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Towards a Just Model for Uninhabited Autonomous Vehicles (UAVs): The Principles of Drone Warfare

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Abstract:

Uninhabited Autonomous Vehicles (UAVs) have unequivocally changed the terrain of warfare. These panoptic devices have been altering the tenets of war at the onset of the twentieth century, changing the means of warfare and the whole paradigm itself. The rapid development and prevalent usage of UAVs have raised varying ethical, political, legal, and economic conundrums. Albeit crucial in the desire to achieve and sustain peace, they pose immeasurable dangers. From the loss of lives and properties to a full-scale war between and among nations, UAVs are something not to take for granted. And as with any emerging technology, principles and norms must regulate their usage. Guidelines must then be formulated to ensure that these weapons may serve as the bridge to that utopian society everyone desires. The present study, therefore, puts forward a qualitative discourse on the possibility of creating a just model for the utilization of Uninhabited Autonomous Vehicles given a Philippine setting. It explores the need to discuss the merits and perils of UAVs and the principles that can be incorporated into the ethics of drone usage. Based on the analysis of their advantages and disadvantages and the review of the related literature, six principles were outlined: (1) Meaningful Human Control; (2) Just Cause; (3) Consensual Drone Deployment; (4) Self-destructing and Self-nullifying Drones; (5) Drones as Preventive and Non-violent; and (6) Human Accountability.

Key Words: Drone Warfare, Remote Ethics, Meaningful Control, Parity, Just Cause

1. Introduction

The twenty-first century is the age of Uninhabited Autonomous Vehicles (UAVs). There has never been a time wherein ubiquitous surveillance and offensive mechanisms are utilized than today. Tracking, tracing, and even warfare have never been as easy and as remotely possible as they are now. Inevitably, technological progress opened up new platforms for doing things; more particularly, it has opened up new warfare methods. Without exaggeration, UAVs have drastically changed the landscape of war. "Clubs to cannons to rifles to drones: Technology's forward march will require us to reconsider and even rewrite the rules of war."[1]

Technology undoubtedly enhances humanity. However, the case for combat-ready uncrewed vehicles is more complex. There is really no common consensus concerning drones adding to human flourishing. On the contrary, although beneficial, their usage presents unprecedented perils. Their proliferation in many countries continues to raise ethical and political concerns. "The rhetoric and moral thinking about war have become woollier as our weaponry has become more precise."[2] Ironically, humans have made so much progress in technology while the ethical questions at the crossroads of peace, war,

[1]N. Al-Rodhan, "Future Wars: Reshaping the Ethics and Norms of War," *The Wilson* Quarterly (2015).

[2]J. Kaag & S. Kreps, "Opinion: Drones End War's Easy Morality," *The Chronicle of Higher Education* (2012). https://0-search-proquest-com.library.qnl.qa/docview/1040843758?accountid=49936

justice, and human progress have been left behind.

"Unmanned aerial drones are the most prominent weapons of the twenty-first century's rapidly expanding repertoire."[3] They are the future of modern warfare, the most useful yet destructive pieces of technology in the skies. "One expert compares current understanding of drones to how airplanes were viewed at the end of World War I: Everyone knew they would somehow be game-changers, but no one was quite sure exactly how. A generation later, air superiority became a key to victory in World War II."[4]

Gone are the days when warfare was conceived as a physical struggle between forces. In this struggle, causalities are often the high price to pay for the sake of that elusive peace everyone sought. The birth of drones advances a kind of irregular warfare where the striking force is distant yet capable, invisible yet present. They have transformed the war experience from those directly involved to how outsiders perceive it. Drones allow operators to engage in battle even from miles away through computer screens and controls. Moreover, current drone operators enjoy invulnerability from physical attacks, unlike piloted machinery, which has fatal consequences. "Instead, the harm drone operators face tends to be emotional and psychological, including those associated with the level of knowledge they gain about their targets, and arising from the psychological disjuncture between intense and stressful operations juxtaposed with returning immediately to everyday domestic life."[5]

Evolving war technologies continue to rewrite the balance of power in military operations and raise urgent questions for lawyers and policymakers."[6] The advent of enhanced weapons will simply outmatch existing ethical, cultural, and legal norms emblazoned in international laws and conventions. Undeniably, contemporary conflicts paved the way for new means of combat. "New rules and moral expectations must follow. Creating those new rules is the vital work now to be undertaken."[7] After all, "when it comes to warfare, the age of seemingly easy moral decision making is over."[8]

In this light, this research paper generally aims to create a just model for utilizing Uninhabited Autonomous Vehicles (UAVs). A just model would include ethical principles allowing UAVs to be used cautiously. To do this, the following specific objectives are laid out: (a) to explain the usage of drones in modern warfare; (b) to contextualize terrorism in the Philippine context; (c) to elaborate on the merits and dangers of the employment of UAVs in conflict areas and wars, and (d) to reconstruct

[3]Al-Rodhan, "Future Wars: Reshaping the Ethics and Norms of War."

[4]The Monitor's Editorial Board, "The Difficulty with Drones," *Christian Science Monitor* (2015) http://0-search.ebscohost.com.library.qnl.qa/login.aspx?direct=true&db=mih&AN=110328706&site=eds-live&scope=site

[5]J. Williams, "Distant Intimacy: Space, Drones, and Just War," *ETHICS & INTERNATIONAL AFFAIRS* 29, no. 1 (2015): 94. https://doi.org/10.1017/S089267941400793

[6]Al-Rodhan, "Future Wars: Reshaping the Ethics and Norms of War."

[7]J. Rosenthal, "Three questions to ask about US drone strikes," *Christian Science Monitor* (2013). http://0-search.ebscohost.com.library.qnl.qa/login.aspx?direct=true&db=mih&AN=85953206&site=eds-live&scope=site

[8] Kaag & Kreps, "Opinion: Drones End War's Easy Morality."

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the dangers UAVs pose to create a model that would justify their use in the Philippine setting.

This study is qualitative in nature. It employs literature analysis as the paper critically examines the concepts and ideas involved in drone warfare. With the constructivist approach, the theoretical implications gained in the interaction between the merits and dangers of UAVs have resulted in the articulation of the principles for UAVs' ethical use.

Without a doubt, UAVs are the weapons of the future. They "are currently traded as the hottest asset in military equipment and have proliferated significantly in recent years."[9] "Business analysts anticipate a robust market for these machines: by 2020, it is estimated that at least 30,000 unmanned aerial vehicles will be in the nation's skies."[10] The rapid development of groundbreaking technology such as drones precipitates the norms and principles to be followed that come with their usage. It is not anymore a question of whether they are functional. The issue is how to use them ethically, politically, and legally. Hence, a model for the just usage of UAVs must be fabricated to ensure that these pieces of equipment will be used to advance the cause of human flourishing.

2. Contextualization

Terrorism is the biggest threat to peace. It precipitates destruction on a massive scale. It destroys the vision for a just and more human society. It can dramatically shape the world, as shown by its prolonged effects on the microcosm and macrocosm of society.

There is really no sanctuary from terrorism. There is no place devoid of terrorism and its ideals. "A war against terror has no endpoint, and its theater of operations is everywhere on earth."[11] It is in this context that UAVs function best. Since such a fight transcends the conventional parameters of war, their usage is deemed pragmatic and beneficial. In a way, UAVs lead the charge against terrorist and terrorist acts.

UAVs adopt a war paradigm rather than a policing paradigm. War paradigms are often used in lawless states where capturing terrorists is not an option to make. Since terrorist attacks are more like acts of war, these must be stopped at all costs. Unlike ordinary crime, terrorism is usually carried out by organized groups, often with advanced training and modern equipment to further their ulterior motives. In contrast, the police paradigm is designed for "generally well-ordered societies that suffer from occasional and small-scale violence engaged in by individuals or small groups."[12] Policing is only applicable where a law enforcement system is in place. Although the police paradigm plays some role in counter-terrorism measures, "the large scale of major terrorist attacks means that the war paradigm is a better fit than the policing paradigm for

[9]E. Schwarz, "Prescription Drones: On the Techno-biopolitical Regimes of Contemporary Ethical Killing," *SECURITY DIALOGUE* 47, no. 1 (2016): 63. https://doi.org/10.1177/0967010615601388

[10]J. West & J. Bowman, "The Domestic Use of Drones: An Ethical Analysis of Surveillance Issues," *Public Administration Review*, 76, no. 4 (2016): 649. https://doi.org/http://0-onlinelibrary.wiley.com.library.qnl.qa/journal/10.1111/%28ISSN%291540-6210/issues

[11]Rosenthal, "Three questions to ask about US drone strikes."

[12]A. Buchanan & R. Keohane, "Toward a Drone Accountability Regime: A Rejoinder," *ETHICS & INTERNATIONAL AFFAIRS* 29, no. 1 (2015): 16. https://doi.org/10.1017/S089267941400077X

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the sorts of conflicts that make a regulatory regime for lethal drone use valuable."[13]

Furthermore, the war paradigm follows the laws of war, which by general consensus, are authoritative. "The regulation of policing activities varies considerably in different states, and there is no body of international law for policing comparable to the laws of war."[14] Ever since the offshoot of World War I, nations have made it their mission to create a body of laws so that wars of this capacity may be prevented; if not prevented, at least justified. Buchanan and Keohane[15] underscore the three central bodies of international law that address the employment of UAVs in conflict areas. Taken collectively, these laws give the principles for the regulation and the permission of their usage. They are as follows:

> UN Charter-based international security law chiefly addresses lawful recourse to war. The humanitarian law of war addresses permissible weaponry, legitimate targets, and the treatment of prisoners, of wounded combatants, and of civilians and property in areas controlled by armed forces during war. International human rights law governs the use of force, especially by states, outside the context of war.

Drones are beneficial to a country in its fight against terrorism. And they can certainly help the Philippines to combat extremist ideologies and terrorist attacks. The country has seen the formation of varying insurgency groups from its colonial history to the contemporary era. For instance, "the rise of Marxism ideologies in the region amalgamated in the creation of the New Peoples Army (NPA)."[16] In addition, "there is a long history of unrest experienced in the southern island of Mindanao, located 700 kilometers from Manila."[17] Several extremist groups have taken their footing in these parts, "The Moro National Liberation Front (MNLF) and its splinter, the Moro Islamic Liberation Front, the Abu Sayyaf Group (ASG) and its permutations—the Rajah Solaiman Movement, which emerged from 'Balik-Islam' or 'Return to Islam' movement, and the Bangsamoro Islamic Freedom Fighters, an Islamic separatist organization, among others."[18] Recently, "the Philippines was affected by terrorist attack situated in Marawi that caused a lot of destruction in the city and lost thousands of lives."[19]

The Philippines has always supported the campaign against global and local terrorism. However, more commitment should be made, both in policy-making and implementation, as the country remains "a haven for terrorists and is identified with the

[13] *Ibid.*

[14] *Ibid.*

[15] *Ibid.* 18.

16L. Brown, and P. Wilson. 2007. "Putting the Crime Back into Terrorism: The Philippines Perspective." *Asian Journal of Criminology* 2 (1): 35–46.

[17]Ibid.

[18]R. Mendoza, et al. 2021. "Counterterrorism in the Philippines: Review of Key Issues." Perspectives on Terrorism 15 (1): 49–64. doi:10.2307/26984797.

[19]A. Magpantay, et al. 2019. "Data Analysis and Visualization of Terrorist Attacks in the Philippines." International Journal of Simulation -- Systems, Science & Technology 20 (July): 28.1-28.7. doi:10.5013/IJSSST.a.20.S2.28.

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most number of terrorist organizations in the recent decade."[20] The crux of the matter comes to this: As human and property costs increase, is drone warfare ethically permissible to combat terrorism when development, inclusion, and progress fail?

"It seems clear, at least to Army warfare futurists, that drones and robots created for military use will be everywhere in 35 years, and will come in a wide variety of forms, from insect-sized entities to large vehicles capable of transporting a platoon of soldiers."[21] Their existence, however, has been met with contrasting opinions. The vast and quality information these unmanned drones can gather may be both advantageous and unsettling to average citizens. On the one hand, the use of drones may infringe privacy. It is not only about personal space but its panoptic impact on society. "One major concern is that the reams of video collected by unmanned aircraft systems could be used against private citizens."[22] On the other hand, the data gathered can be used "to improve the quality and character of natural resources and human rights, suggesting that drone surveillance could potentially "help conservationists protect endangered wildlife or be used by advocates and analysts to document and deter human rights violations."[23] Despite privacy concerns, the utilization of drones to address terrorism in the Philippines may provide more opportunities for the betterment of life.

3. Analysis and Discussion

3.1 The Merits of UAVs

The current context of war is that it involves human beings in all the facets of their being. The ethical character of war revolves around the notion that it is physical combat. However, the introduction of drones into the battlefield has been paradigm-altering. The utilization of these "unmanned systems in the battlefield doesn't change simply how we fight, but for the first time changes who fights at the most fundamental level. It transforms the very agent of war, rather than just its capabilities."[24]

Drones have greatly altered the terrain of war. Their use in warfare has increased at incomparable levels. Most countries, especially progressive ones, have them at their disposal. Ethical puzzles aside, the strongest arguments favoring drone usage are their sheer effectiveness, practicality, and expandability features.

3.1.1 The Merit of Efficiency

Drones are efficient weapons. Machines like this can take on dangerous and even dull tasks that soldiers do. "In combat, they can reduce the costs of war, not only in dollars but also in fewer human casualties."[25] In addition, drones greatly reduce the risk of

[20]A. Fabe. 2013. "The Cost of Terrorism: Bombings by the Abu Sayyaf Group in the Philippines." Philippine Sociological Review 61 (1): 229–50. https://search-ebscohost-com.eres.qnl.qa/login.aspx?direct=true&db=edsjsr&AN=edsjsr.43486362&site=eds-live&scope=site.

[21]Anna Mulrine, "Robots in War: Ethical Concern, or a Help for Social Ills?" *Christian Science Monitor* (2015). http://0-search.ebscohost.com.library.qnl.qa/login.aspx?direct=true&db=mih&AN=108604182&site=eds-live&scope=site

[22] *Ibid.*

[23] *Ibid.*

[24]C. Kennedy & J. Rogers, "Virtuous drones?" *International Journal of Human Rights* 19, no. 2 (2015): 211. https://doi.org/10.1080/13642987.2014.991217

[25]Laurent Belsie, "Why killer robots are becoming a real threat – and an ethics test," *Christian Science Monitor* (2017).

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sending Filipino soldiers to conflict zones. "Drones may make it possible to kill targets that might otherwise be immune from attack, especially since they can loiter over a target for hours and respond immediately to commands."[26]

Drones act as a deterrent. As panoptic devices, they can provide surveillance all day and night. Moreover, they can provide situational awareness that no machinery can. "Human rights abuses could be observed, genocidal acts would be logged, and if aggressors are identified approaching civilian settlements, warnings could be transmitted."[27] In the same manner, evidence of criminal acts and felonies would be recorded for the prosecution at a later date.

3.1.2 The Merit of Practicality

"Civilian casualties have always formed part of the war, but by the end of the twentieth century, civilians, as opposed to regular troops, were, according to many scholars, bearing the brunt of conflict."[28] Hence, there are really no victors in wars. In times of war, collateral damage is inexorable. The war in Marawi is proof of the devastation war can cause to too many innocent lives. What is more disturbing is that most causalities do not come from both sides fighting. In reality, the non-combatant persons are always the most affected. Not only are they displaced, but they are also endangered when the competitors use conventional machinery and weapons bent on destruction. UAVs are appealing because they limit collateral damage from persons to properties.

UAVs have an undeniable appeal to countries suffering from local armed conflict. They are practical because they can be controlled from a distance. Unlike airplanes, they are not piloted by humans, minimizing the number of fatalities while maintaining the highest rating in efficiency. At the same time, since they do not carry humans, they can go to more dangerous and adversarial places without the danger of death. They can fly and strike targets even in the most hostile of territories. Furthermore, they "can send out near-real-time high-resolution imagery of large geographical areas all day and night in all types of weather and direct weapons to attack both stationary and moving targets."[29] To be able to carry out tasks remotely makes the use of drones not only important but necessary.

Armed drones can transmit high-definition pictures while being ready to strike when deemed approved and necessary. With the ability to monitor a vast amount of land, even a whole country per se, drones guarantee both offense and defense. They are best in espionage and data gathering. They can gather as much information as needed. They can go to the furthest corners of the globe, even in places not reachable by humans themselves. "In regions where poor transport infrastructure and difficult terrains are a perennial challenge, these vehicles are a vital resource for the 'fulfilment of the civilian protection mandate."[30] In addition, drones provide support on the ground and intelligence from the air.

Furthermore, UAVs "do not face limitations of human endurance. They can loiter over targets for far longer than piloted

[26] Buchanan & Keohane, "Toward a Drone Accountability Regime: A Rejoinder," 18.

[27] Kennedy & Rogers, "Virtuous drones?" 221.

[28] *Ibid.* 217.

[29] *Ibid*. 221.

[30] *Ibid*. 213.

aircraft."[31] Devoid of human restrictions, they can certainly raise the probability of winning by big margins. Without getting tired, drones can certainly do the job. They become the practical choice of weaponry "as they have the ostensible capacity to pinpoint targets with greater precision."[32] "For example, the Reaper UAV can fly 25 continuous hours, three to four times longer than the typical reconnaissance sortie flown by a U-2 piloted aircraft."[33] Furthermore, they do not bring a range of emotions that affect the person on the war field. Hence, decisions on the battlefield are expected to be more objective and ethical.

3.1.3 The Merit of Expendability

UAVs are designed to be expendable as well. It is much cheaper than aircrafts that were used before the advent of drones. "Their cost is about 5-10 percent of a piloted aircraft, such as the F-16."[34] "Drones seem to provide value for money."[35] Moreover, they can be replaced anytime, unlike human beings whose parts remain indispensable.

By focusing on the uniqueness of UAVs, their expendability, legality, and practicality become the main arguments for drone usage. Indeed, the use of drones is not without dangers. Nevertheless, although the labyrinth of drone-related problems is inescapable, their use still presents numerous advantages. With drone capabilities, countries should use them not only because they are necessary but because their efficiencies ethically and legally oblige these states to utilize them. Following the principle of unnecessary risk, there is no need to send soldiers with the imminent risk of death if a more efficient technology can do the job faster and safer. "In trying to accomplish some objectively good goal, one must, *ceteris paribus*, choose means that do not violate the demands of justice, make the world worse or entail more risk than necessary to achieve the good goal."[36]

3.2 The Dangers of Drone Warfare

The advent of technology has certainly altered the course of human history. It is actually a double-edged sword. One that helps humanity better itself while creating weapons for its very own destruction. Without a doubt, emerging technologies have challenged the way people look at things. It was hoped that these would help them in their lives' many grey areas. However, technology did not "provide an easy way to comply with international legal principles of distinction and proportionality. Conversely, technology may make those goals more ambiguous and their achievement more problematic."[37]

UAVs are inherently ethical instruments. They can be virtuous mechanisms for humanitarian acts while also serving as the harbinger of destruction. "With

[31]Kaag & Kreps, "Opinion: Drones End War's Easy Morality," 262.

[32]Schwarz, "Prescription Drones: On the Techno-biopolitical Regimes of Contemporary Ethical Killing," 60.

[33]Kaag & Kreps, "Opinion: Drones End War's Easy Morality," 262.

[34]*Ibid*.

[35]Kennedy & J. Rogers, "Virtuous drones?" 211.

[36]J. Galliott, "Viewpoint Article Closing with Completeness: The Asymmetric Drone Warfare Debate," *Journal of Military Ethics* 11, no. 4(2012: 354). https://doi.org/10.1080/15027570.2012.760245

[37]Kaag & Kreps, "Opinion: Drones End War's Easy Morality," 261.

the capabilities of drones ever-expanding, now is the time to consider what constraints should be placed on them."[38] The dawn of drone warfare raises various legal, political, and ethical questions. It presents a different kind of fighting that is so disengaged yet permeating. Hence, many "non-governmental organizations (NGOs) have condemned the emotional as well as the physical remoteness of its operators."[39]

The following are the forthcoming dangers/issue present in the employment of UAVs.

3.2.1 The Danger of Parity

Using such advanced technology (UAV) on a group devoid of it may be innately unfair and unjust. Using drones on enemies that do not have similar military capabilities and are limited to the usage of conventional weaponry reveals foreseeable victory for that state and a looming defeat on its enemies. The moment the state launches a drone attack on its inferior enemies, the victor has already been decided even before engaging in the actual battle. The issue of parity stems from the fact that wars can now be waged even without struggles from both sides. Hence, drone usage may be one-sided and biased.

Terrorism in the Philippines is a multi-faceted concept. It is never just an issue of violence or extremism. While there exist separatist groups that subscribe to radical ideologies and are assisted by international terrorist groups, some groups are fueled by "pockets of bad governance, poverty, and social injustice fester and weaken social cohesion.[40] In this case, violence may not be the best solution as consensus and compromise can settle the score on the peace table. Moreover, the bearer of justice is not always the one with UAVs at their disposal. After all, the whole point of war is to decide which side will win on a fair platform. Using drones, however, maybe a total carnage.

3.2.2 The Danger of Liability

The risk of UAV misuse is real. Hence, there is a need to establish the people/group responsible for such abuse. There should be a clear-cut protocol to ensure responsible people are accounted. Since accountability is a power term, "those who can hold policymakers accountable exercise power over them. That is, they can impose costs on the policymakers and thereby to increase the likelihood that the latter will respond to their demands."[41] There should be a set standard where actors are judged from and impose sanctions when these standards are not met. The danger is that "current international regulation is inadequate because actors who control lethal drone use are not held accountable by any existing international body for acting in conformity with relatively uncontroversial moral and legal norms that apply to their behavior."[42]

At present, almost all drone operations are conducted by the United States. However, their drone usage lacks institutionalized transparency. "This lack of transparency and the possible abuses accompanying it has persisted even though

[38]The Monitor's Editorial Board, "The Difficulty with Drones."

[39]E. Germain (2015), "Out of Sight, Out of Reach: Moral Issues in the Globalization of the Battlefield," *International Review of the Red Cross* 97, no. 900 (2015).doi:http://0-dx.doi.org.library.qnl.qa/10.1017/S181638311600046 1

[40]Mendoza et al, "Counterterrorism in the Philippines: Review of Key Issues," 49.

[41]Buchanan & Keohane, "Toward a Drone Accountability Regime: A Rejoinder," 24.

[42]*Ibid*. 23.

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the United States is a liberal democracy with a comparatively robust civil society."[43] And if the United States lacks national drone regulation, there is no reason to believe that other countries (especially the Philippines) capable of drone technology have created and followed such rules. Therefore, there is a need to establish the parameters and nuances of UAV usage to curb specific infractions and use them in the best way possible.

3.2.3 The Danger of Sovereignty

"Under international law, sovereignty includes the right of a state to be free from unauthorized incursions by other states into its territory, whether these involve soldiers or unmanned military devices."[44] Countries are dully authorized to carry out the rule of law for their citizens. Hence, sovereignty becomes crucial as they are obliged to govern themselves and their constituents. Therefore, a nonconsensual intrusion into another region's territory means blunt disrespect to the territory itself and a declaration of war. Since most terrorist groups in the Philippines subscribe to the notion of autonomy from the central government, drone employment can be seen as a trigger for conflict and armed struggle.

Drone usage always carries the risk of violating sovereignty. If States A and B are at war formally, then the issue of territorial trespassing is extraneous. The warring states can encroach on each other's territories. Nevertheless, if such war does not exist in the first place, "a state planning to deploy drones within another state's territory is obligated to seek its consent; if it acts without consent, it violates the norm of territorial sovereignty."[45]

Drones are hard to detect. The danger is that UAVs can penetrate borders easily. They can survey or launch a strike without consent and then leave without a trace. They can even erase their presence, much less show their linkage to any particular state. UAVs are best in covert activities, and that makes them disturbing.

3.2.4 The Danger of Remoteness and Concealment

"The use of unmanned aerial vehicles (UAVs) and precision weapons by the United States and other countries has increased dramatically in recent years."[46] For so long, wars have been defined by a declared combat zone and some idea of a short scope. "From ancient weapons, such as spears, slings, bows, and catapults, through firearms and artillery, to intercontinental ballistic missiles, military technology has made it possible for attackers to be increasingly distant from their targets."[47] The idea is that UAVs have widened the combat zone from a definitive space to an indefinite one. So it is combat that is engaging yet so remote.

Remoteness has ethical implications. "This is not to say that the use of drones is wrong in principle; the point is that there is indeed something powerfully disturbing and morally troubling about being killed by remote control."[48] Drone controllers now can kill particular targets from a greater distance than ever before, without fear of retaliation. Hitherto, the old norm was that the greater the distance, the harder it was to kill enemies.

[43]*Ibid*. 24.

[44]*Ibid*. 20.

[45]*Ibid*.

[46]Kaag & Kreps, "Opinion: Drones End War's Easy Morality," 261.

[47]Williams, "Distant Intimacy: Space, Drones, and Just War," 93.

[48]Galliott, "Viewpoint Article Closing with Completeness: The Asymmetric Drone Warfare Debate," 355.

This principle has shifted dramatically as the distance no longer remains a factor in victory. To make matters worse, "distance can also encourage the use of more destructive weapons and tactics because those deploying them do not suffer their immediate effects."[49]

Regarding the issue of sovereignty, UAVs are not easy to detect. Their concealed nature is why they can cross borders without consent. The problem here is that they are almost invisible in operation and effects. "The risk of detecting violations by drones may be much lower than that of violations by more conventional bombing or attacks by soldiers."[50] The reduced risk of UAV detection is haphazard as states can do whatever they want using this technology without getting caught.

"Drone killings are carried out in a double isolation from public scrutiny."[51] For the most part, they are done by covert agencies which do not, in any way, champion the idea of transparency. "There is thus a discrepancy or paradox involved in the advanced surveillance and documentation capacity of the drones and the secrecy and impenetrability of the operations."[52] Inevitably, drone warfare poses an invisible yet ever-present threat to humankind in general.

3.2.5 The Danger of Aggression and Killing

UAVs are efficient killers. There has never been a weapon as deadly as them. They are equipped with the technology to kill with so much precision that enemies have no way of surviving. It knows no mercy as long as its set objectives are met.

"Lethal drones create incentives to kill rather than capture."[53] For instance, the location of wanted terrorists has been identified. Instead of sending out troops into these hostile territories, drones may be used to kill these hardened criminals. Sending soldiers may not be that sound as the risks are not in proportion to the goal in mind. There is a high probability of the mission failing anyway. Drone usage is the best alternative in this situation. The danger, however, is that UAVs are still limited in what they can do. They only know to kill. They still cannot capture enemies since it is always done by humans seizing other humans. UAVs have not yet reached this kind of technology. At the same time, it is not practical to capture terrorists and try them in court. Not only is this cumbersome, but catching them even with the help of drones remains a high-risk endeavor.

Furthermore, military drones are often used against high-value targets. As a result, they "are typically portrayed as people who are continuously involved in either planning or executing terrorist attacks. Terrorists killed in drone attacks are thus considered to pose an ongoing, unavoidable threat due to their mere existence, and killing them whenever there is an opportunity to do so is then justified as an act of self-and other defense."[54] This gives more opportunities for preventive attacks to avoid impending

[49]Williams, "Distant Intimacy: Space, Drones, and Just War," 95.

[50]Buchanan & Keohane, "Toward a Drone Accountability Regime: A Rejoinder," 23.

[51]M. Dige, "Drone Killings in Principle and in Practice," *ETHICAL THEORY AND MORAL PRACTICE* 20, no. 4 (2017): 879. https://doi.org/10.1007/s10677-017-9827-9

[52]*Ibid*. 880.

[53]Buchanan & Keohane, "Toward a Drone Accountability Regime: A Rejoinder," 22.

[54]Dige, "Drone Killings in Principle and in Practice"

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catastrophes. However, "this goes up against a strong current in international legal theory and ethics which insists that preventive attacks are indeed an act of aggression."[55] As a result, drone killings have become a death penalty rather than a counter-terrorism measure.

Merits of UAVs	Dangers of UAVs
Effectiveness Practicality Expendability	Parity Liability Sovereignty Remoteness and Concealment Aggression and Killing

Table 1: Summary of the merits and dangers of UAVs

4. Just Model for UAV Use in the Philippine Setting

The aforementioned dangers show that drone usage, albeit helpful, poses a threat on a vast level. The question, of course, is whether political leaders will use them as a tool for good or harm. "It is ubiquitous but not threatening in itself; its menace depends on its use."[56] The following principles are reconstructions of the dangers cited. Similarly, they are the principles that comprise the Just Model for the Use of Uninhabited Autonomous Vehicles.

Principles for UAV Use
1. Meaningful Control
2. Just Cause
3. Consensual Drone Deployment
4. Self-destructing and Self-nullifying
5. Prevention and Non-violence
6. Human Accountability

Table 2: Principles for Just Usage of UAVs

4.1 Meaningful Human Control of UAVs

Autonomous weapons systems, particularly drones, are the precursors to modern warfare. In the next few years, weapons may operate without a human controller. In a way, artificial intelligence has reached a point of no return. "To a Pentagon actively conducting research in this area, the technology can increase the precision of drones and help keep more troops out of harm's way. Other proponents add that it could reduce emotional and irrational human decision-making on the battlefield, leading to large and small atrocities."[57] Admittedly, UAVs make faster decisions and can adapt to changing situations. They are not motivated by human emotions, which may affect the decision-making process. Although ideal, taking humans out of ethical decisions in combat would be haphazard as machines do not feel nor think. They cannot act out of their volition but are limited by their codes and programs.

In addition, autonomous weapons lack empathy. As it has always been, the human factor, though sometimes flawed, remains an indispensable element in overseeing the usage of UAVs. It is for this reason that meaningful human control

[55]Ibid.

[56]Al-Rodhan, "Future Wars: Reshaping the Ethics and Norms of War."

[57]Pete Spott, "The ethics of killer robots. *Christian Science Monitor* (2015). http://0-search.ebscohost.com.library.qnl.qa/login.aspx?direct=true&db= mih&AN=103275303&site=eds-live&scope=site

becomes crucial, nay necessary, in critical combat decisions. After all, machines are as good as the people who made them. "In 2012, Arkin published proposed software architecture for introducing ethics into autonomous weapons systems. The hope was that other researchers would want to collaborate in developing the algorithms needed to keep war-fighting bots within the bounds of the laws of war and international humanitarian law."[58]

Banning the use of drones in combat is easier said than done. The purpose of their employment is to mitigate the number of human causalities. "The weapons, however, do not ensure that a selected target is a legitimate target. That determination is of a legal and ethical, rather than technological."[59] Hence, there is still a need to put humanity in drone warfare. Drones must remain human and humane. An outright drone ban may not be feasible as technologies always have two sides. "And our reliance on precision weaponry has become a stand-in for making hard moral or legal distinctions. But our trust in technology is dangerously misplaced. An algorithm cannot determine combatant status. Instead, we should recognize the unshakably human character of war and identify new ethical and legal resources to regulate armed conflict."[60]

Military drones are designed to address high-value targets. However, there are instances when drones thwart even potential targets. This bias becomes problematic since potential terrorists are not actual terrorists per se. Therefore, humans need to gain control of UAVs precisely because they can reflect and meditate on ethical concerns revolving around collateral damage, potential targets, and human life. To give UAVs the power to decide on these pertinent matters does no justice to human beings' rationality and reasonableness. Humans can better discriminate and identify legitimate targets than all the UAVs combined.

There is a need to set up the mechanisms for drone usage. The Armed Forces of the Philippines may be permitted to use drones to subdue terrorism provided proper training in technical and operational knowledge and meaningful human control is given. There is always the temptation to use drones in military interventions because they are expendable and more efficient. Nevertheless, machines can never replace humans in terms of addressing the vicissitudes of experiences in the world. Although there are "rapid advances in AI, and experts worry that the technology will soon cross a line where machines, rather than humans, decide when to take a human life,"[61] still humans stand at the apex of creation; for who is more intelligent, the maker or the one made?

4.2 Just Cause

What are the rules of warfare when one side can attack, with extreme efficiency, without the enemy knowing? What are the implications of actively engaging in war without putting the lives of one's own combatants on the line? What are the consequences of using weapons which can spell ultimate death to enemies? Is the use of UAVs on UAV-less states ethically justified?

Admittedly, using UAVs in groups that lack the same technology leaves a bad taste in the mouth. What should be noted,

[58]*Ibid*.

[59]Kaag & Kreps, "Opinion: Drones End War's Easy Morality," 261.

[60]*Ibid*.

[61]Belsie, "Why Killer Robots are becoming a Real Threat – and an Ethics Test."

however, is that there is no parity in war. The moral ground is not flat in a conflict. There will always be one that gets the upper hand and one that is considered the underdog. Although there are inequalities in combat, this does not mean that those disadvantaged are morally just while those who can dominate their opponents by using UAVs are pure evil. This is not the criterion for judging the legality and morality of the action. UAVs can be utilized, hence tip the scale of war to the one using it if and when they are used for a just cause. For instance, active terrorist attacks, suicide bombings, and civil wars initiated by armed groups in the Philippines can justify drone usage. A just cause nullifies the inequalities in war. What matters "is whether the cause itself is justified because if the operation is justified, waging violence against the enemy is the right thing to do."[62]

"Combatants fighting for an objectively unjust cause have no moral right to engage in violent action against those combatants fighting for an objectively just cause."[63] The Philippine military can only subdue terrorist groups, especially groups fuelled by chronic grievances, deep ethnic-national disconnection, and extreme socio-political exclusion, as a last resort when all strategies and means for peaceful resolution have already been exhausted. In this case, maximum tolerance should be implemented. While there is no excuse for the atrocities they commit to advance their agenda, this type of terrorist group is more reasonable, and reconciliation becomes possible. When the state recognizes their grievances and addresses the root cause of their struggle, peace can still be achieved. Addressing the corruption and disparities these groups are fighting and engaging in mutual dialogue remains the best action plan to combat terrorism. Using drones on these groups is a counter-productive measure that can exacerbate dissent and anger and further blur the path to reconciliation and mutual understanding.

This same strategy is inappropriate for terrorist groups fueled by financial gains. Unfortunately, some groups put on the cover of terrorism to justify their inhumane acts: murder, kidnapping, and destruction of property, all for-profit. "It is perhaps important to remember that while terrorism is a criminal offense, motivations are the critical differentiator between those defined as criminal acts and terrorist acts."[64] Those using terrorism for money may need military interventions, and drones can help extensively. Therefore, the government must make a clear-cut distinction between terrorist acts and crimes. The former has political and religious overtones, while the latter deserves the full extent of the law and meets the demand of a just-cause clause.

4.3 Consensual Drone Deployment

There is a need to ask consent, particularly in drone deployment. This action does not only respect sovereignty. It also shows mutual respect and trust among the cooperating regions. At the same time, consensual drone deployment assures that all participants in the activity will collaborate to address the issue at hand. It also paves the way for more opportunities for partnership in other endeavors.

[6262]Galliott, "Viewpoint Article Closing with Completeness: The Asymmetric Drone Warfare Debate," 354.

[63]Ibid.

[64]Brown & Wilson, "Putting the crime back into terrorism: The Philippines Perspective," 44.

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Albeit important, asking consent is often tricky since there are times when there is no functioning government to request authorization. This dilemma usually happens during a civil war where the war is fought from within. In lawlessness and anarchy, there can be no institution to grant consent. "In such situations, there can be no obligation on the part of a state seeking to deploy drones there to obtain prior consent."[65]If the reasons are valid to deploy UAVs and it is for the good of all, then, by all means, should a state do so. For instance, the war in Marawi would have ended quickly had drones been used. Without a functional local government, the present administration is ethically and legally enjoined to prevent further incursion and mitigate casualties.

Drone employment should follow ex-ante provisions. In the case of functioning governments, *ex-ante* written authorization provides the most robust basis for the legitimacy of drone strikes. If feasible, *ex-ante* allows the UAV-ready state to assist a distressed state with the latter's consent. "In the absence of explicit ex-ante authorization, the drone-using state must take several general public measures on its own to bolster transparency."[66] If there is no legitimate political authority, or the authority is in serious jeopardy in case of a civil war, "the drone-using state must explain publicly, *ex-ante*, why the military necessity of using drones in the failed state is sufficient to overcome a general presumption against the use of force without state consent."[67] The state using UAVs must publicize how its actions satisfy international war and human rights norms.

The Philippines follows a centralized form of government. Hence, policies are cascaded from the national government to local government units. While this is the case, drone deployment in conflict areas is not just the national government's concern. All subsequent agencies should be aware of the strategy, from the local mayor to the townfolks. All people residing in the territory have the right to know, since they are the ones directly affected by the conflict. The faster the conflict can be resolved, the quicker the displaced people can return to everyday life and the less economic and political repercussions incurred. Consensual drone deployment is not done between the feuding parties but between the the state and its people.

4.4 Self-destructing and Self-nullifying Drone Technology

Drones are dangerous in themselves. Being in the hands of enemies, they become more dangerous per se. In the wrong hands, they could bring annihilation at incomparable levels. The goal of drone warfare is to eliminate terrorism. "In response, if the object is to reduce the number of terrorists, what if the use of drones as a tactic is actually resulting in the producing of more terrorists while also delegitimizing our global narrative concerning holding the moral high ground?"[68] When the technology of drones become available to unjust individuals and be used on civilian population and countries alike, what would be left of the Earth?

[65]Buchanan & Keohane, "Toward a Drone Accountability Regime: A Rejoinder," 20-21.

[66]*Ibid*. 30.

[67]*Ibid*. 31.

[68]R. Gresser, "Macro-ethics and Tactical Decision Making," *Military Review* 94, no. 5 (2014). https://0-search-proquest-com.library.qnl.qa/docview/1659760162?accountid=49936

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In this regard, it is but fitting to create self-destructing and unprogrammable drones. UAV-ready government should make it a point not only to make advanced weapons but also to make sure that these weapons are sufficiently sophisticated to nullify themselves in the hands of enemies. Drone software should be encrypted enough not to be hacked by malignant minds. They should be programmed in such a way that they only heed the commands of their makers. In addition, if it is still possible, manufacturers should create drones that self-destruct when captured by terrorists. In this case, data restored would be destroyed, and any evidence is exterminated. This principle also assures that they cannot use drones to seek retribution.

4.5 Drones as Preventive and Non-violent

Drones usher in an era of non-violence. Following the principle of consensual drone deployment, UAVs can serve as a deterrent. One could be surprised that a weapon as dangerous and lethal as drone can pave the way for resolving conflicts in a non-violent way. Although it is true that while UAVs pose severe mortality to enemies, they can also bring unparalleled peace. Unsurprisingly, fighting an enemy one has no chance of defeating is absurd. Hence, an extreme technological imbalance between two parties, for instance, may lead to more peaceful dialogues. Rather than using violence, consensus can be achieved amicably.

The use of drones could pave the way for political negotiations. Since these advanced weapons thwart the balance of power, a much inferior group may be forced to resort to negotiations rather than face their impending doom. Terrorism, without international backing, would soon run on fumes as funds and resources become scarce. This condition presents a golden opportunity for the Philippine government to engage in dialogue and peace treaties. In this way, the proposed military action may be postponed/canceled. At the same time, the harm which everyone wishes to avoid becomes feasible. "They not only reduce the collateral damage of war for all involved but also serve to protect the moral rights of third-party non-combatants."[69]

Negotiations, even surrenders, are always easier said than done. Some groups, even with the threat of demise, would not surrender or negotiate but would fight to the end. Moreover, some may not surrender as well but will "bring more conventional warfare or tactics to streets and cities, endangering non-combatants."[70] The point here is the employment of drones invites enemies to use other means of retaliation and think of strategic manners to attack.

Drones, therefore, should act as police and deterrent. They act as police as they are the best surveillance mechanisms. A dangerous group/state cannot just imprudently act knowing that they are being watched and be struck anytime. These ubiquitous weapons make surveillance as efficient and permeating as possible. In the same manner, UAVs may act as a deterrent. They are more effective deterrents of crimes than CCTVs. A dangerous group/state cannot just terrorize others, knowing they could be in serious peril. To avoid reckoning, UAVs should be used in conflict areas to ensure that peace will be maintained. UAVs act as

[69]Galliott, "Viewpoint Article Closing with Completeness: The Asymmetric Drone Warfare Debate," 354.

[70]*Ibid*. 355.

surveillance devices and as deterrents to crimes and other malicious acts.

4.6 Human Accountability

Central to the ethical enigma of drone warfare is the issue of accountability. Who will be responsible for drone misfiring and miscommunication? Who will be liable when they behave in unpredictable ways that the human partners do not understand? Who will be answerable when, for instance, an "autonomously operating unmanned aircraft crosses a border without authorization or erroneously identifies a friendly aircraft as a target and shoots it down?"[71] Who makes the decisions regarding who to target and when to strike? "What is the procedure and the oversight for those calls? We know of targeting errors and tragic accounts of the unintentional killing of innocent bystanders."[72]

Drone accountability is at the heart of drone warfare. The problem is that establishing who is responsible for drone misguidance may be challenging. "Autonomous machines, no matter how they are defined, developed, or used, operate as part of broad socio-technical systems involving numerous individuals and organizations."[73] Nevertheless, despite this challenge, there is a need to determine and strengthen accountability since drone usage poses malevolent threats on a massive scale. In the Philippine setting, a transparent chain of command must be established. The issue is not anymore whether drone usage is ethically permissible in the country. It is an issue of the mechanisms and protocols in place to ensure that drone advantages outweigh possible dangers and abuse. Therefore, distinct roles should be identified concerning who authorizes the operation, who executes it, and who is responsible for whatever outcome is incurred. Unless responsibility is explicitly stated, drone usage remains ethically and legally prohibited.

"Framing robots as autonomous challenges ordinary notions of responsibility."[74] Autonomy would always imply that they are acting out of their own will; that no one is coerced from choosing one thing over another. Furthermore, autonomy always precedes responsibility. Responsibility means that one has complete control over action and its outcome. The idea of autonomous weapons suggests that humans are not in control of robots but the robots themselves. This is misleading as it gives autonomous weapons freedom and deprives humans of one of the things that confer their humanity to them.

Theoretically, humans retain control and accountability of autonomous machines. These pieces of technology are independent not because they act out of their own will but because they were programmed to do so. Unlike human beings, machines do not have freedom. Hence, those who created and deployed them are accountable for the actions these machines do, beneficial or not. They are as free as their human counterparts allowed them to be. They cannot make their own choices but are limited by what they were set to do. "In this kind of machine autonomy, humans control what the machine does, even if they do not directly intervene or

[71]D. Johnson & M. Noorman (2014). Responsibility Practices in Robotic Warfare," *Military Review* 94, no. 3 (2014). https://0-search-proquest-com.library.qnl.qa/docview/1528366320?accountid=49936

[72]Rosenthal, "Three questions to ask about US drone strikes."

[73]Johnson & Noorman (2014). Responsibility Practices in Robotic Warfare."

[74]*Ibid*.

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are not in the loop because they fully specify the process and the routine tasks the machine performs."[75]

Autonomy of weapons, particularly of drones, does not mean the deprivation of human control. On the contrary, the weapon's autonomy involves various kinds and degrees of human intervention. "Delegating tasks to autonomous technologies is compatible with holding humans responsible for the behavior of those technologies."[76] The actions of the weapons will always be the actions of the ones using them. Autonomy is always limited and extends only as far as the process allows them to be. When autonomous weapons make decisions, they do not do it freely but follow the conditions meticulously set by humans.

Humans should remain in control of the technologies they create and deploy. Humans imprint their influence on these technologies by defining the conditions of their behavior. "They choose the mathematical and probabilistic models that will guide the behavior of the robotic system and determine the margins of error on what the robot can and cannot do. Designers, developers, managers, and operators set constraints on the behavior that robotic systems are allowed to exhibit."[77] All weapons, deemed autonomous, are still supervised by human beings at some point and on some levels. They are only allowed to operate if they exhibit behavior faithful to the conditions set. Hence, the idea is not faith in the machine per se, but an "increased emphasis on the reliability of and trust in technology, along with the need to develop better methods for verification and validation."[78]

5. Conclusion

Since time immemorial, humans have been creating more efficient methods of inflicting harm to each other. From bows to guns, nuclear weapons, and now drones, they have been quite adept at inventing machines that make killing a fellow human faster and more precise. As discussed in the present study, drone usage is not without dangers. The issues of parity, liability, sovereignty, remoteness, concealment, aggression, and killing showcase the unprecedented threats drones pose. Although potentially destructive, the research also identifies the merits of using drones along the lines of expendability, practicality, and effectiveness. In truth, drone usage in the Philippines can become the building blocks of genuine and lasting peace. After all, it is not really about the technology, but how it is used, that makes all the difference.

Technology is neutral. People are not. Hence, it is undoubtedly crucial that principles and norms be established to ensure that technology as unique and as terrifying as drones be put to good use. Over the years, drone technology will continue to improve. It is the duty then of human beings to upgrade their ethical, political, and legal thinking about this problem. There is a lot more to explore in the employment of UAVs in warfare, particularly in the Philippine context. There are still varying grey areas that need to be addressed in terms of identifying the mechanisms incorporated in the ethics of drone warfare to ensure that the principles cited will be followed. It is hoped that the present research is a stepping stone toward creating guidelines that will address the conditions of the ground and the individuality of experience.

[75] *Ibid.*

[76] *Ibid.*

[77] *Ibid.*

[78] *Ibid.*

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