



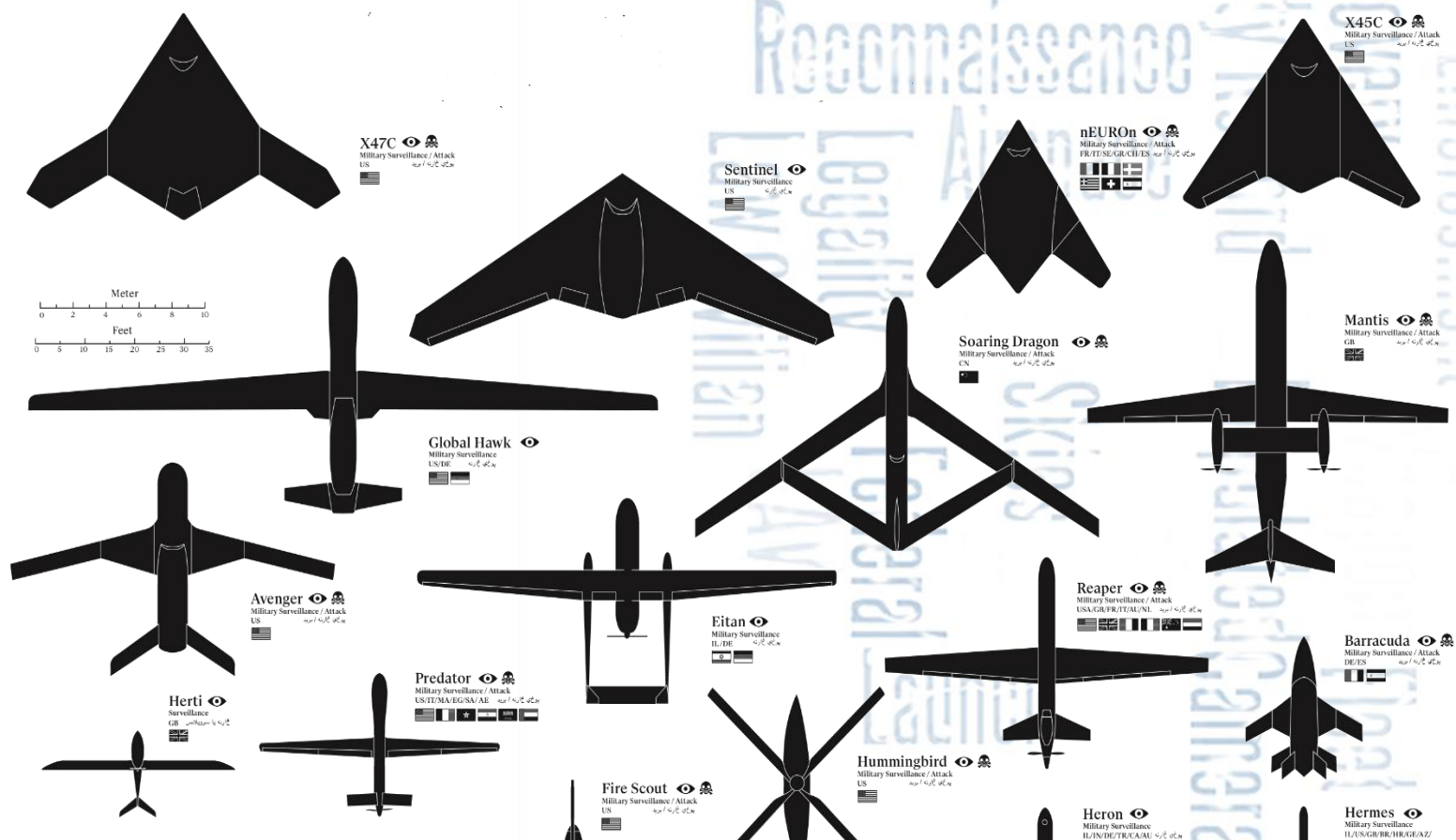
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Research Report - Abstract

Rome, April 2017



MILITARY DRONES: PROLIFERATION OR CONTROL?



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INTRODUCTION

Drones: risks and potential

Armed drones usually attack territories of “failed states”, such as Afghanistan, Pakistan, Yemen and Somalia, where cellules of Islamic terrorism are found to operate. Supporters and critics of this new warfare system feed today a lively debate on whether drones are ultimately effective against terrorist threats or not: while the former point to their advantages in terms of operational safety and economic cheapness, the latter wonder about their apparent legality, their targeting accuracy and related human costs among (civilian) innocents.

Drones collect a vast support by the political and military establishments because they are cheap and safe. Nevertheless, they have two kinds of unarmed, but equally effective enemies: the first is Law, the second is Public Opinion.

As to the former, the International Humanitarian Law only defines wars as conflicts either between military forces of two or more States, or between one State’s regular military forces and armed groups, or between armed groups fighting within one State’s borders. The problem arises since we all know that a new kind of conflict has been occurring during the 21st century. Here a standard actor according to the International Law, such as a State or an International Organization, is confronted by one transnationally-active, non-state actor either operating within *another* State’s territory or in places where no State exercises the exclusive right of territorial sovereignty. The latter case includes armed groups, water pirates, IT hackers and drones’ operators. Therefore, when a transnational, asymmetric conflict occurs, which is the most relevant set of rules we should call upon among a) the International Humanitarian Law, b) the Humanitarian Law applicable to non-international armed conflicts and c) the International Human Rights Law? Moreover,

the issue is hard to solve since three different actors are involved: first, the State which has been hit; second, the transnational, non-state actor which has actively hit; third, the State’s territory where the armed action has been concretely carried out; plus, the introduction of new technologies such as those making drones strategically important and crucial from a conceptual point of view.

As to the latter public opinion then becomes central when it comes to understand this political stance, and it closely relates to a set of variables which are *operational*, *economic* and related to *political communication*.

First, the operational variable: drones carry out themselves a sequence of tasks which are *dull*, *dirty* and *dangerous* (see chapter 1). Drones’ operators “pilot” the aircraft through a control panel sitting thousands of kilometres away from the target of the attack, something which is definitely supported by the contemporary public opinion in the West. While political élites strongly stand against military losses on the field, they don’t seem that annoyed when it comes to local, civilian casualties (still, part of the Western public opinion feel upset for what their state is doing).

Remotely-piloted aircraft end up being a crucial choice also from an economic point of view. When compared with standard aircraft such as last generation F-35 fighter jets, which are worth more than US\$ 130 millions each, armed drones such as Predator drones costing up to US\$17 millions are eight times cheaper, with better cost-benefit analysis. Furthermore, R&D specifically applied on drones is central to driving forward the whole technological innovation, since it is intermingled with the most advanced applications of the Information Sciences along the strategic *filière* of robotics. Not surprisingly, the US invested US\$ 2.9 billions to enlarge its 10-thousand drone arsenal.

Any market economy such as the USA enjoys the flywheel effects of military expenditures, especially when stagnation is at stake. The

EU's most important countries are experiencing fierce fiscal crises; nevertheless, they continue to invest in drones' state-of-the-art, cost-effective technologies. Public expenditures support their strategic plans for internal security defence rather than programmes aimed at their welfare systems. As our Report will show afterwards, drones' dual-use technologies with both military and civilian purposes have been quintessential in ensuring investments from the European Commission, since financing of military programmes is forbidden by the EU's treaties. As a matter of fact, the Commission has been funding projects relating to civilian drones since 2001, where drones are R&D catalysts in the industries of the aeronautics, the electronics and the information. Moreover, the European Advisory Group on Aerospace, which gathers a number of diverse actors such as public and private institutions, national and European stakeholders, as well as business and political representatives, released the STAR 21 Report in 2002.

However, what makes drones a preferable choice derives from a political discourse, further supported by the above-mentioned operational variable, that being their invulnerability. In fact, drones' fundamental advantage for a country using them stems from their attack system by remotely driven missiles targeting an enemy, without harming any national of its own. This one variable appears to be even stronger than any other advantage, including their cheap costs.

Theoretical aspects are also involved. Drones transform the traditional conceptualization of war, since they move in a space where they have no competitors; a *de facto* antithesis to the term "war" that comes from the Latin words *duo* first, *duellum* second, and finally *bellum*.

Drones differ from fighter jets being a cheap system that does not need to use any electromagnetic counter-measure or *stealth* technology. Drones, the most effective of all shields, protect two crucial actors during

their actions, as for as it doesn't matter if they stay undamaged or, on the contrary, if they have to sacrifice themselves (after all, one unrealistic circumstance by now). In any case, they will defend both the operators piloting them from afar, and the political élites which are held accountable for the life of operators before their public opinion.

At this point, in the *bellum-duellum* framework of the war on terrorism, there is no definite distinction between those who fight and those who do not. The enemy (here, the terrorist) follows the rules of an asymmetric warfare, on one hand; on the other, he confronts a warfighting tool which follows the logic of asymmetry as well. Moreover, further asymmetry stays in the double advantage of drones' operators who cannot be harmed (being individuals high-value target), and drones themselves which may be damaged or destroyed being low-value targets.

Two centuries and half ago, Frederick II king of Prussia metaphorically dreamed of "automated shooters" to deploy during the battle. Nowadays, drones indeed are the first concrete step to automatizing the battle field as for seen about half a century ago, by General Westmoreland.

It seems here that we could rather talk of a real nightmare for the strategic, political and ethical implications of such scenarios. Ironically, the only antidote to this nightmare comes from the public opinion, which was the main actor asking for victims reduction in warfare. To gain national support from the public opinion, the US has transformed the modalities of its global war on terror moving from traditional actions of "boots on the ground" to drones' electronic eyes which safely monitor territories from above and only strike specific targets. Nevertheless, the US and more generally the Western public opinion itself demands that no (ab)use of these technologies is perpetrated: if it overreacts in hearing the numbers of fellow countrymen dying on the battlefield it is

sensitive to death rate in “other” countries caused by their own country’s weapons too.

CHAPTER 1

Drones: a global and “local” landscape

Unmanned aircraft systems

Unmanned aircraft systems, UAS, commonly known as drones, are remotely controlled aircrafts without a pilot on board. Drones can be classified according to a series of parameters: size, operational altitude, runtime and range of action. The different categories can be summarized as follows: micro-mini, *Hale* (*High Altitude Long Endurance*) and *Male* (*Medium Altitude Lend*). According to the ability to carry an explosive charge (payload) and altitude, micro-mini and *Hale* systems are suitable for certain types of missions, such as ISTAR (Intelligence, Surveillance, Target Acquisition, Reconnaissance), while *Male* drones are multi-mission platforms. Combat drones (UCAV) represent another emerging category. Military drones have become famous because of the massive use made by the United States in the “global war on terrorism” through the controversial practice of *targeted killing*, extrajudicial executions of alleged terrorists through remote attacks.

Drones and the transformation of war

A number of factors, such as the social and economic changes in contemporary societies, the rising importance of the information technologies as wealth and power multiplier, the spread of asymmetrical threats and the increasing overlap between domestic and international dimensions, have been transforming the very concept of armed conflict. In this regard, the end of the Cold War and the September 11 with its related events marked the divide between two eras.

The humanitarian intervention discourse attempt to transform the public perception of wars and the use of new means and tactics aims at representing wars as impersonal events and not as a phenomenon based on social relationships. The growing use of drones is the exemplification of this change. Eliminating the presence and consequently the vulnerability of the human pilot through the remote control of the vehicle, drones are able to project force without the political and social costs correlated to a traditional armed conflict. In doing so, drones are reverting the bilateral dynamics of war into a unilateral one and are delegitimizing the enemy, reduced to a mere target. Moreover, drones foster an everywhere and never-ending conflict, without winners and losers and without a clear battlefield. The Global War on Terrorism (GWOT), launched by the G.W.Bush administration, proved all the problems of that employment strategy of military tools.

The international scenario

The asymmetry and, consequently, the uncertainty and instability feature the contemporary conflicts, increasingly fought by States or alliances against irregular movements or international networks, and rise the crucial problem of identifying the “enemy”, at both a practical and a theoretical level. In fact, these wars show confusing connections between political, military and cultural aspects and are characterised by a use of force that is no longer confined to specific areas, but that tends to expand into multiple fields.

As shown in official studies by Western governments (Italy among others with its *White Book for international security and defence*, presented by the Minister of Defence in 2015) the instability and insecurity of the international system and the multidimensional nature of the threat, do impose the updating of the strategic thinking.

It represents a transition from a static idea of the military instrument, based on border protection, to a dynamic one, involving use of the armed forces in “short of war” operations. The intense and constant deployment of Italian forces in different contexts, from Afghanistan to Iraq and to Somalia, has represented a great incentive for the tactical, operational, strategic and organizational adjustment. In this context, multilateral structures, such as NATO, play an important role in shaping the tactical and strategic processes of change. This is why the experience of Italy's major ally, the United States, in experimenting new tactics and new weapons acquires a crucial role.

The diffusion of drones

As mentioned before, a number of factors have led to the diffusion and the increasing sophistication of military drones: the changes in the international scenario, the following strategic review at political and military level, the transformations of the global society, the cuts in public spending triggered by the economic crisis and the technological revolution.

Moreover, from an economic standpoint, it is certainly a growing market: according to some studies, it would rise, globally, from \$486.1 million dollars in 2016 (of which 478.3 related to the military segment, equal to 98%) to 980.1 million dollars in 2021 (of which 653.9 related to the military segment, accounting for 64%). These projections clearly show the military predominance in this trend, although with a downward trend rate in the future.

The new operational concepts and the role of technology

The new operational concepts, based on the international scenario, relies on new technologies in order to acquire the information superiority necessary to mitigate

the “fog of war”. *Information warfare* is the military concept that refers to the set of actions undertaken to acquire superiority in terms of information: detailed and updated information and their proper use are essential to get a clear and complete “*situational awareness*” or a comprehensive, accurate and real-time knowledge of the theatre of operations. The concept of *Network Centric Warfare* (NCW)/ *Network Enabled Capability* (NEC) that falls within this context is the integration of all sensors, command and control centres into a single information network combined with the means and men on the field. Information is collected, processed, integrated and redistributed in a very short time through direct data transmission links. Being high-capacity ISTAR devices, drones can collect, produce and distribute an increasing number of information, allowing commands to decide in extremely tight deadlines, to the point of operating in anticipation and not merely in response to events.

Technology has also a cultural value: fuelled by the mass media, it triggers the race to flaunt a unique *status symbol*. Obtaining and maintaining an advantage in terms of technology or at least an equal position with respect to the armed forces of other countries has always been a peculiarity of military history. In addition, emerging technologies, driven by the research in the defence sector, support cultural competition and social supremacy as elements that distinguish the great powers and their respective cultures. However, any technologies introduce a change in the habits, culture, institutions, social structures and has an impact on the way military operations are conceived.

Zeroing losses and “collateral damages”

Social and economic considerations support the development of drones: lower costs and less risk of loss of lives. Since World War II, in

Western societies the public opinion is less and less willing to tolerate losses among its armed forces engaged in offshore operations. The need to project one's force abroad with the minimum of casualties (the zero loss theory) has encouraged the adoption of systems that separate the soldier from combat, protecting him from the enemy. However those who strike, kill and destroy through the remote control of a drone are protected, while this is not the case for those who are hit and, in fact, reduced to a target. The asymmetry of the conflict adds up to the unilaterality of the war action, eliminating the mutual relationship among contenders. In this way, the original structure of war, meant as the duel between two combatants, is put into question and opens up undetermined future scenarios.

The accurate targeting by drones, a major ethical and legal question, is also an information issue. Available data are, in a complex and *fuzzy* environment, poor and controversial. Rules of engagement allow fire in presence of a simple signal from a cell phone. It is not a surprise that civilian victims are frequent and numerous. Rating assessments about them widely differ according to the various sources, often biased by political and strategic reasons, varying from 5% to 75% of the "successful" strikes. Even if any final balance is impossible, the only certainty is that drones do not guarantee the "surgery" intervention that they promise.

Italian drones

Italian armed forces are equipped with the MQ-1C Predator A+ and the MQ-9 Predator B (Reaper), aircrafts which are manufactured by US General Atomics and supplied to the 28th Group, called "Streghe" (witches) stationed at the Amendola base (FG). Only the Reaper can be armed, but it requires a US generated software, whose sale needs to be approved

by the American authorities. Since 2011 Italy has been required the authorization, that has been accorded by American government in 2015. The Italian armed forces have matured experience in the use of drones for over a decade, employing drones in ISTAR missions in different contexts: Iraq, Afghanistan, Libya, Djibouti and Somalia, Kosovo, Syria- Iraq, central Mediterranean and in other special circumstances in Italy (such as the 2009 G8). It is plausible to assume that in Italy too the use of military drones will grow in both qualitative and quantitative terms, since these weapons contain all the features that the armed forces require: durability, connectivity, flexibility, autonomy and efficiency. The current doctrine, however, does not introduce the drones as a subject of a separate discussion. Therefore, any mission, be it reconnaissance or attack, could potentially be conducted with drones.

Considering that a State acquires weapons in order to use them, Italy's willingness to have armed drones shows its will to take advantage of all their capabilities. This shows all the seriousness of the lack of transparency on the part of Italian institutions, the lack of clarity in the doctrine and the absence of a public debate able to promote a full understanding of the political, legal, social and military implications of armed drones. This is confirmed by the poor information that Italian public opinions shows about drones (including both military and civilian use): in 2015 "informed" Italian citizens on the drones issue were non more than 40% in a sample of 1.000 (Doxa CATI opinion poll).

Sigonella, the world capital of drones

The Naval Air Station (NAS) Sigonella, also known as "the hub of the Med", is one of the main US military installations in Italy. The base has been acquiring a central role in the American drone warfare since 2008, when the US, in agreement with the Italian

government, installed their unarmed reconnaissance drones Northrop Grumman RQ-4B Global Hawks. In January 2016, the Italian government accepted the deployment of the US armed Reapers to conduct operations in Libya and North Africa. Italy allowed the U.S. drones to take off from the Sigonella air base case by case and only for defensive missions to protect personnel on the ground. According to news sources, American authorities are still trying to convince the Italian government to allow the drones for offensive actions.

Moreover, Sigonella will be in 2018-19 one of the main operational bases of the U.S. Navy MQ-4C Triton BAMS-D (Broad Area Maritime Surveillance) drone, the “maritime” version of the Global Hawk for broad coastal and oceanic surveillance missions. The base hosts also the UAS SATCOM RALAY PADS AND FACILITY, a satellite telecommunication infrastructure that allows drones data link communications and works as a twin of the Raimstein site in Germany.

At the Naval Radio Transmitter Facility in Niscemi, 60 km from Sigonella base, is located one of the four Mobile User Objective System (MUOS) ground stations, a narrowband military communications satellite system that supports a worldwide, multi-service population of users in the ultra-high frequency band, among which there are drones.

Sigonella will be also the main operating base of the Alliance Ground Surveillance (AGS) system, a NATO program to acquire an airborne ground surveillance capability. Through the use of five Global Hawks the AGS system will be able to observe what is happening on the earth’s surface, providing situational awareness before, during and, if needed, after NATO operations.

European funding of drone industry

The European Union has been subsidizing the drone industry through its research funding

programs (such as FP7 and Horizon 2020). Having the EU been prohibited from funding military R&D, the European Commission, favored by the European Defence Agency (EDA), has focused on financing the dual civilian/military use technology. According to Statewatch, a watchdog based in London, at least €315 million of EU research funding has been granted to drone-based projects. Many of them are subsidizing Europe’s largest defence and security industries and are aimed to the development of drones for border surveillance and law enforcement. One of the main objective of the European Union drone policy is the integration of drone into the civil air traffic, an issue that rises growing security concerns.

The EDA is backing the development of the MALE RPAS (European Medium Altitude Long Endurance Remotely Piloted Aircraft System) Program, assigned to Airbus, Dassault Aviation and Leonardo-Finmeccanica – a new generation drone for armed Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) missions.

In November 2016, the European Commission proposed a European Defence Fund to support investment in joint research and development of defence equipment and technologies, a new would-be income for drone industry.

The European drone policy has been managed through a technocratic process that involved the main arms lobbies but excluded the European Parliament and the public opinion.

Final remarks

Military drones has become the key weapons of contemporary asymmetrical wars. They seems to be the perfect solution for international instability meeting the operational needs of both the defence and security forces, the asymmetric warfare and domestic constraints. However, even if they had clearly military advantages, it is

necessary to broaden the discussion to embrace ethical, social and political issues. Drones are changing the conception of war, making it a series of unilateral strikes. In doing so, they demonstrate the incapacity to find political solutions for political problems. Moreover, nowadays the public opinion is less and less willing to accept wars, and drones are the technical tool to wage wars without needing a real public debate and its consequences. In Italy, as well as in Europe, the use of drones, their deployment on the field, their improvements and their funding have never been publicly discussed. Until now.

CHAPTER 2

Drones: Legal aspects

New military technologies has always risen debates in the legal domain because of their lack in regulation (see catapults and crossbows in the past; nuclear weapons, IT operations and drones today; artificial intelligence and robot killer in the future).

Therefore, it is appropriate to analyze the international law related to the latest military tool (in this case the drone) in order to appreciate if the claimed absence of law is justified and to identify insights of the *lex referenda*. Moreover, this is useful to understand if and how the drones can be legally used in surveillance and international police operations, and in armed conflicts against regular forces, terrorist groups, rebel forces, pirates and individuals. Above all, the military evolution gives the opportunity to renovate the discussion about some critical issues of the international law, whose development has historically been linked to the progress of the war effort.

First, it is necessary to analyze the International Law of Human Rights, which acknowledges the principle of the illegality of

the war and requires that the international community needs to protect the "*right to life, liberty and security of a person*" (art. 3 Universal Declaration of Human Rights). This effort has its own *raison d'être* in the preservation of peace (the ideal condition for the enjoyment of the human rights). Therefore, the present study addresses the issue of the appropriate balance between all the human rights that States should enforce before using drones (e.g. life-privacy/security). This topic is very thorny especially concerning the phenomenon of *targeted killings* by aerial drones.

However, since armed conflicts are an empirical phenomenon difficult to eradicate, it is necessary to analyze the conditions of the legitimate use of force by or against drones in international law (*jus ad bellum*), as well as the compliance of the military action with the international humanitarian law (*jus in bello*).

In the first case, after having recognized the legitimate conditions and cases of the use of the force by and against drones (the exercise of individual or collective right of self-defense – the authorization of the UN Security Council), the study identifies and investigates conversely the unlawful cases. In this respect, the doctrine of the "*Preventive defence*" (the so-called Bush Doctrine) is controversial, because it appears like a stretch in the international relations and a justification of a "*permanent worldwide war*" against terrorism, conducted today mainly through drones.

In the second case, we try to understand how to use drones legally once a war has broken out. During armed conflicts, the application of those international human rights treaties incompatible with the status of conflict is suspended (*inter arma silent leges*). However, the protection of the human being does not disappear completely: the International Humanitarian Law (IHL) comes into force as *lex specialis* (Geneva Conventions of 1949,

Additional Protocols, Martens Clause), with the almost impossible duty to "humanize the war". In this regard, it aims at protecting and assisting war victims, not-participants people or those who have ceased to be part in hostilities (civilians, injured, shipwrecked, sick and fallen persons and prisoners), regardless of their belonging.

According to the IHL, there are two different types of armed conflict:

- **International conflict** between the armed forces of at least two States, or wars of national liberation, entirely covered by the IHL;
- **Non-international conflict** between regular armed forces and identifiable armed groups (Command, enclaves control, etc.), or between armed groups fighting each other on the territory of a State, covered by the Humanitarian Law of non-international armed conflict (Art. 3 common of Geneva Conventions - Martens Clause).

Today, the main problem is how to qualify legally (the legal nature) the conflict between a subject of the international law (States, International organizations) and a non-state transnational armed actor present on the territory of an another State or in areas not under the jurisdiction of any State (eg. transnational terrorist groups, independent hackers, autonomous pilots of drones, international maritime piracy, etc.).

In other words, we aim at understanding which rule, among the followings, is applicable to a transnational asymmetric conflict:

- humanitarian law of international armed conflicts;
- humanitarian law of non-international armed conflicts (art. 3 common to the Geneva Conventions of 1949 and the Additional Protocol 1977);
- international law of human rights.

This is an issue difficult to solve, since it

involves three different subjects (a. the attacked State or victim State; b. The non-state transnational actor; c. The State in which the military action is conducted or territorial State) and has seen different responses by the States (some recognize IHL application in this particular conflict - although minimally - option B - others do not recognize it).

Once solved the problem of when IHL should be applied, we will see how it concretely applies to conflicts conducted with drones (identification of the enemy, principle of proportionality, principle of military necessity, etc.).

This research aims at explaining to the public opinion, institutions and politicians how the use of the armed force in national and international disputes is always governed by rules that protect the human being both in times of peace and war, regardless of any new tools. Therefore, the protection of the human being does not need special rules' updates, unless particular circumstances occur (highlighted in text) and/or possible agreements for the ban of inhumane weapons (e.g. anti-personnel mines, cluster bombs, chemical weapons). Indeed, too often a just presumed and specious absence of legal rules regarding the latest military tools is used to legitimate the use of force (drones and IT operations are emblematic cases).

Finally, we analyze the Italian legislation about the use of drones in the view of the national security protection.

In the wake of the global debate on the use of drones this chapter, attempts to clarify the circumstances and ways in which the international law applies to this specific case (*ergo*, how to use them legally), but also to review the general situation of the international law, as well as its problems and feasible solutions.

CHAPTER 3

Drones and public discourse

As to what has been defined *the second world superpower* (public opinion) surveys are regularly carried out in the US by a number of universities and institutes such as the PEW Center or the German Marshall Fund of the US. Even if public opinion from the US numerically dominates opinion polls, they also offer cross-national findings from about other countries (see sections 3.1, 3.2, 3.3).

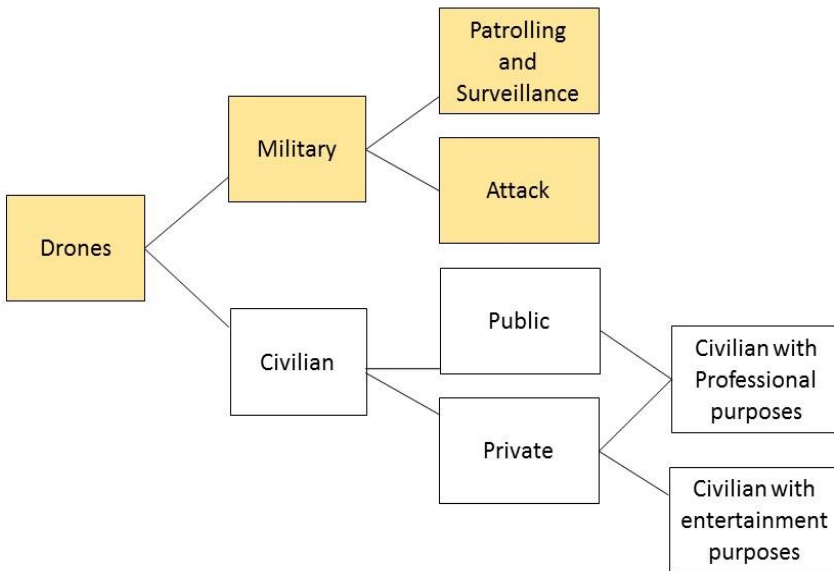
Specifically, opinion polls show that public from the US and Israel support somehow the use of armed drones, while this is not the case for Asia, Latin America, a large part of Africa and Europe itself. However, as we noticed before, supports from the US public opinion to the use of drones is not that unconditional. In taking their decisions interviewees tend to be coherent with a set of internal (demographic) and external (situational) variables, with the former being one's own structural features, and the latter stemming from the general circumstances/results after drones' strikes. Talking about external variables, support to armed drones is likely to decrease if one supposes that local civilians or fellow-countrymen might be killed. Moreover, variables such as gender, age and ethnicity are crucial. First confirming the existence of a recurrent "gender gap" female interviewees are more reluctant to the use of military force, if not opposing it at all: this is true for drones, but also for war itself. Second, talking about ethnicity, non-white individuals tend to be more pacifist. Finally, other relevant variables are age and political orientation.

As far as Italy is concerned, there is not yet a specific research about our countrymen's

opinions and *military drones*, but we can infer from cross-national data that support from Italians is lacking and even decreasing. Moreover, only 40% of Italians have got some knowledge of *civilian drones* (see section 3.4). We do not have a debate on such a strategic technology, showing this to be a case of "useful underestimation" of an issue. This does not mean that politicians and mainstream media in Italy may avoid this debate in the long run. A policy of lack of transparency and abundance of secrets inform national and international decision-making processes. Unknown debates on R&D, procurement and development of drones take place in our Ministries and in the office of the Prime Minister, in bilateral meetings with the US, and in the European Commission, in European agencies and in *ad hoc* think tanks at the European level. We maintain that all this has to change if one wants to build a world of peace and legality, especially when faced with such an advanced, flexible and efficient technology like drones.

Figure 1 (see) shows how civilian and military uses of drones differ from each other. Our Report will deal with *military* (mainly *armed*) drones. In order to clarify this aspect we underline the distinction between civilian and military drones. While *civilian drones* are used with both *professional* (such as remote sensing for agriculture, environment, etc.) and *entertainment* (as mere hobby) purposes, *military drones* include *armed* (i.e. attack) and *unarmed* (such as patrolling and surveillance, etc.) operational tasks.

Fig. 1 Drones and their applications



Elaboration Archivio Disarmo