# AUTONOMOUS WEAPON SYSTEMS: BOON OR BANE? THE PAKISTANI PERSPECTIVE

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ABSTRACT

The paper delves into the intricate landscape of Autonomous Weapon Systems (AWS) and their profound implications from the Pakistani standpoint. As States intensify efforts to develop fully autonomous weapons, legal, ethical, and global security considerations come under scrutiny. With challenges arising from rapid technological advancements and the absence of specific treaties for AWS regulation, adherence to existing laws of armed conflicts becomes more significant. The paper explores the global debate on AWS, provides an overview of systems currently under development, and analyses the regulatory framework. Emphasising the need for an adaptable legal framework, it delves into the stance of different States, with a focus on Pakistan's advocacy for a pre-emptive ban. The paper proposes a nuanced approach for Pakistan, balancing ethical concerns with the imperative to stay technologically competitive, suggesting the formulation of a clear national policy on AWS.

KEYWORDS: autonomous weapon systems (AWS), international humanitarian law (IHL), lethal autonomous weapon systems (LAWS), global security, Pakistani perspective.

## 1. INTRODUCTION

New weapons are set to revolutionise the nature of warfare. A prime focus of States and militaries is on emerging technologies, such as completely autonomous weapons. There is a discernible global trend toward the incorporation of autonomy into weapon systems, signifying a transformative shift in the conduct of warfare. This rapid technological advancement indicates a new era of military capabilities. However, this swift advancement comes alongside increasing calls for regulation of such weapons. While the development of fully autonomous systems remains a distant prospect, it is

still pertinent to analyse their legality. The debate surrounding the lawfulness of autonomous weapons is rife with conflicting ideas and suggestions – ranging from a complete ban on autonomous weapons to non-interference in the sovereign decisions of States. For a country to make an informed decision, several factors must be taken into consideration: State policy, regard for international humanitarian law (IHL) and international human rights law (IHRL), and State technology.

## 2. AUTONOMOUS WEAPON SYSTEMS: DEFINITION

At present, nearly all existing weapon and surveillance systems are operated with some degree of human oversight and control. Nonetheless, many countries have expressed their intentions to develop systems that possess complete autonomy.[1] While such countries are yet to express their desire to deploy such technologies to 'attack,' even defensive autonomous systems can have far-reaching implications. It is, however, necessary to note in the first place that there is no single all-encompassing definition of autonomous weapon systems (AWS). This is pertinent as there are concerns that, without proper parameters for what falls within the purview of AWS or LAWS (lethal autonomous weapon systems), future regulation can even impact existing weaponry.

The International Committee of the Red Cross (ICRC) defines 'autonomous weapons' as:

> Any weapon system with autonomy in its critical functions—that is, a weapon system that can select (search for, detect, identify, track or select) and attack (use force against, neutralize, damage or destroy) targets without human intervention.[2]

[1] Human Rights Watch, 'Killer Robots: Russia, US Oppose Treaty Negotiations' (*Geneva*, 19 August 2019).

[2] International Committee of the Red Cross (ICRC) 'Autonomy, Artificial Intelligence and Robotics: Technical Aspects of Human Control' (ICRC, 20 August 2019) 5 <https://www.icrc.org/en/document/autonomy-artificial-intelligence-and-robotics-technical-aspects-human-control>.

Many experts contend that under such a definition, there are a number of weapons that may qualify as autonomous weapons, for example, loitering munitions that, once deployed, look for their target,[3] or 'sense and react to military objects' (SARMO) weapon systems that are able to 'intercept high-speed inanimate objects.'[4] These weapons, however, are still operated under some supervision and lack complete autonomy – either in terms of tasks that can be performed, objects that can be targeted, or the context in which they are operated. Thus, these weapons are better classified as 'automatic' rather than autonomous as they operate on a series of pre-programmed series of actions and are incapable of independently gathering new information and adapting their actions accordingly.[5] Consequently, they are deemed to be 'precursors' to fully autonomous weapons systems.[6]

However, AWS are distinct from all existing technological systems. Such weapons are closely tied to artificial intelligence (AI) to aid their critical functions.[7] This can help the machine's decision-making process become independent as it gains evaluative capabilities.[8] The United Kingdom has proclaimed that AWS must possess 'situational awareness' that is similar to a competent human being in a particular circumstance.[9] The fundamental premise behind AWS deployment is to achieve complete autonomy, encompassing all critical functions such as detection, surveillance, targeting, attack, and navigation. The ultimate objective is for these systems to operate entirely without any human 'in the loop,' signifying a stark departure from the

[3] ICRC, 'Expert Meeting on "Autonomous Weapon Systems: Technical, Military, Legal and Humanitarian Aspects"' *ICRC* (Geneva, 26-28 March 2014), 16.
[4] Noel Sharkey 'Towards a principle for the human supervisory control of robot weapons' (2014) 2 Politica & Società 305.
[5] Bonnie Docherty, *Losing Humanity: The Case against Killer Robots* (Human Rights Watch & International Human Rights Clinic Harvard Law School, 2012) 13.
[6] ibid.
[7] Daniele Amoroso, Frank Sauer, Noel Sharkey, Lucy Suchman and Guglielmo Tamburrini 'Autonomy in Weapon Systems the Military Application of Artificial Intelligence as a Litmus Test for Germany's New Foreign and Security Policy' (2018) 49 Publication Series on Democracy 19.
[8] Vincent Boulanin, *Mapping the development of autonomy in weapon systems: A primer on autonomy* (Stockholm: Stockholm International Peace Research Institute, 2016).
[9] United Kingdom Ministry of Defense 'Joint Doctrine Publication 0-30.2 – Unmanned Aircraft Systems' (London: United Kingdom Ministry of Defense 2017) 67.

conventional model of human involvement in the decision-making process of weapon systems.[10]

### 3. LETHAL AUTONOMOUS WEAPON SYSTEMS CURRENTLY UNDER DEVELOPMENT

Many States are now redirecting their attention towards AWS rather than conventional weapons because they are potentially more efficient. States are now focusing on deploying autonomous weapons in the pursuit of enhancing both defensive and offensive capabilities while minimising human casualties.

Steve Omohundro has highlighted that '[a]n autonomous weapons arms race is already taking place,' and that such weapons 'can respond faster, more efficiently and less predictably.'[11] At the forefront of this paradigm shift are countries like the United Kingdom, United States, Turkey, Israel, Australia, France, Russia, and China. These countries are investing heavily in making their new weapon systems autonomous, underscoring their commitment to staying at the forefront of military innovation.

| **United States** | **France** |
|---|---|
| AeroVironment<br>Boeing<br>Dynetics<br>FLIR<br>General Atomics<br>Kratos<br>Lockheed Martin<br>Raytheon<br>Textron | Dassault<br>KNDS<br>Airbus (EU)<br>Safran |
| **United Kingdom** | **Turkey** |
| BAE Systems | STM |
| **Russia** | **Israel** |
| Rostec (Klashnikov; Ural Vagonzavod)<br>United Aircraft (Sukhoi) | Rafael<br>IAI<br>Elbit |
| **Australia** | **China** |
| DefendTex<br>Praesidium Global | AV<br>CASC<br>NORINCO |

[10] United States Department of Defense 'Directive Number 3000.09: Autonomy in Weapon Systems' (Washington DC: United States Department of Defense 2012).
[11] John Markoff, 'Fearing bombs that can pick whom to kill' *The New York Times* (New York, 11 November 2014).

Above is a list of the companies (and the States in which they are headquartered) which are currently working on autonomous weapon systems and are of high concern.[12] For example, SeaRAM is a guided missile weapon system made by Raytheon, United States. This weapon is 'a supersonic, lightweight, quick-reaction, fire-and-forget weapon designed to destroy anti-ship missiles. The emerging SeaRAM defensive weapon will destroy approaching enemy drones, aircraft, missiles and small boats.'[13] A similar system is the Phalanx which uses a 'radar-guided Gatling gun mounted on a swivelling base' and is 'capable of autonomously performing its own search, detect, evaluation, track, engage and kill assessment functions.'[14] There is also a land-based version of the Phalanx called the Centurian, which performs similar functions.[15] These systems allow a human operator to override the decision to engage a target, and are thus not entirely autonomous. However, the human operator only has 'half a second' to veto the decision taken by such systems and are more likely not to intervene.[16]

Israel Aerospace Industries (IAI) has produced Harpy and Harop, which are categorised as 'fire-and-forget' autonomous weapons.[17] Harpy is a loitering munition system and is perhaps the most cited example of the move towards the development and proliferation of LAWS. Israel has reportedly exported the Harpy to China, South Korea, India, Chile and Turkey.[18] While the company claims that it does have a kill switch in case a soldier wants to abort the mission, the Harpy represents a gradual shift towards greater autonomy in weapon systems. It is described as a 'wide area loitering munition' which can stay aerial for more than two hours in search of targets to destroy –

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[12] Frank Slijper, *Slippery Slope; The arms industry and increasingly autonomous weapons* (Utrecht: PAX for Peace 2019).
[13] Kris Osborn, 'The U.S. Navy's Supersonic SeaRAM Missile System Could be a Game Changer' (*The National Interest*, 26 October 2016) <https://nationalinterest.org/blog/the-buzz/the-us-navys-supersonic-searam-missile-system-could-be-game-18199> .
[14] Phalanx Close-In Weapon System (United States Navy Fact File) <https://www.navy.mil/Resources/Fact-Files/>.
[15] ibid.
[16] Jack M. Beard 'Autonomous Weapons and Human Responsibilities' (2014) Georgetown Journal of International Law 617, 631.
[17] Israel Aerospace Industries, *Harpy Brochure* (2015).
[18] Congressional Research Service, 'International Discussions Concerning Lethal Autonomous Weapon Systems' (*Congressional Research Service*, 14 February 2023) <https://sgp.fas.org/crs/weapons/IF11294.pdf>.

providing it greater autonomy than the aforementioned 'automatic' weapon defence systems.[19]

A recent example of an autonomous weapon system is the Blowfish A3 helicopter drone developed by the Chinese manufacturer Ziyan. While a human operator controls the Blowfish A3 helicopter, the swarm capability of these drones allows them to operate autonomously, maintain their formation, and adapt to changing circumstances by themselves, even if the signal from the human operator is lost. This would potentially allow the Blowfish A3 helicopter drone to be used as one of the first completely autonomous drones.[20]

Similarly, the STM Kargu-2 developed by Turkey is another example of a loitering munition system that operates on a fire-and-forget rule. In 2021, it was reported to the United Nations (UN) that STM Kargu-2 was allegedly used in its autonomous mode to target fleeing soldiers in Libya's civil war.[21] However, the CEO of the company that developed these drones denies such allegations.[22]

Other than these air-based weapons and missiles, countries like the United States, China, and Russia are also focusing on Robotic Combat Vehicles or Unmanned Ground Vehicles (UGVs). In China, a company has developed a medium-sized unmanned ground vehicle capable of transporting ammunition and giving cover fire, known as Mule-200.[23] Similarly, a Russian research agency, ARF, has developed the Marker and Uran UGVs to establish Russia's place in the high-tech arms race.[24]

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[19] Paul Scharre, *Autonomous Weapons and Unintended Engagements* (Center for a New American Security 2016).
[20] Liu Xuanzun, 'Chinese helicopter drones capable of intelligent swarm attacks' *The Global Times* (9 May 2019).
[21] UN Security Council 'Final Report of the Panel of Experts on Libya Established Pursuant to Security Council Resolution 1973 (2011)' (2011) S/2021/229. UN, New York.
[22] Robert F. Trager and Laura M. Luca, 'Killer Robots Are Here—and We Need to Regulate Them' *Foreign Policy Magazine* (11 May 2022).
[23] Bureau, 'Chinese Firm Develops Robotized Unmanned Ground Vehicle' *Defence World* (2 March 2020).
[24] News Desk, 'Russian UGV Developments' *European Security and Defence* (7 November 2019).

The United States, on the other hand, is exploring programs such as the Ripsaw Robotic Combat Vehicle M5, with the support of major arms manufacturer Textron.[25] Countries have also focused on autonomous weapons on the surface of the water as well as underwater. China Shipbuilding and Offshore International Company is developing Jari that is a 'USV is a 20-ton, 15-meter boat that is orders of magnitude smaller than the People's Liberation Army Navy's manned Type -55 destroyer, but has all the same mission areas: anti-submarine, anti-surface and anti-air warfare.'[26] In the United States, the Defence Advanced Research Projects Agency (DARPA) has designed an Anti-Submarine Warfare Continuous Trail Unmanned Vehicle (ACTUV) known as the Sea Hunter**,** and it is capable of travelling the oceans for months without any humans on board.[27]

### 4. REGULATION OF AUTONOMOUS WEAPON SYSTEMS

While there is no particular treaty designed to regulate AWS, their development and deployment are, nonetheless, governed by the existing laws of armed conflict. Thus, in lieu of a substantive document regulating the design and operational usage of autonomous weapons, States must adhere to the established principles of IHL – distinction, proportionality, necessity and humanity. The foundational framework for these obligations can be traced back to the Hague Conventions of 1899 and 1907 as well as the Geneva Conventions of 1949 and their Additional Protocols of 1977. Additionally, the principles of customary international law (CIL) offer valuable guidance in monitoring States that employ autonomous weapon systems. Furthermore, national-level standards and policies, such as the U.S. Department of Defence Directive 3000.09, play a role in ensuring self-regulation. The recommendations of experts, lawyers, and parties to the UN Convention on Certain Conventional Weapons, 1980 (CCW)[28] can also be used as a basis for

[25] Sydney J. Freedberg, 'Textron Rolls Out Ripsaw Robot For RCV-Light… And RCV-Medium' *Breaking Defense* (14 October 2019).
[26] David B. Larter, 'China is Working on Killer Robot Ships of Its Own' *Defense News* (18 February 2019).
[27] Michael T. Klare, *Autonomous Weapons Systems and the Laws of War* (Washington DC: Arms Control Association 2019).
[28] Entered into force in December 1983, the Convention restricts the use of weapon systems which are either indiscriminate i.e. may cause harm to civilians, or which may cause unjustifiable suffering to combatants.

restraining the development and use of autonomous weapons. Moreover, the Responsibility of States for Internationally Wrongful Acts (2001) imposes reasonability on States to ensure compliance with international law, customs, and general principles and can be used to guarantee accountability for wrongful acts attributable to States.

However, it is vital to recognise that while specific codified laws may facilitate accountability, they can quickly become outdated with the rapid pace of technological advancement. Therefore, States must shift their focus towards adhering to broader and general principles that underpin the existing legal framework. These principles provide an adaptable foundation for assessing the legality and ethics of emerging technologies.

Importantly, there are separate rules governing the development and deployment of weapons. This is also reflected in the stance of certain States claiming that while the development of AWS is legal, whereas their deployment / use is or should be illegal. Like all other weapons, the legality of AWS depends on their characteristics and whether they can be employed in conformity with the rules of IHL, other treaty law, and CIL.[29] Human control then becomes necessary over weapons to make them legal under IHL, as a fully AWS may not be able make the legal judgment required to ensure distinction and proportionality, and may not be able to change its approach if circumstances change.[30]

Under the existing framework, the development of weapons is regulated under Article 36 of Additional Protocol I of the Geneva Convention.[31] This Article creates an obligation to carry out a legal review of all the new weapons made by the High Contracting Parties. However, the Additional Protocol I only requires a national review of weapons, and there is no accountability or enforcement mechanism. Furthermore, there is no concrete source of international law which States that a weapon that has no human control

[29] Neil Davison, 'A legal Perspective: Autonomous Weapon Systems Under International Humanitarian Law', UNODA Occasional Paper No 30 1/2018.

[30] ibid; UN, *Recommendations to Review Conference submitted by the Chairperson of the Informal Meeting of Experts* (Geneva: UN 2016); ICRC, *Expert Meeting on Lethal Autonomous Weapons Systems* (Geneva: ICRC 2017).

[31] Protocol Additional I to the Geneva Convention of 12 August 1949 and relating to the Protection of Victims of International Armed Conflict (Adopted 8 June 1977, entered into force 7 December 1978) 1125 UNTS 3 ("API"), art 36.

would be illegal. While international bodies like the ICRC may have expertise on the subject, their recommendations are not binding under international law. Therefore, under the current framework, there is no source of international law that explicitly prohibits or regulates the development of LAWS.

States' actions are also regulated by 'principles of humanity and dictates of public conscience.'[32] This rule stems from the Martens Clause,[33] which itself is deemed to be CIL.[34] It has also been considered a source for countering the rapid evolution of military technologies, confirming that the means of warfare are not unlimited and may be subjected to public conscience.[35] Thus, it has been advocated that AWS should be banned even if no explicit rule or treaty currently exists as their operation contradicts these principles.[36] This is especially relevant given the rapid evolution of military technologies, which outpaces the pace of international law development.[37] However, there is no authority which has held that the development of AWS is in contravention of the Martens clause, except for scholarly opinions.[38]

Under the current framework, the use and deployment of AWS would be covered by the legal rules governing the use of force, and on the interaction between IHL and IHRL.[39] IHRL would govern the use of AWS for law enforcement within domestic State jurisdiction. In armed conflict, the rules of IHL and IHRL concurrently apply with IHL being the primary and most

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[32] Rupert Ticehurst 'The Martens Clause and the Laws of Armed Conflict' (1997) 317 International Review of the Red Cross 125, 126.
[33] Protocol Additional I to the Geneva Convention of 12 August 1949 and relating to the Protection of Victims of International Armed Conflict (Adopted 8 June 1977, entered into force 7 December 1978) 1125 UNTS 3 ("API"), art 1(2).
[34] *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion [1996] ICJ Reports 226, 257.
[35] ibid.
[36] Bonnie Docherty 'Losing Humanity: The Case against Killer Robots' (2012) Human Rights Watch & International Human Rights Clinic Harvard Law School 25; ICRC, *A Guide to the Legal Review of New Weapons, Means and Methods of Warfare* (Geneva: ICRC 2020) 17.
[37] ICRC Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949 (Geneva 1987).
[38] Milena Costas Trascasas and Nathalie Weizmann, *Briefing N°8: Autonomous Weapons Systems Under International Law* (Geneva: Geneva Academy of International Humanitarian Law and Human Rights 2014).
[39] Maya Brehm, *Defending the Boundary: Constraints and Requirements on The Use of Autonomous Weapon Systems Under International Humanitarian and Human Rights Law* (Geneva: Geneva Academy of International Humanitarian Law and Human Rights 2017).

relevant framework for assessing the use of an AWS. However, the use of AWS for any other purposes by a State is governed by IHRL.

AWS must be capable of evaluating and making judgments that comply with IHL.[40] As Sassòli has observed, 'there are many elements that make a human being understand what is/is not a legitimate target, and those factors must be reproduced in a computer program.'[41] AWS must be capable of distinguishing between civilians and combatants, and between civilian objects and military objectives, direct their operations only against combatants and military objectives.[42] In case of doubt, a person or object is to be considered civilian.[43] AWS will also require parties in an armed conflict to take additional precautions when they carry out attacks to avoid and minimise incidental loss of civilian life, injury to civilians, and damage to civilian objects. An AWS will lack the necessary human judgement which would allow it to change course when unforeseeable circumstances arise.[44] In case civilian persons and objects are likely to be incidentally harmed, the principle of proportionality dictates that the 'incidental loss of civilian life, injury to civilians or damage to civilian objects, or a combination thereof' should not be 'excessive in relation to the concrete and direct military advantage anticipated.'[45]

One concern regarding the use of AWS is that it creates an accountability vacuum. Under IHL and international criminal law, 'individuals are criminally responsible for war crimes they commit,' and States do not have criminal liability.[46] There is disagreement as to who will be responsible if an AWS commits a war crime. Some scholars claim that the programmers and manufacturers should be held responsible.[47] Others claim that it would only be fair to hold them responsible if they specifically programmed or designed

[40] Costas (n 38).
[41] M. Sassòli, 'Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to be Clarified' (2014) 90 International Law Studies Naval War College 327.
[42] API art 48; ICRC, Customary International Humanitarian Law, Volume I: Rules, CUP (2005), (ICRC, Customary IHL) Rule 1 and 7.
[43] API art 50(1) and 52(3).
[44] ibid art 57.
[45] API art 51(5)(b).
[46] ICRC, 'Customary IHL - Rule 151: Individual Responsibility' Volume II, Chapter 43, Section A <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule151>.
[47] Sassòli (n 41) 327.

the weapon to commit war crimes; otherwise, their criminal intent cannot be proven.[48]

The use of AWS for law enforcement and during peacetime is regulated under IHRL. The right to life is inherent in every person, and this right can never be suspended or otherwise derogated from even 'in time of public emergency which threatens the life of the nation.'[49] States have a responsibility to individuate the use of force for law enforcement purposes.[50] As per the UN General Assembly's 'Code of Conduct for Law Enforcement Officials', '[t]he use of lethal force is only justifiable if the particular person that force is directed at poses an imminent threat of death or serious injury.'[51] The Code of Conduct states that human agents should 'continuously, actively, and, arguably, personally' be engaged in 'every instance of force application.'[52] In this context, as Maya Brehm states, '[d]ue to the need to individuate the use of force under IHRL, the scope for the lawful use of an AWS is extremely limited.'[53]

## 5. STANCES OF STATES

The High Contracting Parties to the CCW formed a Group of Governmental Experts (GGE) at the Fifth Review Conference in 2016 which was tasked to deliberate upon the issue of emerging technologies in the area of LAWS. The GGE first met from 13th to 17th November 2017 in Geneva. The High Contracting Parties to the CCW, at their 2018 meeting, decided that the GGE on LAWS shall meet again in 2019. The first session of the meeting of the

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[48] Schmitt "'Out of the Loop": Autonomous Weapon Systems and the Law of Armed Conflict' (2013) 4 Harvard National Security Journal 278; J. Thurnher, 'Examining Autonomous Weapon Systems from a Law of Armed Conflict Perspective'(2014) in H. Nasu and R. McLaughlin (eds), *New Technologies and the Law of Armed Conflict* (The Hague: TMS Asser Press) 213–18.

[49] International Covenant on Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) 999 UNTS 171 (ICCPR) art 4(2); Human Rights Committee, *General Comment No. 29, Article 4, Derogation during a State of Emergency* (31 August 2001) UN Doc CCPR/C/21/Rev.1/Add.11, [7]; Human Rights Committee, *General Comment No. 6, Article 6, Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies*, (1994) U.N. Doc. HRI\GEN\1\Rev.1 at 6, [1]-[3].

[50] Brehm (n 39).

[51] UN General Assembly, 'Code of Conduct for Law Enforcement Officials 1980', A/RES/34/169, art 3.

[52] ibid.

[53] Brehm (n 39).

GGE took place from 25th to 29th March, and the second session took place from 20th to 21st August 2019. The GGE meeting held in 2019 was attended by eighty-three High Contracting Parties, six Observer States, the UN Institute for Disarmament Research (UNIDIR), other international organisations, and non-governmental organisations like 'Association of World Citizens' and 'Campaign to Stop Killer Robots.' Other than these, representatives from some notable universities attended this meeting as well.[54]

New Zealand's Minister for Disarmament and Arms Control shared the country's new policy position on 30th November 2021. In his statement, Phil Twyford stated that '[t]he idea of a future where the decision to take a human life is delegated to machines is abhorrent and inconsistent with [New Zealand's] interests and values, and now [New Zealand will] work with friends and allies to make sure this never comes to pass.'[55] In January 2023, Belgium became one of the first countries to ban the use of LAWS outright. Its Defense Committee approved 'a bill tabled by the parliament's Socialist group'.[56] The ICRC has also recommended that States should adopt new legally binding rules on autonomous weapon systems.[57] On 21st October, for the first time at the UN General Assembly, around 70 States (including United States, United Kingdom, and European States) united and delivered a joint statement on AWS. In their statement, these States agreed on the following:

- 'Recognition that autonomous weapons systems raise serious concerns from humanitarian, legal, security, technological and ethical perspectives.'
- 'Acknowledgement of the need to maintain human responsibility and accountability in the use of force.'

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[54] UNOG 'CCW GGE Participant list' (2019). <https://www.unog.ch/80256EDD006B8954/(httpAssets)/3DBF4443C79AC6ABC12584BE004565B4/$file/CCW+GGE.1+2019+INF.1+Rev.1.pdf>.

[55] The Beehive, 'Government Commits to International Effort to Ban and Regulate Killer Robots.' *The Beehive* (30 November 2021) <www.beehive.govt.nz/release/government-commits-international-effort-ban-and-regulate-killer-robots>.

[56] Nick Amies,'Belgium Upholds Decision to Ban 'Killer Robots.' *The Brussels Times* (15 January 2023) <www.brusselstimes.com/350980/belgium-upholds-decision-to-ban-killer-robots>.

[57] ICRC 'Autonomous Weapons: The ICRC Calls on States to Take Steps towards Treaty Negotiations' *ICRC* (Geneva, 2023) <www.icrc.org/en/document/autonomous-weapons-icrc-calls-states-towards-treaty-negotiations>.

- 'Emphasis on the need for internationally agreed rules and limits – including a combination of prohibitions and regulations on autonomous weapons systems.'[58]

The ICRC President and the UN Secretary General made a joint appeal on 5th October 2023, calling for the urgent need to create new international rules and regulations on autonomous weapon systems. The joint statement included the following:

> 'We must act now to preserve human control over the use of force. Human control must be retained in life and death decisions. The autonomous targeting of humans by machines is a moral line that we must not cross. Machines with the power and discretion to take lives without human involvement should be prohibited by international law.'[59]

China is one of the States advocating for a ban on the use of AWS while permitting their development and production.[60] Australia, on the other hand, has opposed the idea of a new treaty, despite emphasising that all weapons should be deployed under the restrictions imposed by IHL. Australia also discussed its system of control on the use of military force in its document submitted at the GGE meeting held in 2019. Australia proposed that if this system (consisting of nine stages) is used, all the States can ensure that the weapons they are using, including AWS, will operate in a lawful manner without the need for a specific ban.[61] The United States also favoured the use of internal procedures for reviewing and testing weapons and concluded that 'emerging technologies in the area of LAWS could strengthen the

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[58] Ousman Noor '70 States Deliver Joint Statement on Autonomous Weapons Systems at UN General Assembly.' (*Stop Killer* Robots, 23 November 2022) <www.stopkillerrobots.org/news/70-states-deliver-joint-statement-on-autonomous-weapons-systems-at-un-general-assembly>.

[59] ICRC 'Joint Call by the UN Secretary-General and the President of the International Committee of the Red Cross for States to Establish New Prohibitions and Restrictions on Autonomous Weapon Systems.' *ICRC* (6 October 2023) <www.icrc.org/en/document/joint-call-un-and-icrc-establish-prohibitions-and-restrictions-autonomous-weapons-systems>.

[60] Campaign to Stop Killer Robots, 'Convergence on Retaining Human Control of Weapons Systems' (*Stop Killer Robots, 1*2018) <https://www.stopkillerrobots.org/news/convergence/>.

[61] UNOG 'Australia's working paper - Australia's System of Control and Applications For Autonomous Weapon Systems.' Group of Governmental Experts Lethal Autonomous Weapons Systems Convention on Certain Conventional Weapons Geneva (2019).

implementation of IHL' in its working paper submitted to the 2019 GGE meeting.[62] Japan emphasised the need to uphold the principles of IHL in the development and operation of all weapons systems, including LAWS. In their working paper, Japan underscored that violations of IHL through the use of AWS should be attributed to States or individuals, similar to conventional weapon systems.[63]

International organisations also took part in the GGE 2019 meeting and contributed to the debate. On 26th March 2019, Bonnie Docherty from Human Rights Watch said,

> [f]irst, fully autonomous weapons would face significant obstacles to complying with the principles of distinction and proportionality…Second, the use of fully autonomous weapons would lead to a gap in individual criminal responsibility for war crimes…Third, fully autonomous weapons raise serious concerns under the Martens Clause, a provision of IHL that sets a moral baseline for judging emerging technologies.[64]

The ICRC, in their statement, claimed that manipulation in operational parameters like the environment in which the weapon is operated could reduce the risk of violating IHL However, they caveated this by saying the following:

> given the high degree of unpredictability of most real world conflict environments, it is likely that operational constraints alone will only help avoid an unacceptable risk of IHL violations in the narrowest of circumstances, and will generally not be sufficient to ensure compliance with IHL in carrying out an attack with an autonomous weapon system.[65]

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[62] UNOG 'United States Statement - Implementing International Humanitarian Law in the Use of Autonomy in Weapon Systems.' Group of Governmental Experts Lethal Autonomous Weapons Systems Convention on Certain Conventional Weapons Geneva (2019).
[63] UNOG 'Japan's Statement - Outcome Of 2019 GGE and Future Actions of International Community on LAWS' Group of Governmental Experts Lethal Autonomous Weapons Systems Convention on Certain Conventional Weapons Geneva (2019).
[64] Bonnie Docherty, 'Statement on International Humanitarian Law, CCW meeting on lethal autonomous weapons systems' (*Human Rights Watch*, 26 March 2019) <https://www.hrw.org/news/2019/03/26/statement-international-humanitarian-law-ccw-meeting-lethal-autonomous-weapons>.
[65] International Committee for Robots Arm Control, '

The International Committee for Robots Arms Control (ICRAC) proposed a design for weapons in line with IHL: '[f]irst, there should be a focus on what the human operator must do in the targeting cycle…Second, the design of weapon systems must render them incapable of operating without meaningful human control.'[66]

The International Panel on the Regulation of Autonomous Weapons (iPRAW) said in their statement that '[n]ational weapon reviews alone are not sufficient to address those issues. iPRAW considers it important for States Parties to take regulatory action to shape whether and how LAWS are developed. Human control has to be the foundation of any policy that is formulated.'[67]

## 6. PAKISTAN & AUTONOMOUS WEAPONS

The utilisation of semi-autonomous drones and missiles by the United States for 'counterterrorist' missions in Pakistan, a practice dating back to 2004, has been marked by a history of controversy and concern. Drones were initially used to survey the region between Afghanistan and Federally Administered Tribal Areas (FATA) and later to conduct 'targeted killings' of suspected terrorists. Covered in vague details and secrecy, the strikes – under the guise of being safe and having minimal collateral damage – continued despite much international condemnation.[68] The most recent strike was conducted in 2018,[69] bringing the total number of strikes to 414.[70] Despite claims of precision and efficacy by the United States, it was found that the strikes were incredibly ineffective as they wrongfully targeted civilians. In fact, the unmanned drones were found to be counterproductive, acting as a stimulus

ICRAC statement at the March 2019 CCW GGE' (*International Committee for Robot Arms Control*, 26 March 2019) <https://www.icrac.net/icrac-statement-at-the-march-2019-ccw-gge/>.

[66] ibid.

[67] ibid.

[68] News Desk, 'Targeting Pakistan: UN rights panel condemns use of drones' *The Express Tribune* (24 September 2014).

[69] Kay Johnson, 'Pakistan condemns U.S. drone strike inside its territory' *Reuters* (24 January 2018).

[70] Peter Bergen, David Sterman, Melissa Salyk-Virk 'The Drone War in Pakistan – Counterterrorism Wars' *New America* (17 June 2021) <https://www.newamerica.org/future-security/reports/americas-counterterrorism-wars/>.

for people to plan terrorist attacks as revenge after living in fear and watching hundreds of innocent community members die.[71]

While the debate and apprehension surrounding semi-autonomous drones have been profound, the advent of AWS has amplified these concerns exponentially. Pakistan's stance on LAWS remains resolute, advocating for an outright ban on such technology. It is feared that these weapons will amplify conflicts, alter the nature of conflicts, and pose serious impediments to accountability for the use of force.[72] Pakistan contends that the development of LAWS poses a substantial risk of non-compliance with IHL as these are highly likely to violate the principles distinction and proportionality. The same was presented in a special report of the UN in April 2013.[73]

Pakistan was one of the first Global South States to call for such a ban on LAWS and remains an active advocate of a pre-emptive ban.[74] Pakistan additionally issued a statement as the representative of the Organisation of the Islamic Conference, an entity comprising over 50 Member States. This statement conveyed a critical message emphasising the transformation of warfare's fundamental nature when human control over the use of force is relinquished. Such a shift opens the door to a concerning scenario characterised by an 'accountability gap.'[75]

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[71] James Cavallaro, Stephan Sonnenberg, and Sarah Knuckey, *Living Under Drones: Death, Injury and Trauma to Civilians from US Drone Practices in Pakistan* (International Human Rights and Conflict Resolution Clinic, Stanford Law School, NYU School of Law, Global Justice Clinic 2012) 131.

[72] UNGA First Committee: Thematic Debate on Conventional Weapons 'Statement by Mr. Khalil Hashmi, Counsellor, Permanent Mission of Pakistan to the UN, New York' (29 October 2013) Sixty-Eighth Session of the General Assembly: Thematic Debate on Other Disarmament Measures and International Security.

[73] UNGA 'Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions' A/HRC/23/47 (9 April 2013).

[74] Ingvild Bode 'Norm-making and the Global South: Attempts to Regulate Lethal Autonomous Weapons Systems' (2019) 10(3) Global Policy 359, 361; Informal Meeting of Experts on Lethal Autonomous Weapon Systems, *Statement by Ambassador Tehmina Janjua, PR of Pakistan* (*UNODA*, 11-15 April 2016) <https://docs-library.unoda.org/Convention_on_Certain_Conventional_Weapons_-_Informal_Meeting_of_Experts_(2016)/2016_LAWS%2BMX_GeneralExchange_Statements_Pakistan.pdf>.

[75] Government of Pakistan, 'Statement to the UNHRC on behalf of the Organization of the Islamic Conference' *Stop Killer Robots* (30 May 2013) <http://stopkillerrobots.org/wp-content/uploads/2013/05/HRC_Pakistan_OIC_09_30May2013.pdf>.

Pakistan is the first Non-Aligned Movement (NAM) group member to serve as a CCW Review Conference (RevCon) president. Ambassador Tehmina Janjua, Pakistan's disarmament representative, presided over the CCW's Fifth RevCon in December 2016. At this conference, many States supported the ban on LAWS. Pakistan, along with 13 other States, has also called for pre-emptive restrictions on LAWS. Affected by the drone strikes of the United States, Pakistan still faces consequences within its own borders and, thus, questions the legality and morality of such weapons.[76] It has, therefore, argued for legally binding instruments that pre-emptively ban the advancement and utilisation of such weapons as reflected by the working paper submitted calling for the Conference on Disarmament to address 'the security and stability implications of military applications of AI and autonomy in weapon systems.'[77] The stance is in line with Human Rights Watch and the UN, which oppose the development of LAWS and invoke the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (or the Ottawa Treaty) which bans naval and anti-personnel mines (a subcategory of autonomous weapons) as precedent. Pakistan is not a Party to the Ottawa Treaty but holds the same view.

Pakistan considers armed drones and lethal autonomous robots (LARs) as some of the most concerning weapons, owing to the prospects of their upgradation to autonomous systems.[78] Pakistan has consistently pushed for a consensus and clarity of the definition of AWS.[79] Pakistan believes that in the desperation of war, LAWS could be the most inhumane weapon. In addition to a call for a complete ban on a legal basis, it also states that 'LAWS are by nature unethical' and 'irrespective of the degree of sophistication, they cannot be programmed to comply with International Humanitarian Law.'[80]

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[76] Informal Meeting of Experts on Lethal Autonomous Weapon Systems, 'Intervention of Pakistan - Informal consultations' Notes by the Campaign to Stop Killer Robots (11 November 2013) 23.
[77] Permanent Mission of Pakistan to the UN, Working Paper by Pakistan on 'Addressing the Security and Stability Implications of Military Applications of Artificial Intelligence (AI), and Autonomy in Weapon Systems' (21 July 2023).
[78] UNGA (First Committee: General Debate), *Statement by Ambassador Zamir Akram, Permanent Representative of Pakistan to the UN* (Geneva, 16 October 2013).
[79] Informal Meeting of Experts on Lethal Autonomous Weapon Systems, *Statement by Irfan Mahmood Bokhari, Second Secretary* (Geneva, 13 April 2015).
[80] ibid.

Accordingly, it states that LAWS will 'bring down the limit of going to war' and create a responsibility vacuum as it would become complicated to track the responsible person for actions of such systems.[81] This scenario, Pakistan contends, would deprive soldiers and non-combatants of the protections afforded by international law, undercutting the notion that LAWS would be a benefit to the world.[82]

In 2018, Pakistan reiterated that the rapid technological advancement of military weapons carried with it 'serious implications.'[83] The statement on behalf of the country's Ministry of Foreign Affairs also noted that such autonomous weapons add a dangerous dimension to the current arms race. Thus, Pakistan called for a moratorium to be placed on the production of AWS until a framework could be devised.[84]

Notably in 2019, a Regional Meeting on Lethal Autonomous Weapons Systems was organised in Islamabad. The gathering brought together representatives from eight Asian states[85] and the Campaign to Stop Killer Robots to generate regional support for a legally binding document on LAWS. The event concluded with a declaration recognising the need to increase national and international outreach and increase the membership of the campaign.[86]

Pakistan's ambassador, Mr. Zaman Mehdi, speaking at the 2022 CCW meeting, emphasised the need to preserve the 'balance between military necessity and humanitarian concerns' in the CCW.[87] Regarding LAWS,

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[81] Gulshan Bibi 'Implications of Lethal Autonomous Weapon Systems (LAWS): Options for Pakistan' (2018) 2(2) Journal of Current Affairs 18, 38.
[82] Convention on Conventional Weapons Meeting of High Contracting Parties, *Statement of Pakistan by Ambassador Zamir Akram, Permanent Representative* (Geneva, 14 November 2013).
[83] UNGA First Committee: Disarmament and International Security, *Statement by Mr. Husham Ahmed, Director (Arms Control and Disarmament), Ministry of Foreign Affairs* (Geneva, 30 October 2018) Seventy-Third Session of the General Assembly: Thematic Debate on Other Disarmament Measures and International Security.
[84] Web Monitoring Desk, 'Pakistan calls for moratorium on production of Lethal Autonomous Weapon Systems' *The Nation* (01 November 2018).
[85] Afghanistan, Azerbaijan, Japan, Kazakhstan, Kyrgyzstan, Nepal, Pakistan, and Sri Lanka.
[86] Sustainable Peace and Development Organization (SPADO) 'Civil Society Declaration - Regional Meeting on Lethal Autonomous Weapons Systems' (Islamabad, 2019).
[87] Zaman Mehdi, 'Statement by Ambassador Zaman Mehdi, Deputy Permanent Representative at the Annual Meeting of High Contracting Parties to Convention on Certain Conventional Weapons

Pakistan called for legally binding international rules due to their rapid technological advancements and significant implications. Pakistan committed to working with other States to ensure the Convention's sustainability and effective implementation, focusing on emerging technologies related to LAWS.

At the 2023 CCW GGE meeting, Pakistan submitted a proposal outlining the need for an international legal framework regarding LAWS due to the challenges, risks, and dangers they pose.[88] Pakistan emphasised the urgency of developing an international legally binding framework for LAWS under the CCW, stating that this framework should include prohibitions on the development, deployment, and use of LAWS that do not comply with IHL principles. These include prohibitions on weapons lacking 'human control over the decision to use force' or causing excessive harm to civilians.[89] The proposal also suggests restrictions and regulations for LAWS that do have human control, ensuring that their use adheres to IHL standards. The document underscores that the failure to establish clear legal norms for LAWS could lead to dire humanitarian consequences, provoke an arms race, weaken arms control efforts, and jeopardise global security. Therefore, Pakistan urged the CCW GGE to develop a comprehensive normative framework to address these challenges and concerns associated with LAWS effectively.

## 7. THE WAY FORWARD: CONCLUSION AND RECOMMENDATIONS

Pakistan faces a complex and strategically sensitive dilemma regarding its policy on AWS. By being one of the most vocal countries that oppose AWS,

(CCW), 16 November 2022' (Speech delivered at Annual Meeting of High Contracting Parties to Convention on Certain Conventional Weapons (CCW), 16 November 2022) <https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/hcp-meeting/statements/16Nov_Pakistan.pdf>.

[88] Government of Pakistan, 'Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System', Geneva, 6-10 March, and 15-19 May 2023, Item 5 of the Provisional agenda, CCW/GGE.1/2023/WP.3 (6 March 2023). <https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2023/gge/documents/Pakistan_March2023.pdf>.

[89] ibid.

Pakistan will not be able to justify any future development of such systems. India, on the other hand, continues its research on the development of this technology, and if it succeeds, it will put Pakistan at a disadvantage, given the unique security situation in the region.

Since the proliferation of AWS seems inevitable in the militaries of leading powers,[90] Pakistan will have to adopt a nuanced and flexible approach by shifting to a more moderate stance on the legality of AWS. One such approach can be the continuation of the call for a pre-emptive ban on completely autonomous weapons, on ethical and legal grounds, while taking a more lenient stance on the development of semi-autonomous weapons. The critical distinction is with regard to who makes the decision to deploy lethal force, i.e., as long as the decision to deploy force is made with human intervention, the weapon would be allowed. However, if that decision is taken by the machine itself, Pakistan will be able to continue its opposition based on the inviolability of human dignity and the accountability vacuum such weapons will create.

Alternatively, Pakistan could take a cue from China's approach, which allows for the research and development of such weapons to explore their potential but opposes the deployment of such weapons. This will allow Pakistan to pursue research and development of such weapons, which will allow them to explore the alternate uses of such technologies, for example, in surveillance and reconnaissance. This should also allow Pakistan to call for regulations on the use of such weapons in peacetime for law enforcement purposes.

A national policy for the use and development of AWS will have to be formulated that ensures that emerging technologies comply with the duty to individuate force and ensure that no person who cannot be legally harmed is in danger. This policy should also lay down the characteristics that would render a weapon illegal when a legal review is conducted as per Article 36 of API, to give more meaning to that provision. This would provide a practical framework for evaluating the legality of emerging technologies.

[90] Bibi (n 81) 38.

While the development and deployment of completely autonomous weapons appear to be concerns of the future, the rapid advancements in artificial intelligence technology suggest that they could become a tangible threat in the near future. Leading technology developers are already in an arms race to take humans out of the loop and make weapons completely autonomous. Therefore, it is necessary that Pakistan formulates a clear stance and policy on such technology. This policy needs to be consistent with the earlier position taken by Pakistan while also being pragmatic and forward-thinking. Such a policy would permit Pakistan to explore emerging technologies, ensuring it is not left at a disadvantage when other nations incorporate AWS into their military strategies. It should also provide room for Pakistan to continue its opposition to the use of such weapons based on ethical and legal concerns.