



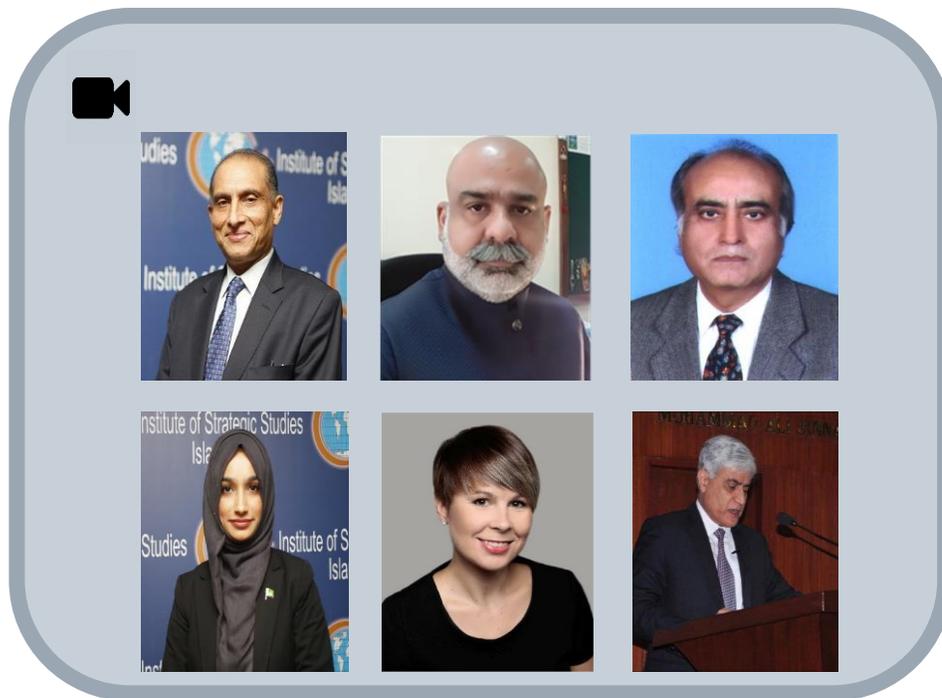
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Report – Webinar

“Lethal Autonomous Weapon Systems (LAWS) and State Behaviour: Global and Regional Implications”

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The Arms Control and Disarmament Centre (ACDC) at the Institute of Strategic Studies Islamabad (ISSI) hosted a webinar on **“Lethal Autonomous Weapons Systems (LAWS) and State Behaviour: Global and Regional Implications”** on April 7, 2021. The webinar was attended by various distinguished national and international experts and moderated by Malik Qasim Mustafa, Director ACDC-ISSI.

While welcoming the guests, Ambassador Aizaz Ahmad Chaudhry, Director General ISSI, said that the development of LAWS is fast outpacing the speed of the international negotiation process while states are extremely divided on various aspects of LAWS. He opined that instead of relying on the development of an international regulatory framework, states should explore the options of bilateral and regional arms control diplomacy in the realm of LAWS.

While referring to the outcomes of the recent webinar on “Emerging Technologies for Sustainable Development: Exploring New Opportunities” organised by ACDC in his introductory remarks, Malik Qasim Mustafa, Director ACDC-ISSI, said that there was a consensus that emerging technologies are providing people with endless opportunities to transform their future. However, these dual-use emerging technologies are also transforming the future of warfare like the development of LAWS or commonly known as “Killer Robots. It is a special class of weapon systems that engages and destroys targets without manual human control.

This increasing weaponisation of Artificial Intelligence (AI) is generating insecurities, fears and present complex security challenges for states. The development, production and use of LAWS have already raised moral, legal and responsibility issues. The Group of Governmental Experts (GGE) of the Convention on Certain Conventional Weapons (CCW) adopted the *11 Guiding Principles* in 2019. These principles focus on the application of international law, International Humanitarian Law (IHL) on LAWS and emphasise that it is the state’s responsibility to ensure physical security and nonphysical safeguards, make risk assessments and mitigation measures and distinguish between military necessity and humanitarian consideration.

Mr. Mustafa highlighted that Pakistan is among the first states that called for a ban on LAWS on the ground that such weapons “raise complex moral, ethical and legal dilemmas” and

“fundamentally changes the nature of war” which raises the potential for an “accountability gap.” However, India is investing in the development of various autonomous weapons. Most recently in January 2021, India demonstrated its offensive Swarm Drone Systems (with 75 drones and it aims to reach up to 1000 drone swarm) with an operational range of 40-45 km inside the enemy territory with their Kamakazi style Strike as a part of its preparation for non-contact warfare. Furthermore, major powers like the US, China, Israel, South Korea, Russia and the UK are developing autonomous weapon systems.

Ms. Aamna Rafiq, Research Associate ACDC-ISSI, expressed her views on the “**Debate on Lethal Autonomous Weapon Systems (LAWS) in the CCW.**” While defining LAWS, she said that there is no single and universally agreed definition of LAWS. There are hundreds of variations. The description and categories of LAWS largely depend on different levels and combinations of autonomy, lethality and specific mission. However, for a basic understanding, LAWS could be defined “as weapons designed to independently select and engage targets without the need for manual human control. They could enable military operations in communications-degraded or denied environments where traditional systems may not be able to operate.”

She also traced the evolution of the debate on LAWS in the CCW. In 2013, the CCW Meeting of High Contracting Parties decided to convene in 2014 an informal Meeting of Experts to discuss the questions related to emerging technologies in the area of LAWS. In 2016, at the Fifth CCW Review Conference, these High Contracting Parties decided to establish a Group of Governmental Experts (GGE) on LAWS to meet for the first time in 2017. The objectives of the UNGGE are: the characterisation of LAWS to develop common conceptual understanding and interpretation; to consider issues related to human-machine interaction; review the militarisation of emerging technologies and explore the challenges posed by LAWS to IHL.

Despite progress made by the CCW on LAWS, there are still various issues or challenges. The first and most significant issue is the applicability of IHL to LAWS. The position of GGE on the applicability of IHL is very confusing and inadequate. The 2019 report of the GGE on LAWS states that IHL continues to apply to LAWS and states must ensure that “potential use” of these weapons “should be in compliance with IHL” but in the next point it states that IHL does not

apply to machines. This could be interpreted as IHL is just applicable to the ‘human component’ of human-machine interaction and not to the ‘machine component.’ However, it also stated that LAWS should not be anthropomorphised. Furthermore, there are various combinations and forms of human-machine interaction with blur boundaries. How much autonomy and human involvement would be there and at which level? How and who will decide which component ends where? The 2019 GGE report further stated that in case any weapon system is not covered under the CCW and any other international treaty, the decision must be taken in accordance with the customary international law and the “dictates of public conscience.” The GGE’s reliance on this Marten’s Clause is an extremely weak legal position. This is a grey area that requires more clarification, attention and joint working, she said

On the issue of regulation vs. ban, the High Contracting Parties are extremely divided. This division has resulted in the formation of four blocks in the CCW. The first block consists of states, which consider LAWS as a new tool of stability and promoting responsible state behaviour. They hold a view that that the speed, precision and perfect coordination not only make these systems a great ‘force multiplier’ but also positively decreases collateral damage. On the other hand, states in the second block are in favour of the pre-emptive ban because LAWS cannot understand the changing characteristics of actual warfare like crisis decision-making, information processing, precautions, proportionality, the chain of command, target identification, selection and engagement. The third group of states focuses on building consensus key concepts and definitions before deciding about regulation or ban. The fourth and the largest bloc of states is the Non-Aligned Movement (NAM). NAM called for a legally binding instrument stipulating prohibitions and regulations of such weapons and ensures meaningful human control over the critical functions of a weapon system.

While talking about determining the boundaries of international regulation of LAWS. Ms. Rafiq said that according to the traditional practice, states take initiatives to align their national legal frameworks with international law and adapt international safeguards prescribed by an international regulatory arrangement, group or commission. However, the 2019 GGE on LAWS has adopted a different position. Instead of proposing the establishment of an international regulatory organisation or commission, the state parties agreed to use legal reviews at the national level to decide whether the development and acquisition of new weapons are prohibited

under international law or not, and discussed the applicability of international with reference to just “potential use.” This is a matter of serious concern because states are at a different level of technological and economic development with different forms of government, legal frameworks and national security cultures. Furthermore, a traditional security dilemma would arise in this situation. The development of LAWS approved by the national legal framework of one state could be very unacceptable for other states.

While concluding her remarks, Ms. Rafiq said that while more than 100 states are developing LAWS, there is a serious lack of consensus on pursuing a legally binding instrument with regulations or restrictions. She suggested that states should use the 2021 CCW Review Conference as an opportunity to avoid the deadlock of this entire process.

While expressing her views on “**Great Power Competition for LAWS: Global Implications,**” Dr. Elisabeth Hoffberger-Pipan, Post-Doctoral Associate, German Institute for International and Security Affairs, Berlin, said that there is significant development and competition in the civil sector in the fields of AI, machine learning and robotics. However, in the last few years, this competition has moved to the military sector as well. Therefore, it is important to first determine who are the great powers and what they are fighting for in the domain of LAWS. The narrative the US is trying to build around autonomous military systems is that the sole aim for these systems is to increase the interoperability and autonomy of its military compounds for a crisis. At the UN, the US has put forward a position that states that these weapons would increase the combat efficiency, reduce the cost and increase accuracy. Although these benefits are relevant to some extent but states should also be cautioned about the harmful effects of LAWS.

While enlightening the participants about the response of Europe to this great power competition for LAWS, she said that the EU is extremely conscious when it comes to LAWS. According to the EU’s official position, the harmful effects of LAWS should not be underestimated. The EU parliament has also adopted two resolutions in 2018 and 2021, calling for the need for human control over LAWS. Although these resolutions were not legally binding, these resolutions are proof of increasing commitment to the EU’s stance on these weapons. Overall, the EU is less influential as states take the majority of their decisions according to their national interests and policies. However, these small efforts play a great role in creating awareness on this issue of

extreme importance. The Future Combat Air System (FCAS), a joint research project of Germany, France and Spain, aims to develop the ‘Euro Drones.’ The level of autonomy in these drones is yet to be decided but these drones will be highly interoperable with other weapon systems and facilitate the manned fighter aircrafts during military operations. The development of the FCAS has also made disagreement vis-à-vis LAWS among the EU member states more prominent. While some states are in favour of developing LAWS, other EU members are demanding legal regulations like Austria, Germany and Ireland. Dr. Pipan suggested that steps should be taken to strengthen this group of states.

While highlighting Germany’s position on LAWS, Dr. Pipan said that Germany is in favour of retaining human control over such weapons. However, its position on whether LAWS should be banned or regulated through soft laws is quite flexible. She also opined that there is a possibility of a LAWS ban treaty outside the CCW and without major powers like the Nuclear Test Ban Treaty. She also suggested that all regions and states have collective responsibility for the regulation of LAWS.

Major General (Retd) Ausaf Ali, Advisor to the Strategic Plans Division (SPD), gave his remarks on “**Impact of LAWS on Strategic Stability.**” There has been an increased focus on technical, military, legal and ethical issues of the weaponisation of increasingly autonomous technologies. The autonomous systems have their application not only in the three conventional domains – land, air and sea but also wide-ranging applicability in cyber and space domains. Also, their application exists in the non-kinetic domain, through an array of new disruptive technologies, like Cyber Technologies, Directed Energy Weapons – Laser, EMP, High Powered Microwave, etc., – each of which would carry implications for strategic stability and deterrence regime. While some of these technologies lie in the domain of future technologies, it coincides with the Fourth Industrial revolution underway. On the other hand, there is a need to pre-empt what has been called the “third revolution in warfare,” at par with the introduction of gunpowder and nuclear weapons. These developments have direct implications for global and regional strategic stability. The development and production of these machines have already triggered an arms race. The systems could also proliferate to non-state armed groups. Even if the international community could address some of the IHL problems, there is a dire need to focus on the attendant risks to strategic stability and escalation control.

The autonomous weapon systems (AWS) could fundamentally change the character of warfare even as it is feared that emergence of a generational gap between the capabilities of some of the rival countries, he said. These efforts are by far best-funded in the US and China, followed by Russia. Unsurprisingly, these efforts are motivated by a desire to secure military operational advantages on the future battlefield. Thus, the military capabilities developed by the nuclear-armed states, particularly the US, Russia and China and how they posture them are key determinants of whether crises between them will remain stable or devolve into a conventional armed conflict, as well as the extent to which such conflict might escalate in intensity and scope, including to the level of a nuclear use.

While holding out the promise of significant operational advantages, AWS simultaneously could increase the potential for undermining crisis stability and fuelling conflict escalation in future military contests, say between the US, Russia and China, or among other states in several ways:

First, a state facing an adversary with AWS capable of making decisions at machine speeds is likely to fear the threat of sudden and potent attack, a threat that would compress the amount of time for strategic decision-making. The posturing of AWS during a crisis would likely create fears that one's forces could suffer significant, if not decisive, damage. These fears in turn could translate into pressures to strike first - to pre-empt - for fear of having to strike second from a greatly weakened position. Similarly, within the conflict, the fear of losing at machine speeds would be likely to cause a state to escalate the intensity of the conflict possibly even to the level of nuclear use.

Second, as the speed of military action in a conflict involving the use of AWS as well as hypersonic weapons and other advanced military capabilities begins to surpass the speed of political decision making, leaders could lose the ability to manage the crisis and with it the ability to control escalation. With tactical and operational actions taking place at speeds driven by machines, the time for exchanging signals and communications and for assessing diplomatic options and off-ramps will be significantly foreclosed. However, with reference to superior military forces like the US, China and Russia, the advantages of operating inside the OODA Loop of a weaker adversary (Iraq or Serbia) is one thing, while operating inside the OODA Loop of a nuclear-armed adversary is another.

Third, and perhaps of greatest concern to policymakers should be the likelihood that the operational advantages of AWS are likely to be understood as an increased capability of their adversary for what Georgetown Professor, Caitlin Talmadge, refers to as “conventional counterforce” operations. It will, thus, perceive adversary’s capabilities – advanced conventional capabilities backstopped by an interconnected shield of theatre and homeland missile defences, as posing both a conventional war-winning threat and a conventional counterforce threat poised to degrade the use of its strategic nuclear forces. This is bound to increase the potential for crisis instability and escalation in future confrontations.

Fourth, a future conflict in which AWS are omnipresent will likely prove to be a poor venue for both signalling and interpreting signals. Of course, correctly interpreting signals sent in crisis and conflict is vexing enough when humans are making all the decisions but in future confrontations in which decision making has willingly or unwillingly been ceded to machines, the problem is likely only to be magnified.

The transformative potential of Autonomous Systems and Technologies, however, is also relevant for nuclear weapons and doctrines. For instance, AI and Machine Learning (ML) could even be a driver of great ‘entanglement’ between the two areas. As its name suggests, the CCW - focuses on conventional weapons, so it has a major blind spot on issues related to nuclear weapons and strategic stability. Will the adoption of such systems fundamentally transform the field of nuclear strategy? The short answer is no, at least not in the near-term

While talking about the implications of drone swarming, he said that in the recent conflict between Armenia and Azerbaijan, Azeri drones proved decisive. Drone swarms will likely be extremely useful for carrying out mass-casualty attacks. They may be used as strategic deterrence weapons for states without nuclear weapons and as assassination weapons for terrorists, with obvious attendant risks. The proliferation of swarm drones will reverberate throughout the global community, as the proliferation of military drones has already echoed. Georgia Tech roboticist, Ronald Arkin, meanwhile, believes LAWS may one day prove better at reducing civilian casualties and property damage than humans but that day has not come yet. The technology is still not mature. Drone swarms worsen the risks posed by a lethal autonomous weapon. Even if the risk of a well designed, tested and validated autonomous weapon hitting an

incorrect target were just 0.1 per cent, that would still imply a substantial risk when multiplied across thousands of networked drones.

He also enlightened participants on the issues of potential overlap, interaction, and vulnerabilities between cyber and autonomous weapons. Cyber and autonomous weapons are on a convergent path and in future, both cyber and AWS will be AI-enabled. AWS could be extremely vulnerable to a variety of cyber-attacks — such as hacking, takeover, reprogramming or jamming. How will we know that autonomous weapons are operating as programmed, without interference? Currently, while AWS are still in their early development stages, with the growing number of countries are engaged in efforts to develop and field AWS and other AI-enabled military systems. Given their widespread application in nearly all military domains, it is worth the time for policymakers to carefully consider the concomitant risks of instability and escalation. If states do not shift soon from abstract talk to treaty negotiations, the development of technology will outpace international diplomacy

The presentations were followed by an interactive session in which national and international experts together with the ISSI research faculty actively participated.

Concluding the webinar, Ambassador Khalid Mahmood, Chairman BOG ISSI, said that the LAWS are producing destabilising effects on international peace and stability. The development of LAWS is irreversible; however, the existence of an international regulatory framework will increase the moral pressure on proliferating countries in future.

PICTURES OF EVENT

