, bombs, and associated threats in the areas under surveillance (Vyas, 2020). Thus, if there is a possible threat in a specified region where a drone operates, it can sense and locate the threat such as a hand grenade or bomb and thus help experts take necessary measures. Other drones used in the region, especially the Turkish, have special targeting systems that help them execute commands in specified places. This is a special provision in most military drones, especially those designed for wars. This capability can cause explosions in the exact commanded regions or buildings.

Drones War in MENA

A series of drone wars have taken place within MENA over the recent past specific regional countries. For instance, Algeria used drones in the Northern parts of Africa while carrying out

counterterrorism campaigns against the Islamic State (IS) (Kharief, 2020). IS has been a self-proclaimed local brand group linked to terror attacks and Algerian territorial invasion that the Algerian government has been against severally. In the campaign, drones played a major role in providing surveillance and other military security operations support until recently, when the government took over the group. Another case from the Northern African region entails the recent use of drones by the Egyptian government. The Egyptian government recently flew drones against the Sinai Peninsula group (Kharief, 2020). The Algerian government used *El Djazair 54s* drones in the above campaigns while Egypt deployed the common Chinese Wing Loong drone. The drones have been deployed alongside armed configurations in the specifically targeted places in both cases. While functioning in the air, these drones provided air support to the military on the ground with several unguided and guided ordnance.

Recent drone wars within MENA include the recent December 2019 drone attack at Hama airport in Syria. The attack was well-executed such that the Syrian Arab Army was unable to repel it (Kharief, 2020). In 2019, another attack at the Aramco oil fields in Saudi Arabia hit the news. The attack comprised several drones and cruise missiles in the region, which affected 5% of oil

production globally. Afterward, this attack was claimed by Houthi – the Yemen rebellion that has had wars with Saudi Arabia for a couple of years now. The recent Gulf diplomatic crisis also set Qatar to purchase several Turkish drones, which it has been deploying for wars (Kharief, 2020). The crisis happened in 2017 between Riyadh and Doha, forcing Qatari to equip itself with more sophisticated imported drones. Libya has also recently become the Northern Africa country to dominate drone wars. The scenario followed several years (almost 8) of civil wars, which led to the destruction of the country's army (Kharief, 2020). Ever since the country has been purchasing drones to dominate in any wars in the region, other MENA regional countries like Yemen, Israel, Pakistan, and Israel have been drone war zones over the recent past. In most of these countries, there have been cases of poor governance, political and social unrest, civil wars, competition, and increased cases of terrorism, which have influenced the leader to equip their countries with drones such that once war erupts, each of the countries will be ready to deal with the threats.

Conclusion

Artificial intelligence has been extensively applied in the field of the military to manufacturing drones which are being increasingly used for, among other purposes, surveillance, airstrikes, and reconnaissance. Most of the MENA regions have been associated with drones in wars and for security purposes. In particular, several of the MENA region countries are associated with poor governance, social and political unrests, and high levels of terrorism incidences that have influenced them to manufacture and import drones to increase security. Israel, Russia, Turkey, and China are the top providers or exporters of drones used within the MENA region. Such imported drones are sophisticated with the ability to take commands directed by relevant experts. Some of the regional countries within MENA have been having unhealthy competitions alongside poor leadership and increased terror activities, which influences constant wars.

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