FORUM:	Disarmament Commission
ISSUE:	Measures to Curtail the Negative Impact of the Development of Military Drones
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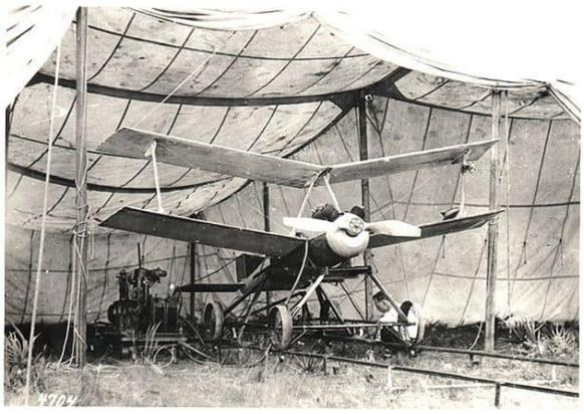
Introduction

Belonging to a class of artillery named Unmanned Aerial Vehicles (UAVs), military drones have prevailed in the military industry since the end of World War I. Since then, the vast development of drone technologies and their rapid spread across many nations around the globe has increased the armed forces' reliance on unmanned aircraft. Besides the United States and Britain, which have played notable roles in the development of UAVs in history, numerous other nations, such as Israel and China, are emerging with the most recent drone technologies and aircraft for exporting worldwide. This brisk advancement, however, did give rise to concerns as well. From lowering the threshold of force to transferring the danger to civilians, there are still multiple issues regarding the proliferation of military drones. Hence, as the Disarmament Commission, the House must strive to curtail the negative impact generated by military drones and unmanned aircraft.

Background

Before military drones and UAVs itself were developed, all military equipment required an individual to control the vehicle by being inside of it. In 1917, during the end years of World War I, Britain and the United States were able to invent the first unmanned equipment, then called Remotely Piloted Vehicles (RPVs). Not long after, the United States launched the first aerial torpedo, the Kettering Bug, in 1918. Following the U.S. in 1935, Britain successfully launched a radio-controlled drone named the Queen Bee. The war, however, terminated before the equipment could be utilized. As such, nations began to show interest in UAVs to expand their military technology.



The United States prepares to launch the Kettering Bug

UAV technology was more rapidly employed during World War II, the Cold War, and many other conflicts. In 1939, the United States developed the first remote-controlled aircraft named Radioplane OQ-2. After many trials of inventing and testing aircraft, nations began to realize the possibility of drones' reconnaissance and capturing necessary military photographs. Subsequently, the AQM-34-Firebee was developed and was first flown in 1962 by the United States. This drone proved great to use during the Vietnam War and Korean War. Researchers in the USA found the images that the Firebee had taken to be surprisingly clear and high-quality, and the drone was also able to enter heavily defended zones due to its small radar. By far, the Firebee was one of the most successful drones launched in history.

The United States was not the only country to be developing unmanned vehicles, though. Beginning in the 1980s, UAV usage and technology development began to skyrocket. Avionics and precise munitions as well as Global Positioning System (GPS) sensors contributed to the quality of drones, but the most crucial advancements were diminutive cameras inserted in the aircraft that were able to be remotely controlled. These various developments rendered drones much more effective to use, and a considerable number of nations took this chance to develop their military technology. In 1986, the United States and Israel partnered to design the reconnaissance drone named the RQ-2 Pioneer. This was not Israel's first time developing drones, however, as in 1973, it had already caught up in drone development by inventing the unpiloted machine coined as the Tadiran Mastiff.

From the 2000s, attacks and invasions began occur more frequently, many of which utilized military drones. The 9/11 attack in New York City in 2001 was caused by the terrorist group Al Qaeda who hijacked airplanes and committed suicide, taking the lives of thousands of other civilians with them. Following this attack, the surviving terrorists of Al Qaeda escaped to parts of Pakistan and Yemen. Because of potential future threats to the United States, the Central Intelligence Agency (CIA) and the Pentagon, the United States Department of Defense, carried out nearly 400 drone attacks in Pakistan and an estimated 100 attacks in Yemen, along with 20 more in Somalia. Although these attacks may have killed the terrorists of Al Qaeda, countless civilians were killed for no reason. As these attacks have mostly transpired recently, within the last 20 years, drones are undoubtedly becoming more dangerous than in any other period in history.

A man cleaning the ruins of a drone attack in Yemen

Problems Raised

Lowering the Threshold for the Use of Force

Drones significantly differ from other military artillery in that they can be remotely controlled without an operator inside the aircraft itself and, therefore, military personnel are at a lower risk of injury or death. Because of these advantages, drones are becoming prepared readily for use as this facility has not been observed in any other military equipment. Thus, there are concerns that global conflicts will be attempted to be mitigated by lethal force rather than diplomatic communication. In other words, it is presumed that simply launching a drone attack will solve matters quicker and easier than prolonged discussions with other diplomats. Indeed, the root causes of international problems will remain unresolved, and conflicts will likely continue.

Increased Trauma and Casualties on Civilians

While military officials will be under the protection of drones, this danger now directs itself to civilians. Particularly in communities under surveillance, the constant worry of drone attacks renders citizens physically and emotionally impaired. Advocates of drone warfare claim that drones do not yield much injury or casualties compared to their military facilities; however, if drones begin to be utilized more frequently, the casualties will add up and provoke more physical and emotional damage to civilians around the globe. In May of 2023, a military drone launched by Ukraine was claimed to be aimed at civilian sites in Russia, and a woman was declared to have been killed by this attack. Even though they may be seemingly “less dangerous” weapons, if military weapons are proliferated as in this example, casualties and damage will add up to cause irreversible damage.

International Actions

Anti-Drone System and Various Technologies

Anti-drone systems that were developed in Israel

Although a major part of a military drone's function is to drop munitions and cause damage, it is also able to quietly approach an area to capture images and accommodate guarded, sensitive information from a certain area. This infiltrates the safety and privacy of countries, and it is, therefore, necessary to maintain a system to defend the confidentiality of nations by utilizing the anti-drone system. This system was developed in India by the Defence Research and

Development Organization (DRDO), and trials have already proven it effective in aiming at military drones in the sky. These systems largely depend on radiofrequency to function, and they release electromagnetic sound to disturb the delivery of information of any kind to the drones.
There are many other technological developments underway to prevent the damage of drones or to detect them beforehand. Another example of this technology is Radio Frequency (RF) Analyzers which detects communication from the drone to the operator, and vice versa. This analyzer uses radio waves to detect communication. Moreover, acoustic sensors, microphones that look out for drone sounds, have been developed as well. These are just a few examples of the extensive technology devised to combat military drones.

International Law of Armed Conflict

There have not been many agreements and policies that are directly aimed at drones. However, the International Law of Armed Conflict is one of the most prominent agreements regarding military drones. This agreement, which discussed how nations should defend themselves, entered into force in 1949. Compared to a more formal treaty, the International Law of Armed Conflict was created as a more voluntary agreement for countries who agreed with the principles. This agreement combined numerous precedents and laws to create a general policy for military drones. However, since it is not a formal treaty, the standard is not set in stone, and not all nations abide by it.

Key Players

United States of America

The United States of America was inarguably a leading force in the invention and continuous growth of military drones and UAVs in general. From producing the first aerial torpedo, the Kettering Bug, to the Firebee that was able to take photographs, the United States is still greatly involved in the use and retention of military drones. As of March of 2023, the Pentagon estimates over 11,000 UAVs possessed by the United States, along with at least 14 classes of military drones. Currently, the United States is focusing its mission on surveillance and reconnaissance using drones as well as air defense and drone strikes.

Unmanned Aerial Vehicles in possession of the United States

People's Republic of China

China stood as another nation involved in the early stages of military drone advancement, inventing its first UAV in 1957 which was launched in 1959. Apart from history, China is still prospering today with military drones as a leading exporter of combat drones to countless countries worldwide. As of January 2023, the nation was reported to have exported nearly 300 combat drones to 17 nations in the last ten years. The reasonable price of the drones is alleged to be a factor of their attractiveness, as nations can purchase the drones in bulk size. China is continuing to elevate its military and armed forces, especially with the use of drones, as military personnel do not need to be physically present.

Israel

Israel was likewise a key player in the advancement of drone technology in history. Previously, it had collaborated with the United States to develop the RQ-2-Pioneer. To this day, Israel is known to be a prominent operator and exporter of military drones in the Middle East. Estimates show that nearly 60% of UAVs are exported by Israel and more than 165 UAVs have been delivered to nations globally. Statistics indicate that at least 50 countries are using UAVs and drones produced in Israel. In addition, the UAV inventory of Israel comprises many varieties of drones, most of which consist of Long Endurance UAVs. Israel is another prominent nation in the evolution of military drones.

Drone exports taking place in Israel

Possible Solutions

Formation of Official Treaties with Firm Standards

Due to the notion that military drones do not cause much civilian or environmental damage, there have not been official and prevalent treaties regarding the development of military drones. However, if greatly proliferated in its use, UAVs can generate significant damage to nations and may also impair international relations in the process. Hence, as UAV technology continues to develop, treaties that match the current technological state of military drones must be put to formation to curtail the negative impacts that drones may cause. Moreover, the number of UAVs that are developed worldwide must be regulated. Policies that specifically need to be focused on are regarding drones targeting civilian territories so that regular citizens are ensured of their safety.

Development of Counter-Drone Technologies

More nations worldwide have begun to develop military drones because of the continued proliferation of military drone technology. Because of this sudden increase, countries must develop counter-drone technologies to be prepared to defend their citizens from potential harm caused by UAVs. Counter-drone technologies may aid in containing the entrance of drones in certain territories or mitigate their damage. Some examples are drone monitoring equipment, which detects, classifies and tracks UAVs, and acoustic sensors, such as microphones, to detect the sound and direction of potential drones. Counter-drone technologies may protect nations before the development of UAVs itself can be decreased.

ATHENA, a counter-drone laser weapon that targets military drones and aircrafts

Glossary

Accelerometer

A device in which “measures acceleration or fast changes in movement”.

Avionic

An electronic system connected with unmanned aircraft, used for purposes such as communication and navigation.

Aerial Torpedo

An unmanned underwater missile that is fired from an aircraft into water, which then navigates to the designated target.

Electromagnetic Interference

A situation in which vehicles are unable to function properly because of nearby metals.

Reconnaissance

Military observation of a location, often for strategic purposes such as navigation of an enemy.

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