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Geneva Academy of International Humanitarian
Law and Human Rights

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Academy

EXPERTS MEETING ON ARMED DRONES AND ROBOTS UNDER INTERNATIONAL LAW

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Summary of discussions

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THE
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Aim of the Experts Meeting

1. To date, only a few states are known to have used armed drones (remotely piloted aircraft),¹ but an increasing number of states have been seeking to acquire this weapons system. Although advances in technology have spurred the development of increasingly autonomous weapons, the precise delineation between an armed drone and a fully autonomous weapons system (sometime called a 'killer robot') is unclear. This Experts Meeting was convened by the Geneva Academy of International Humanitarian Law and Human Rights and the United Nations Institute for Disarmament Research (UNIDIR), with the support of the Swiss Federal Department of Foreign Affairs, to look at application of international law to armed drones along with legal and ethical issues related to development and use of fully autonomous lethal weapons systems. No decisions were taken during the meeting and this summary of discussions seeks only to capture some of the key points made by individual participants in a confidential forum. As such, it does not necessarily reflect the views of the organisers or any of the participants.

Drone and robot technologies and use

2. Armed drones are widely seen as the beginning of a trend that will lead to use of systems capable of targeting and/or killing one or more persons with complete autonomy from human intervention. Experts noted that there is no clear or accepted international legal definition of partially or fully autonomous systems, and that those currently in use are largely operated under human control. Armed drones are remotely piloted weapons systems that, specifically with respect to the firing of missiles or dropping of bombs, cannot be considered as 'fully' autonomous. Certain missile defence or other automated weapons systems already in service can operate and fire without direct human intervention, but are also believed to remain under the control of an operator able to veto firings.

3. Participants observed that legal concerns regarding the use of drones do not result from inherent features of this technology but lie in the manner and circumstances in which they are being used by states. In the conduct of hostilities in a situation of armed conflict use of armed drones may allow states to minimize the risk of casualties among their military personnel. Real-time video may also enable operators to better observe the international humanitarian law (IHL) principles of distinction, proportionality, and precautions in attack, which are intended to prevent or minimize incidental civilian casualties. It was, though, noted that armed drones are widely used in extraterritorial counterterrorism operations outside of armed conflict, which may be such as to circumvent international and domestic legal constraints on intentional lethal use of force.²

4. Lack of transparency surrounding military exploitation of robotics technology makes it difficult to ascertain the level of development of autonomous systems. Experts affirmed that it is the degree of autonomy from the human operator (i.e. the capacity of taking independent decisions in an open and unpredictable environment) that separates fully autonomous systems from automated or remote-controlled systems. While current armed drones remain under direct control of a human operator (human 'in the loop') or under his/her oversight (human 'on the loop'), systems will increasingly be autonomous and could even become capable of searching for, identifying, selecting, and attacking targets without real-time control of a human operator (i.e. human 'out of the loop').³

5. A number of experts asserted that having a human 'on' or 'in' the loop does not in itself ensure that 'meaningful' human control is being exercised. Further, it was argued that a threshold of 'sufficient' human control should be required before resort to lethal force could be lawful. A distinction may be made between the process of selecting a potential target and the decision whether or not to attack it. Some experts considered it ethically unacceptable for either or both of these decisions to be delegated to a machine. Experts reaffirmed that any new weapons system must be capable of complying with the existing

¹ Drones can also be remotely piloted vehicles or ships.

² See: 'Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns', UN doc. A/HRC/68/382, 13 September 2013; and 'Promotion and protection of human rights and fundamental freedoms while countering terrorism', UN doc. A/68/389, 18 September 2013.

³ It was asserted that full autonomy is technically possible today: moving from human 'in' the loop to human 'out' of the loop is a political decision.

international legal framework otherwise such systems cannot be lawfully used. It was, however, claimed that since increasing autonomy poses challenges to respect for the law, additional restrictions that apply specifically to evolving technologies may be necessary.

International human rights law and use of drones and robots

6. The use of armed drones in counterterrorism operations by certain states calls for further clarification on the limits to extraterritorial use of lethal force.⁴ Outside the conduct of hostilities in a situation of armed conflict, strict human rights and criminal justice rules on intentional use of lethal force apply. Thus, in accordance with international human rights law and Principle 9 of the 1990 Basic Principles on the Use of Force and Firearms by Law Enforcement Officials, intentional lethal force is only lawful when strictly unavoidable to protect life.

7. Experts emphasized that use of armed drones may violate the right to life as protected by treaty and customary law. It was asserted that outside the conduct of hostilities in a situation of armed conflict, deliberate killing of one or more persons suspected of terrorism, without specifying the nature and imminence of the threat and without any legal proceedings to determine guilt, amounts to arbitrary or extrajudicial deprivation of life.

8. Ensuring accountability for unlawful deaths or injuries resulting from drone strikes is a major challenge.⁵ Experts recalled that under international human rights law states have an obligation to investigate deaths arising from the use of force, which may include situations of non-international armed conflict, and that this duty applies not only to the territorial state but also to the state using drones outside its territory. In order to guarantee the legality of drone strikes, states must ensure that the person against whom lethal force is used can be lawfully targeted; that intelligence on which targeting decisions are made is accurate and verifiable; that wrongful killings are investigated, prosecuted, and punished; and that relevant information about these policies is disclosed. This includes, in particular, data on civilian casualties.

9. Within a situation of armed conflict, especially of a non-international character (see further below), human rights law is playing an increasingly important role. Although the precise relationship between international human rights law and IHL continues to be hotly debated, a number of experts argued that human rights law provides a body of detailed principles to determine effectively the legality of use of force. In addition, it was argued that human rights monitoring bodies can be useful in both interpreting and helping to implement IHL obligations. Other experts did not share these views.

10. The use of armed drones in law enforcement does not call for new rules. Thus, any force used must be the minimum necessary and must be proportionate to the threat. Any use of armed 'robots' in law enforcement operations must equally comply with human rights and criminal justice rules and standards. However, it was argued that outside the conduct of hostilities in an armed conflict, use of lethal force by an armed robot could only be lawful in highly exceptional circumstances.

11. The use of drones equipped with less-lethal weapons does not present new legal requirements, but may raise important practical challenges in adherence with those requirements.⁶ With respect to the use of drones for surveillance purposes, a dramatic increase in situations of law enforcement is likely. To be lawful, surveillance must be permitted by law, must be necessary, and must be proportionate. Surveillance operations also require independent, preferably judicial, supervision.⁷ On the other hand, it was observed that drones can be used to record law enforcement operations, thereby potentially giving rise to an

⁴ See: 'Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns', UN doc. A/HRC/68/382, 13 September 2013, §§42–51 and 'Report of the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism, Ben Emmerson', UN doc. A/HRC/25/59, 28 February 2014, §71.

⁵ In February 2014, the European Parliament called on the European Union 'to promote greater transparency and accountability on the part of third countries in the use of armed drones with regard to the legal basis for their use and operational responsibility, to allow for judicial review of drone strikes and to ensure that victims of unlawful drone strikes have effective access to remedies'. Resolution 2014/2567(RSP) on the use of armed drones, 25 February 2014, §4.

⁶ This refers to use of drones for assisting law enforcement officers to disperse crowds, which might involve delivering tear gas or other 'less-lethal' weapons.

⁷ See: Human Rights Committee General Comment 16 on the right to privacy.

important advance in accountability by providing a visual and/or audio record of the way in which such operations have been undertaken.

International humanitarian law and the use of armed drones and robots

12. The geographical and material scope of application of IHL continues to be the subject of widely diverging opinion. Thus, whether use of armed drones in a given instance falls under IHL rules on the conduct of hostilities may often be unclear. Most legal experts reject the existence of a 'global' non-international armed conflict. Some argue, however, that IHL rules on the conduct of hostilities will apply also to the territory of a third state which is fighting alongside a state in an armed conflict against one or more non-state armed groups on its territory. It is further asserted by some that IHL rules will follow individuals moving around the globe who continue to directly participate in hostilities in relation to an ongoing non-international armed conflict, and that they thus remain targetable wherever they may be. Some experts believed that under such circumstances states will be more prone to resort to armed drones and increasingly autonomous lethal systems.

13. When IHL principles and rules do apply, they are the same whether an attack involves aircraft piloted from the cockpit or remotely.⁸ Despite the potential for drones to comply effectively with the IHL rules of distinction, proportionality, and precautions in attack, missiles fired from drones are reported to have hit individuals not directly participating in hostilities (or even to have targeted such individuals) or to have caused excessive incidental civilian casualties. In particular, experts referred to so-called signature and double-tap strikes in this regard.

14. The likelihood of compliance with IHL rules by fully autonomous systems is highly questionable. For many experts it was doubtful that such systems will be ever capable of discriminating, as the law requires, between a civilian and a combatant/fighter and of correctly applying the test of proportionality. Difficulties in recognizing individuals who are *hors de combat* or no longer participating directly in hostilities were also noted. Some experts argued that autonomous systems cannot be pre-programmed to foresee the indefinite number of 'dilemmas' that may arise during the process of targeting and that 'human judgment and intuition' will also be needed to comply with the law. There are also concerns as to who will, or can be, held accountable for violations of the law.

National and international criminal law and the use of armed drones and robots

15. Killings by armed drones may result in state responsibility under international law and individual liability under national and international criminal law. Individual responsibility should be attributed to the drone operator and/or his or her superiors for unlawful killings. However, it may be difficult to prove the mental element of the crime, particularly when operators are used as mere instruments to release missiles or bombs, but without having sufficient information on the status of the targeted persons.

16. The view was expressed that in the absence of an adequate legal system for allocating and attributing responsibility for their use, fully autonomous weapons systems could not be lawfully deployed. Against this background, holding an individual accountable for the actions of a robot acting autonomously could be legally challenging under present circumstances. The doctrine of 'command responsibility' could serve to make accountable for violations a commander that recklessly deployed fully autonomous weapons; in other cases the requisite *mens rea* could be identified among individuals aiding and abetting a war crime or crimes against humanity.

⁸ Recent jurisprudence within the International Criminal Tribunal for the former Yugoslavia has, though, further obscured the challenging task of determining what constitutes an indiscriminate or a disproportionate attack. In the *Gotovina et al.* case the Appeals Chamber failed to clarify how inaccurate artillery attacks on populated areas could be (or even if a standard of inaccuracy exists) before a violation of IHL could be deemed to have occurred. ICTY, *Prosecutor v. Gotovina, Cermak and Markac*, Judgment (Case No. IT-06-90-A), 16 November 2012.

17. The view was also expressed that under national criminal law corporate manslaughter charges could be used to hold programmers or manufacturers accountable for recklessness in programming or constructing armed robots that went on to commit serious errors resulting in death or serious injury.

Inter-state use of force (*jus ad bellum*)

18. The use of armed drone technology for extraterritorial counterterrorism operations raises the question of the legitimacy of such strikes from the perspective of *jus ad bellum*. Experts observed that there is no general agreement on whether a state can rely on self-defence to justify the use of force to prevent an 'imminent' threat from non-state actors operating from the territory of another state.

19. Participants recalled that use of force by one state on the territory of another without its express consent is a violation of state sovereignty and that a drone attack can amount to an act of aggression. But even when a state consents to such use of force, both states continue to be bound by their international legal obligations, and, therefore, may be held responsible for any unlawful deprivation of life.

The way forward

20. A number of suggestions were made for the way forward as regards the legal regulation of armed drones and robots. Regarding use of drones, a number of experts expressed the view that a set of guiding principles clarifying the application of international norms could be valuable. These principles should include clarification of the duty to investigate under IHL and human rights law within situations of armed conflict. The need to prevent the proliferation of such weapons systems was also raised.

21. In relation to autonomous weapons systems, experts called for legal and ethical concerns raised by these new technologies to be addressed before their use.⁹ For some, a pre-emptive ban on the development, deployment, and future use of these weapons systems must be urgently put in place.¹⁰ For others, an absolute ban, as opposed to restrictions, is not necessary or even desirable.

22. Different legal regimes are relevant to partially or fully autonomous weapons systems. Accordingly, a range of fora may be needed to address the use of armed drones and robots effectively. Initial discussions on autonomous lethal weapons systems within the context of the Convention on Certain Conventional Weapons (CCW) are taking place in May 2014.¹¹ In parallel, the Human Rights Council can continue to enable valuable discussion of both remotely controlled and autonomous lethal systems from a human rights perspective, including with regard to their use for law enforcement. In this context, and pending discussions and negotiations at international level, the UN Special Rapporteur on extrajudicial, summary or arbitrary executions has called for a moratorium on development, transfer, deployment, and use of such weapons systems.¹²

⁹ See: 'Report of the Secretary-General on the protection of civilians in armed conflict', UN doc. S/2013/689, 22 November 2013, §29.

¹⁰ The 'Campaign to stop killer robots' seeks to raise public awareness of the legal, moral and societal consequences that the development and use of fully autonomous weapon systems may have and to promote the adoption of a total prohibition on the use of autonomous lethal weapon systems. See: <http://www.stopkillerrobots.org/>.

¹¹ A meeting of experts will take place over four days in May 2014 'to discuss the questions related to emerging technologies in the area of lethal autonomous weapons systems, in the context of the objectives and purposes of the Convention'. See: UN doc. CCW/MSP/2013/CRP.1, 15 November 2013, §32. With respect to use of weapons, the CCW and its protocols apply primarily to situations of armed conflict.

¹² The Special Rapporteur on extrajudicial, summary or arbitrary executions has presented to the Human Rights Council a specific report on 'lethal autonomous robots' (LARs). See: 'Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns', UN doc. A/HRC/23/47, 9 April 2013, §113.