Drone Technology and Its Implications for Warfare and National Security in Nigeria

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bility, civilian casualties, and sovereignty violations, which complicate Nigeria's already fragile security

ooperation, and adopt international best practices. The study concludes that drone technology, if responsibly harnessed, can serve as a transformative instrument in Nigeria's fight against insecurity and

1. Introduction

The Unmanned Aerial Vehicle (UAV), also called a drone, is becoming increasingly popular among state leaders and plays a significant role in a country's national security. Due to their ability to collect vast amounts of aerial imagery and launch strikes at targets using almost invisible platforms, drones' surveillance capabilities in border regions constitute a serious threat to non-state actors. Additionally, drones can use their reconnaissance features to conduct traditional counter-insurgency operations. African authorities can use these drone features and significant benefits to address the security issues that non-state actors primarily cause. However, non-state actors use drone technology illegally (Ong, 2018).

Drones are now more frequently used in peacetime to carry out a variety of functions, including monitoring traffic congestion, police surveillance, and transporting diagnostic clinical laboratory items, in addition to engaging in combat with and attacking opponents. These drones are unarmed and can be used for commercial purposes, such as delivering non-medical goods and carrying emergency medical supplies and organs for transplant. They can also deliver medical samples like the innovative coronavirus test samples. According to a recent BBC story, drones are now used to carry National Health Service (NHS) supplies to the Isle of Wight (Molloy & Copestake, 2020).

The Economist published an article in 2019 on how drones were used to rescue mountain climbers and those trapped by natural disasters. Drones are also utilized to save lives. In addition, a country's economy can be strengthened by using drone manufacture as a tool. Drones are expected to boost the British

economy by 42 billion euros by 2030, according to a Topham analysis from last year (Topham, 2018). It is hardly surprising that over 90 countries use drones extensively globally. Drones are already being sold internationally by nations like China and Israel, and domestic production is rising. More drones are being produced and used for military and civilian purposes, creating regulatory issues in many nations.

The majority of wealthy nations have used drones without a clear legal framework. In contrast, African nations without one include South Africa, Algeria, Tunisia, Egypt, and Ethiopia, which are currently developing drones (Foeka, 2016). It is important to note that Rwanda is the only nation to have implemented a regulatory framework designed to encourage and expand drone operations in a way that will generate the feedback required for developing regulatory frameworks that will lower the risk associated with drone operations (Amanda, 2016).

The situation in Nigeria is special because, in addition to the military, which developed the Tsaigumi drone, supported by the Nigerian Air Force (NAF), the spread of drones has taken on a new dimension because citizens and non-state actors already possess drones. Furthermore, Nigeria lacks an appropriate regulatory framework to limit the use of drones. As a result, a country's national security may suffer (Defence Post, 2018). The rise of the extremist group Boko Haram in 2009 made issues worse by compromising Nigeria's national security. The violent acts, like the kidnapping the Chibok girls, suicide bombings, and several others, now have a global scope (BBC, 2017). Nigerian nationals and residents of nearby nations, including Chad, Cameroon, Benin, and Niger, have been impacted by Boko Haram's transnational tendencies. When Vice Prime Minister Amadou Ali and his family from Cameroon's far north were abducted and transferred to an unidentified location in 2014, these attacks assumed a transnational dimension (BBC, 2014). Once more, in a separate incident, 97 boys and several women were abducted from the fishing community of Doron Baga near Lake Chad (Ayeotan, 2017).

Due to the porousness of Nigeria's borders with her neighbours, Boko Haram has used the ungoverned areas there to commit transnational crimes like the spread of small arms and light weapons, funding and funding of training, and the recruitment of militarized refugees. These crimes occurring in border regions seriously threaten Nigeria's national security. The Lake Chad Basin was nonetheless freed from the lethal terrorist organization after the formation of a Multinational Joint Task Force (MNJTF) (MNJTF, 2019). Despite these initiatives by the Nigerian government in cooperation with Chad, Cameroun, Niger Republic, etc., considerable work is still needed to end Boko Haram's activities in border regions and stop illegal acts from being perpetrated. Drone technology became necessary to defeat the insurgency and stop cross-border criminality.

Drones can be used for various tasks, including search and rescue operations, law enforcement and wildlife protection operations, disaster management, pipeline and power line monitoring, convoy protection,

border patrols, military operations over land and sea, and mapping. Drones can also be used to address the current border security challenges. It is sufficient to say that Nigeria began employing drones in 2014 for airstrikes and surveillance against the insurgency organization. However, Nigeria has no rules governing the use of drones, whether armed or not; instead, the Nigerian Civil Aviation Authority (NCAA) issues advice circulars. Therefore, the use of drones arbitrarily will have a negative impact on a country's national security, whether they are armed or not. The study, which employs a qualitative methodology, is concerned with drone use in border regions and, in this regard, explores how this impacts Nigeria's national security. For clarity, it tries to distinguish between armed and unarmed drones. The paper examines drone usage and regulation in Nigeria; it discusses the extensive use of drones by the Nigerian military, legislation governing drone use in Nigeria and the difficulties encountered; and, ultimately, it examines the impact of drone use beyond international borders on Nigeria's national security.

1.2   Statement of the Research Problem

Nigeria has been plagued by insecurity for more than 20 years, leading to numerous fatalities of unarmed citizens, foreigners, security officers, elected leaders, and several government employees. The country's political and economic leaders and the entire nation lament the loss of their loved ones and the lack of safety in most areas due to the insecurity problem's different manifestations.

Kidnappings, ritual killings, suicide bombings, political assassinations, religious killings, ethnic conflicts, and armed banditry are just a few of the crimes that represent a severe threat to people's lives and the security of the country. However, the issue seems to have resisted numerous efforts. There has also been substantial support for a multi-stakeholder approach to the security solution rather than focusing largely on only military options (Imhonopi & Urim, 2013). This reality may not be unrelated to the rising political rivalry, religious bigotry, and ethnic intolerance, as well as the enormous number of residents who feel neglected and undervalued in the nation. This was noted by Abiodun (2016) when he argued that the inherent propensities for violence among different ethnic groups, the persistent rise of ethnic militias, and the existing religious extremism, which was expressed by some divisions of the dominant religious groups in Nigeria, had inevitably worsened the level of insecurity and broadened its scope in all ramifications.

These drone attack programs aim to punish and dissuade terrorist and insurgency organizations. They punish these groups by killing people and instilling apprehension and fear among the existing members. Additionally, they aim to discourage individuals from supporting or joining these movements and insurgents and terrorists from continuing their acts of violence. Drones have garnered much attention, but we still don't fully understand how useful they are as weapons for punishment and deterrents. In particular, it is unclear how, if at all, drones differ from other violent technologies, what past conflicts' use of broadly

comparable technologies suggests will happen as a result of drone strikes, and what systematic analysis of the available data will happen as a result of drone campaigns.

The absence of sufficient data and acceptable tools for analysis has been a significant obstacle to determining the efficacy of drone strikes. Additionally, gathering such information is challenging because drone strikes often take place in remote locations, some drone campaigns are considered covert operations and are therefore not publicly discussed or evaluated by the government, and conflicting parties may have incentives to manipulate public perceptions of the number of civilians and militants killed by drone strikes. In addition to creating an environment of fear, unease, and worry in Nigeria and posing severe dangers to the fabric of national unity, the ongoing state of insecurity has dealt a fatal blow to industrial development. The state has regressed considerably over the years due to destroying essential infrastructure facilities. In order to limit or extinguish the quagmire, the administration has continued to strive and develop new measures (Emuedo, 2014). Researchers, academics, security professionals, and consultants haven't stopped offering suggestions and workable ideas for resolving this national problem. In order to combat insecurity in Nigeria, this article will examine the contributions drones (unmanned aerial vehicles) can offer.

1.3 Research Questions

The study is anchored on the following research questions;

1. What is the significant relationship between drone warfare and national security in Nigeria?
2. What are the challenges affecting drone warfare in promoting National Security?
3. How best can drone warfare be improved to ensure National Security in Nigeria?

1.4 Objectives of the Study

The study's broad objective is to examine the effect of drone technology on warfare and national security in Nigeria. The following are the specific objectives of the study;

1. To examine the significant relationship between drone warfare and national security in Nigeria.
2. To explore the challenges affecting drone warfare in promoting National Security.
3. To establish how best drone warfare be improved to ensure National Security in Nigeria.

1.5 Definition of Key Terms

Drone: This is defined as a powered, aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely, can be expendable or recoverable, and can carry a lethal or nonlethal payload

Warfare: This is a process of military struggle between two nations or groups of nations; war. It is an armed conflict between two massed enemies, armies, or the like

National Security: This is the security and defence of a sovereign state, including its citizens, economy, and institutions, which is regarded as a duty of government.

Insecurity: Insecurity is described to be the anti-thesis of security, and this has attracted various submissions as want of absence of safety, danger, hazards, uncertainty, want of confidence, state of doubt, absence of guard, instability, trouble, lack of protection and being unsafe, among others.

Security: Security refers to feeling safe, protecting and preserving core values and the absence of threats to these values. It also concerns freedom from danger or threats to a state's ability to protect and develop itself and promote its cherished values and legitimate interests.

Drone Warfare: Drone warfare is a form of aerial warfare using unmanned combat aerial vehicles (UCAV) or weaponized commercial unmanned aerial vehicles (UAV).

Security Agencies: Security agency is a governmental organization that conducts intelligence activities for the internal security of a nation.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Conceptual Review

2.1.1 Drone Warfare

A drone is defined as robot planes, pilotless aircraft, remotely piloted aircraft, non-crewed aircraft, remotely piloted vehicles, and unmanned aerial vehicles (UAVs) with the ability to fly by remote control or with the use of onboard computers in the Birmingham Policy Commission Report (2019). According to the definition, any unmanned aircraft operated with a computer's aid is a drone. However, because the purposes of drones were not specified, this concept is inappropriate for the study.

The Department of Defense (2020) describes the drone as an object that can fly or be controlled using aerodynamic forces. This definition, which only discusses a drone's features rather than the specifics of its operation, is also inappropriate for the study. According to Tice, drones may be as little as an insect and as huge as a regular jet; they can be built more inexpensively than traditional aircraft and keep operators out of harm's way. Drones can also fly by remote control or on a predetermined flight route. The writers gave a favourable assessment of the employment of drones, focusing only on their use for surveillance and leaving out any potential harm they might do to a country's national security. As a result, the study does not take this term into account.

Drones, also known as remotely piloted vehicles (RPVs), are miniature aircraft capable of flight without an onboard human pilot, according to Abayomi et al. (2016). They can transport payloads like cameras, sensors, communication devices, or other objects and are either autonomous or semiautonomous. They are the most useful for aerial monitoring. With its functions, this concept provided a larger definition of drones. This is a blatant example of how drones might be used for surveillance, making the study pertinent.

Although drones are primarily used for surveys, mapping, visual monitoring, thermal imaging of a region, and other less dangerous duties equipped with accessories, Clarke (2018) explained the distinction between armed and unarmed drones. However, drones can be armed and unarmed, depending on their intended use. For example, internal combustion engines, often armed power drones, feature lethal armaments and are primarily utilized for military operations. The US-made Predator XP drone, which India just purchased, illustrates this type of drone. However, according to Hejduk, commercial and domestic drones are smaller, unarmed, and powered by electric motors than military drones and are mostly used for photography and business development. The DJI Phantom Vision 2 is one illustration (Hejduk, 2019).

It is important to highlight that state and non-state actors utilize drones in twenty-first-century wars. This raises questions regarding the safety and security that drones provide. While some believe that drones are the best technology to police huge regions, defend property, and guard state boundaries, others believe that drones pose a severe threat, particularly regarding individual privacy. Human rights are frequently cited as being in jeopardy from drone use (European Union Committee, 2019).

According to Emmerson (2018), despite the drawbacks suggested by diverse schools of thinking, drones are here to stay. Drones are the American "weapon of choice" for battling terrorism, according to Oren Gross's allegation that both the CIA and the US military rely on them (Gross, 2016). Drone warfare is a type of combat that uses unmanned aerial vehicles (UAVs) to perform military operations, such as surveillance, targeted killings, and airstrikes. Drones have become an increasingly popular tool for military operations in recent years, and their use has raised ethical, legal, and strategic questions.

2.1.2 National Security

Defining national security depends on the definer's ideology. Take, for instance, the gap between liberals, who view the introduction of militaristic influences into society as corrupting society, and the conservatives, in the manner of Huntington, for whom the same influence means saving the society (Huntington, 1957). This interpretative disparity allows many scholars to view today's national security doctrines as ideological rationalizations of a permanent militarization of the state and society (Eide and Thee, 1979). This bias in defining national security makes it sometimes difficult to distinguish between "securing the nation" and "militarising the nation."

Baldwin (2019) states that national security means freedom from external forces. However, this definition does not apply to this study because national security was not looked at in the area of protection of the state against external attack; rather, security was seen from an individualistic point of view.

Holmes (2020) defined national security as the nation's safekeeping that protects the nation and its people from attack and other external dangers by maintaining armed forces and guarding state secrets. This

definition by Holmes gives a clear picture of what national security is about political, economic, energy, cyber, human, environmental, etc. National security is not a purely military notion. It is more a political category than a military one, a part of state policy in which the military component is but one element engaged in national security functions. Given this understanding of national security, one might attempt to define national security as "that part of government policy that aims to create national and international conditions that are favourable to the protection and extension of vital values against existing or potential adversaries " (Louw, 1978).

Thus, in the 21st century, human security should be emphasized instead of conventional security. Human security has been defined as incorporating freedom from fear, freedom from want, and freedom to live in dignity. Hence, the concept addresses aspects of physical security, economic security, and social security. The emphasis of the human security perspective is on the multidimensional nature of security. It implies that peace can be achieved once the government can address the structural inequalities that come as a product of poor governance, lack of democracy, absence of a level playing field for citizens to work and earn a living, as well as the associated violence these produce in society. Therefore, national security objectives have encompassed the basic principles and core values associated with a better quality of life, freedom, social justice, prosperity, and development (Mbachu and Sokoto, 2011) (Cited in Mbachu, 2012). According to Bello (2017), national security has no definition. National security lacks a specific definition but has been described as the government's concern about a state's stability and safety. National security policy could be seen as a measure a state takes to ensure its survival and national policy. The essence of national security is protecting a state's national interest/value and upholding what the state believes to be valuable to it and its people. Some issues of national values can be found in the grand norms of a country. The constitution of any country could provide a platform for understanding national security policy. National security protects citizens, national sovereignty, democratic rights, freedoms and values, strategic assets and resources, and the well-being and prosperity of the states and their citizens.

Human security has enormous implications for national security. In other words, national security and human security are interlinked. For a state to survive and endure, it has to respect the security of its citizens and the security of the citizens of other states. This demonstrates one possible connection between human security, especially aspects of livelihood security, and how these interact with national security issues. In some circumstances, national security covers economic, social, and psychological security. However, national security could be viewed from the opposite direction to have and suggest that national security has to do with the state's security as opposed to the security of the individuals within it.

The concept of national security suggests that the government and its legislature should protect the state and its citizens against various national crises through various power projections, such as political power,

diplomacy, economic power, and military power. Some of the measures taken to ensure national security are:

1. Using diplomacy to rally allies and isolate threats;

2. Mobilizing economic power to enhance or compel cooperation;

3. Maintaining effective control of the armed forces;

4. Implementing civil defence and emergency readiness measures, including anti-terrorism legislation;

5. Ensuring the resilience and redundancy of cultural infrastructure using intelligence services to detect and defeat or avoid threats and espionage and to protect classified information; and

6. Using counter-intelligence services or secret police to protect the nation from internal attacks (encyclopedia of the United States National Security, 2005).

The importance attached to national security as an element of national interest and the importance of government is not lost on Nigeria. Section 14 (2) (a) of the Federal Republic of Nigeria provides that: (b) the security and welfare of the people shall be the primary purpose of governments, and; (c) the participation by the people in their government shall be ensured by the provision of this constitution (Constitution of the Federal Republic of Nigeria, 1999, Section (14) (2). For a more focused and direct national security, a country's defence and security must certainly take into cognizance its national interests and values, protect the integrity of the state and project the interest that makes this integrity meaningful (Vogt, 1990) (cited in Alabi, 2018). For Nigeria, our national interests are:

a. Territorial integrity/sovereignty

b. Social-economic well-being

c. Democratic values

d. Standing/status of Nigeria

e. Peace in Africa and worldwide

f. Leverage powers for prosperity (Mbachu, 2019)

From the foregoing, there is no universally acceptable definition of national security. Despite the variety of definitions provided by the various authors on the concept of national security, the concept remains ambiguous, having originated from simpler definitions that originally focused on freedom from military threats and political coercion. This has now expanded to include other forms of non-military security as corresponded with the prevailing situation.

It is being understood that security also concerns the individual and groups and not just states alone. When individuals are not secure, then the states cannot be secure. The testimony to this is the rise of non-military sources of threats to security at the individual, societal, state, regional, and global levels. This has led to the broadening of the concept of security to include non-military dimensions such as social, economic,

and political factors now, poverty, human rights, political disputes, political succession, bad governance, etc. also constitute issues affecting peace and security. National security is the 'readiness and capability of a country to contain internal and external threats to its existence and well-being (the military dimension) and ensure the socio-economic welfare of its peoples (the developmental dimension)' (Tyoden 2005:173). The new emphasis on an expanded definition of national security does not suggest that the idea is new Rather, its relevance was greatly undermined by security doctrines and strategic considerations that shaped the idea of security during the Cold War era.

Within the context of this work, national security refers to the capacity of a state to promote the pursuit and realization of the fundamental needs and vital interests of man and society and to protect them from threats that may be economic, social, environmental, or political, military or epidemiological. In this sense, it has both qualitative and dynamic dimensions. Qualitatively, it encapsulates the unending drive of the state to improve the safety of and protect the lives, property, and resources within its defined territorial boundaries. But, on the other hand, it is dynamic in that its broad contours oscillate with the emergence of new threats or the transformation of old threats, which may come from within or outside its environment (Onuoha 2007). Therefore, threats to national security are not static, but dynamic, and just as the political, economic, military and social causes of threats change, so does the national security posture of a country change (Okodolor 2004).

In the context of Nigeria's national security considerations, Former President Olusegun Obasanjo contends that: The primary objective of national security shall be to strengthen the Federal Republic of Nigeria, to advance her interest and objectives to contain instability, control crime, eliminate corruption, enhance genuine development, progress, and growth, and improve the welfare and well-being and quality of life of every citizen (Tyoden 2005).

In this sense, national security is a collection of two crucial elements: state and human security. It entails preserving the safety of Nigerians at home and abroad, the protection of the country's sovereignty, and the integrity of its assets (Federal Republic of Nigeria 2006). Thus a country is secured to the extent that the political leadership can anticipate, recognize and respond effectively to these threats, using the available national resources to ensure the safety of life and property of the citizens and guarantee the integrity of its territorial boundaries as well as its strategic assets, both within and outside its territory.

Today, one thing confronting Nigeria is the resurgence of incessant kidnapping and its threat to her security. From the Niger Delta to the northern part of Nigeria, no one is in doubt that the country is on fire. This has deepened threats to security among most Nigerians, particularly those who live in parts of the country other than what they regard as their own. If care is not taken, the green lights are on could lead to a civil war. The situation has compelled some Nigerians to possess firearms and ammunition. This has

increased to Ak47 rifles, sub-machine guns, and other sophisticated weapons in the country might be due to the people's readiness for self-defense. Despite several committees being set up, none has been able to identify the root causes, leading to the administration of wrong remedies. Matters are not even helped by the increasing inability of the Nigerian state to address the security threat. This has portrayed Nigeria as one of the most insecure places to live in the world today. This has scared foreign investors who have left hurriedly to neighbouring countries, and her citizens are leaving the country daily.

People are questioning the government's capability to address its security challenges in the 21st century. Whenever the word security threat is mentioned, the immediate feeling that gets to one's mind is the state of being subject to danger which is what many feel and experience in Nigeria. To so many foreign countries, Nigeria is described as one of the most dangerous places in the world, filled with so much corruption, which stinks. Various sources of threat may include political, military, cultural, economic, and health security from local and regional areas to the national globe.

2.1.3   Insecurity

It is crucial to quickly discuss what security entails to provide a full description of insecurity. According to Thomas Hobbes, only the state has the resources to guarantee security and prevent society from degenerating into anarchy. Since government serves as the state's representative, the state should, through its government, provide adequate security to support its existence (Gaskin, 1996). Because of this, according to Kerr (2010), security is a dynamic situation that incorporates a state's relative capacity to fend off threats to its fundamental interests and values. Promoting a preferred international order, which lessens the threat to core values and interests as well as to the domestic order, is another important pillar of national security, according to Igbuzor (2011). Both of these must be done for a country to be secure.

According to Achumba, Ighomercho, and Akpor-Robaro (2013), security is an all-encompassing condition that mandates that a group of armed forces secure a territory; that the sovereignty of the state must be guaranteed by a democratic and patriotic government; that the people must be protected not only from external attacks but also from the negative effects of internal upheavals that include Dike (2010) and Imhonopi and should be based on a holistic view that views the citizenry as the primary beneficiaries of security and developmental goodies that the state provides. It is also argued that security has historically been about people, and without course to the security of the individual, security is null and void (Igbuzor, 2011). Therefore, improving Nigeria's capacity to advance its interests in containing internal and external attacks, and crimes, getting rid of corruption, fostering growth and development, and enhancing citizen welfare constitutes efforts to improve security in Nigeria.

Security is typically understood to be the state of feeling safe, the maintenance and protection of fundamental principles, and the lack of dangers to these principles. It also concerns a state's ability to defend itself, grow, and advance its treasured ideals and legitimate interests free from danger or threats (Abiodun, 2016). Another top human goal is security, which is so important that living without it makes people useless. Security was put second in the hierarchy of human needs by Abraham Maslow's work, after physiological requirements. Because of this, Abiodun (2016) argues that while historically, the state has been solely responsible for ensuring the safety of people and their property, the current status of the globe has made this evident to everyone. In a similar vein, Abiodun et al. (2019) see national security as promoting Nigerians' economic well-being and prosperity in a safe and secure environment that supports the achievement of both national interests and those of foreign partners, in addition to the physical protection of citizens and territorial integrity, which it is a part of.

2.2 Critical Review of Existing Literature in the Field

2.2.1 Drone Warfare and National Security – The Nexus

In their 2016 study, Riham & Youssef examined the safety issues with civilian drone use and how they will impact government buildings and other national airspaces. A prime example is how drones delayed aircraft at Gatwick Airport, the UK's second-largest airport, for more than 45 minutes.

The use of armed drones at the border has a political, policy, and ethical ramifications, according to Koslowski & Schulzke (2018). They contend that while non-military applications of military technology have negative security effects on security operations, drones may be able to save the lives of migrants travelling perilously through deserts and harsh seas. Again, drone surveillance erodes privacy, but it also develops new channels for accountability, and ultimately, drones hide security indicators, providing an intangible security system.

Regarding coverage over isolated border areas, drones can fill a gap in border surveillance, according to Blazakis (2019), who also discusses their advantages and drawbacks. For example, drones can loiter, which enables them to stay in one spot for extended periods. In addition, the author considered that drones are more affordable than human aircraft deployed at borders. However, drones' powers are limited by their inability to target moving targets and privacy, safety, and technical concerns.

The biggest concern in 2018 is, in the opinion of Time magazine reporter Hennigan, the broad accessibility of commercial drones. Drones are being used by terrorists and criminals to further schemes and assaults domestically and abroad (Hennigan, 2018). Drone terrorism is seen in the attempted conspiracy to kill

Nicolas Maduro, the president of Venezuela, using a weaponized unmanned aircraft (BBC, 2018). Armed drones are now utilized to launch offensive operations, such as dropping a grenade on a rival's military installation. Armed drones are now used by nations like Nigeria, Pakistan, and Turkey in combat. But the likelihood of highly developed drone technology falling into the wrong hands grows exponentially. To overcome the challenges in designing and operating long-range armed drones, Davis et al. (2015) separated their features and capabilities from those of short-range drones. Short-range drones will increase because they have desirable civilian applications, whereas long-range drones are expendable, like cruise missiles and are simpler to operate. According to the author, armed drones cause chaos only when they are misused by non-state actors, even while they raise concerns like the worry that they could fall into the wrong hands. We have learned from those above that there is a connection between drones and national security.

2.2.2   The Development of Drone Technology

The most recent technological difficulties of our time are posed by drones and remotely piloted aircraft systems (Hopia, 2015), which show how high-tech systems now control combat. Some people think that humankind has advanced significantly with the development of robotic and autonomous systems (Clarke, 2014). Research has been intensive, and as a result, "modern weaponry has raised the barriers that states must jump over if they are to become members of the superpower club" (Waltz, 1979). States would need to cooperate to develop the highest levels of technical competence necessary to operate drones, but this has not been successful politically. As a result, many states will continue to be unable to afford drone technology (Gilli & Gilli, 2016).

The development of drone technology raises a number of ethical issues. By way of illustration, "the ease and anonymity with which drone strikes are carried out (or 'PlayStation mentality', as it has been called) raises deeper questions about the conduct of the war by a democratic, constitutional society" (Alston & Shamsi, 2010). This has a connection to the possibility of a "virtual war" phenomena in the future (McCrisken, 2013). Drone autonomy has been pushed for further, and there have been discussions among computer and artificial intelligence scientists on whether drones would ever be able to discern between fighters and non-combatants (Rosén, 2013).

Ultimately, drones produce uninsurable security subjects that are "granted their inexistence as individuals" (Barrinha & Da Mota, 2017). All things considered, "drones benefit from the now traditional perception that technology saves time and lives and enables progress in warfare" (Coker, 2009).

Despite this, drones are not immune to technological risks, ranging from signal jamming, malware, and viruses to wireless hacking threats and GPS spoofing (Dulo, 2015). In certain cases, outside US airspace, third parties have even taken technological control of drones. This shows that drone technology is still in

flux. It is regrettable that "no matter how advanced military technology is, it has produced a bloody outcome throughout history" (Jeffrey, 2012).

2.2.3 Types of Drones

There are various types of drones currently being used in the market. These can be divided into four categories: multi-rotor drones, fixed-wing drones, fixed-wing hybrid and single-rotor helicopters.

General Characteristics

Drones are designed in various sizes and varieties depending on their use. They can be as small as an insect and fit in the palm of a hand to military drones as large as small aircraft. These drones differ greatly in performance, but generally, a drone can fly for up to 60 minutes, reach a speed of 65 km/h and be controlled from a few kilometres away (Flynt, 2017). However, many drones have different characteristics and performances in controlling range, flying time, weight and speed. As mentioned before, the drone's characteristics primarily depend on its function.

Multi-Rotor Drones

Multi-rotor drones are the most common type of drone as they are easy to manufacture and the cheapest option on the market. The multi-rotor drone can be used for the most common applications such as aerial photography, aerial video surveillance, etc. However, the multi-rotor drone has some downsides, such as limited flying time, endurance and speed, which does not make them suitable for large-scale projects.

Fixed Wing Drones

Fixed-wing drones are different in design and how they function. Unlike the multi-rotor drone, the fixed-wing version has wings like normal aeroplanes and does not utilise energy to stay afloat; however, they cannot hover in the air as multi-rotor drones can. This makes fixed-wing drones ideal for long-distance operations, but they cannot be used for aerial photography since they require the drone to remain in mid-air for some time. The other downsides of fixed-wing drones are higher costs and required training.

Fixed Wing Hybrid

As the name suggests, fixed-wing hybrids are a hybrid of multi-rotor and fixed-wing drones. These drones combine the benefits of the two models, which results in higher flying time and the ability to hover.

Single Rotor Helicopter

Single-rotor drones are similar in design and structure to actual helicopters. However, unlike multi-rotor drones, a single-rotor model only has one big rotor and a small one on the drone's tail to control the vehicle. As a result, this model is more efficient than the multi-rotor one and has higher flying time.

2.2.4 Understanding the Implications of Drone Technology for Warfare and National Security

Using drones in warfare has become a controversial topic in recent years. Technology advancements have made unmanned aerial vehicles (UAVs) more accessible and cheaper, increasing their use in military operations. As a result, several countries have embraced drone warfare, including the United States, the United Kingdom, and Israel. However, critics argue that the use of drones raises ethical, legal, and strategic concerns. This essay will explore the technological theory of drone warfare, its advantages and disadvantages, and the implications for international security.

Drones are unmanned aerial vehicles remotely controlled from the ground or flying autonomously through pre-programmed software. Drones come in various sizes, ranging from small quadcopters to large military drones that can fly for extended periods and carry missiles and other weapons. Drones can be used for various purposes, such as surveillance, reconnaissance, search and rescue, and warfare.

Using drones in warfare has been made possible by technological advances, including sensors, cameras, and communication systems. For example, drones can be equipped with high-resolution cameras that provide real-time battlefield images, enabling operators to identify and track targets accurately. In addition, drones can be equipped with infrared sensors to detect heat signatures and track targets at night.

Another critical technology that enables drone warfare is the communication system. Drones can be controlled remotely from a ground station or flown autonomously through pre-programmed software. The communication system lets operators control the drone's flight path, speed, and altitude and transmit data and video feedback to the ground station. In addition, the communication system allows operators to communicate with other military assets, such as ground troops or other drones. It is, therefore, imperative to identify the advantages and disadvantages of drone warfare.

Advantages of Drone Warfare

Proponents of drone warfare argue that it offers several advantages over traditional warfare. Firstly, drones can operate in environments too dangerous for manned aircraft or ground troops. Drones can fly at high altitudes and provide a birds-eye view of the battlefield, enabling operators to identify and track targets without risking human lives.

Secondly, drones can provide persistent surveillance and intelligence gathering. Drones can fly for extended periods and provide real-time images and data on the battlefield, allowing operators to identify and track targets and gather intelligence on enemy movements and activities.

Thirdly, drones are more cost effective than traditional manned aircraft. Drones require fewer resources to operate, such as fuel and maintenance, making them more affordable in the long term. In addition, drones

can be produced and deployed more quickly than manned aircraft, making them more agile and adaptable to changing military needs.

Fourthly, drones can reduce the risk of collateral damage. For example, drones can be programmed to target specific individuals or buildings, reducing the risk of civilian casualties. In addition, drones can provide real-time images and data on the battlefield, allowing operators to identify and avoid non-combatants.

Finally, drones can provide a psychological advantage over the enemy. Drones can strike quickly and without warning, creating fear and confusion among enemy forces. In addition, using drones can undermine the enemy's morale, as they may feel powerless against a faceless and invisible enemy.

Disadvantages of Drone Warfare

Critics of drone warfare argue that it raises several ethical, legal, and strategic concerns. In addition, there are several disadvantages of drone warfare that have been identified:

Civilian casualties: One of the biggest concerns with drone warfare is the potential for civilian casualties. Drones can often strike targets from a great distance, but this also means that there is a risk of hitting unintended targets, such as innocent civilians.

Lack of accountability: With drone warfare, it can be difficult to determine who is responsible for a particular strike. This lack of accountability can make it difficult for victims of drone strikes to seek justice.

Psychological effects: Using drones can psychologically affect the operators and the targeted individuals. For operators, the stress of operating a drone and making life-or-death decisions remotely can take a toll on their mental health. For targeted individuals, the fear of being targeted by a drone can lead to anxiety and trauma.

Propaganda tool for terrorists: Drone strikes can be used as a propaganda tool by terrorist groups to recruit new members and generate support. This is particularly true when innocent civilians are killed in drone strikes.

Violation of sovereignty: Using drones to strike in other countries can be seen as violating their sovereignty. This can lead to diplomatic tensions and a backlash against the country carrying out the strikes.

2.4 Theoretical Framework – Just War Theory

2.4.1 Critical Review of the Theory

This study is anchored on the Just War theory proposed by Thomas Aquinas in the 13th century. The just war theory by Thomas Aquinas has had a lasting impact on later generations of thinkers and was part of an emerging consensus in Medieval Europe on just war.

Just war theory is a set of principles that guide the use of military force in a conflict. The theory is rooted in the idea that war is sometimes necessary to defend one's own country or protect innocent civilians from harm. However, it should only be used as a last resort and only in situations where it is proportional, necessary, and likely to be effective. The principles of just war theory are often divided into two categories: jus ad bellum (the justice of going to war) and jus in bello (the justice of conducting war). Some of the key principles of just war theory include:

Jus ad bellum:

Just cause: Using force must respond to a serious and imminent threat, such as an attack on one's country or an imminent threat to innocent civilians.

Right intention: The intention behind using force must be to achieve a just and moral end, such as self-defence or protecting innocent civilians.

Last resort: The use of force must be a last resort after all other means of resolving the conflict have been exhausted.

Proportionality: The use of force must be proportional to the threat, meaning it should not cause more harm than necessary to achieve the just cause.

Reasonable hope of success: There must be a reasonable chance of success in achieving the just cause through the use of force.

Jus in bello:

Discrimination: The use of force must discriminate between combatants and non-combatants, and civilians should not be targeted unless they directly participate in the conflict.

Proportionality: The use of force must be proportional to the military objective, meaning that it should not cause more harm than necessary to achieve the objective.

Treatment of prisoners of war: Prisoners of war must be treated humanely, and torture or other cruel treatment are not allowed.

The principles of just war theory provide a framework for evaluating the ethical and moral considerations that should guide military action in conflict. However, applying these principles in practice is often complex and controversial, and there is often debate over whether a particular military action meets the standards set by just war theory.

The Just war theory describes how nations seek to legally and morally justify going to war. While states justify the reason for the use of force, the theory gives three core principles which are occupied with two central questions: when it is appropriate to go to war (jus ad bellum) and how the war should be fought (jus in bello), seen in (Freiberger, 2013).

The theory limits how wars should be fought and propose three justifications for using drones when there is an imminent threat. This is difficult to establish; however, when it comes to asymmetrical warfare, drones become the most proportionate response to an imminent terrorist attack. Second, if the capture of an individual seems unattainable, especially in the case of Abubakar Shekau, the Nigerian military has made several attempts to capture the leader of the extremist group; however, since their efforts have not yet yielded the desired results, these case, the military can employ the use of armed drones for this purpose. This singular action may have significant consequences on national security. That is why many critics like Brunstetter (2012) argue that "Framing it this way makes other options, de facto, seem unreasonable, leaving drones the only option left on the table." Third, the need to choose war as a last resort will be justifiable after every other means has been exhausted. Again, many, like Matthew (2017), think that innocent people will be the target and no opportunity will be given for them to surrender. The need to further justify the use of drones and their effect is seen from the neorealist perspective.

2.4.2 Reference of the Theory to Study

Applying the Just War theory to drone warfare is a subject of much debate and discussion. Here are some arguments related to this topic:

Just cause: One of the key principles of just war theory is that military force should only be used in response to a serious and imminent threat. Some argue that drone strikes can be justified under this principle to prevent an imminent attack or eliminate a known terrorist threat. However, others argue that using drones for targeted killings is often based on vague and uncertain intelligence and that the threat posed by targeted individuals is often overstated.

Right intention: According to just war theory, military force should only be used to achieve a just and moral end, such as self-defence or protecting innocent civilians. Some argue that drone strikes can be justified under this principle if they are used to protect innocent civilians from harm. However, critics argue that drones for targeted killings are often motivated by political or strategic considerations rather than a genuine concern for the safety of civilians.

Discrimination: The principle of discrimination requires that military force be directed only at combatants and not at civilians. However, using drones in targeted killings raises difficult questions about who qualifies as a combatant and whether civilians can be targeted if deemed "collateral damage." As a result, some argue that using drones in targeted killings violates this principle by causing unnecessary harm to innocent civilians.

Proportionality: According to just war theory, military force must be proportional to the threat posed by the enemy. Some argue that drone strikes can be justified under this principle is used to eliminate a known

terrorist threat. However, others argue that using drones for targeted killings often causes disproportionate harm to innocent civilians and undermines the legitimacy of military action.

Last resort: One of the key principles of just war theory is that military force should only be used as a last resort after all other means of resolving the conflict have been exhausted. Some argue that using drones in targeted killings can be justified under this principle if other means of capturing or eliminating the target are not feasible. However, critics argue that drones in targeted killings often preempt other possible means of resolving the conflict, such as negotiation or diplomacy.

RESEARCH METHODOLOGY

3.1 Research Design

A qualitative research methodology was used for this study. A qualitative research methodology is a research approach that aims to understand and explore social phenomena and human behaviour by collecting and analyzing non-numerical data such as words, images, and observations. It is typically used in the social sciences and humanities, where researchers seek to gain insight into individuals' and groups' lived experiences and perspectives.

3.2 Sources of Data Collection

This study employed secondary sources of data collection, including existing literature on drone warfare and national security, academic books such as journals, articles, public newspapers, documentary notes, technical papers and other internet materials related to the subject under investigation.

3.3 Instruments of Data Collection

The instrument of data collection for this study was an interview guide. The researcher employed this instrument to obtain reliable data needed for the completion of this study.

3.5 Data Analysis Technique

The study adopted content analysis as a method of data analysis. Content analysis is a research method that systematically analyzes and interprets textual or visual data. This qualitative research technique involves coding and categorizing data to identify patterns, themes, and meanings. Content analysis is commonly used in social science research to examine various materials, such as news articles, social media posts, interviews, speeches, and documents.

Content analysis typically involves several stages, including defining the research question, selecting the sample of data to be analyzed, developing a coding scheme to categorize the data, and then analyzing and interpreting the data. The coding scheme may be developed using pre-existing categories or creating new ones based on research questions.

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