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Lethal Autonomous Weapons Systems and the Right to Life in Non-Combat Contexts

Omida Kazimi*

Faculty of Law, Universitas Islam Indonesia, Yogyakarta, Indonesia, 24912110@students.uii.ac.id, ORCID ID 0009-0000-9882-7126

Sefriani

Faculty of Law, Universitas Islam Indonesia, Yogyakarta, Indonesia, Sefriani@uii.ac.id

Arezo Tolo

Kabul University, Afghanistan
arezokazimi880@gmail.com

Abstract. Artificial intelligence (AI) fundamentally transformed the new technology era, particularly in the field of military and law enforcement. Lethal Autonomous Weapons Systems **(**LAWS) that can identify, select, and attack targets without human intervention present serious challenges regarding the right to life under IHRL. This research analysis deployment of LAWS in non-combat situations like law enforcement, border control, and counter terrorism. The current research utilizes a doctoral research method based on the Human Rights and Technology theoretical framework to analyze the international instruments such as ICCPR, UDHR, and General Comment No. 36 of the Human Rights Committee. The research finding indicates deployment of LAWS without human meaningful control violates the fundamental principles for the protection of the right to life, including the necessity principle, the proportionality principle, and accountability. LAWS is used in some countries in non-combat situations like the US, South Korea, and Israel, which have revealed that the current international framework is not able to regulate and hold responsible against unlawful killings. Therefore, violation of human dignity and an accountability gap are the consequences of delegating life and death decisions to machines without human judgment. To conclude, to regulate, monitor, human meaningful control, accountability, and protection of the right to life in the era of digital transformation, the ratification of a binding international treaty is urgently required.

Keywords: Right to life, Lethal Autonomous Weapons Systems, Accountability, Artificial Intelligence

Abstrak. *Kecerdasan buatan (Artificial Intelligence/AI) secara fundamental telah mentransformasi era teknologi baru, khususnya di bidang militer dan penegakan hukum. Lethal Autonomous Weapons Systems (LAWS) yang mampu mengidentifikasi, memilih, dan menyerang target tanpa intervensi manusia menimbulkan tantangan serius terhadap hak untuk hidup dalam kerangka Hukum Hak Asasi Manusia Internasional (International Human Rights Law/IHRL). Penelitian ini menganalisis penggunaan LAWS dalam situasi non-kombatan seperti penegakan hukum, pengendalian perbatasan, dan kontra-terorisme. Penelitian ini menggunakan metode penelitian doktrinal berdasarkan kerangka teoritis Hak Asasi Manusia dan Teknologi untuk menganalisis instrumen internasional seperti International Covenant on Civil and Political Rights (ICCPR), Universal Declaration of Human Rights (UDHR), dan General Comment No. 36 dari Komite Hak Asasi Manusia. Hasil penelitian menunjukkan bahwa penggunaan LAWS tanpa kendali manusia yang bermakna melanggar prinsip-prinsip fundamental perlindungan hak untuk hidup, termasuk prinsip kebutuhan, prinsip proporsionalitas, dan akuntabilitas. Penggunaan LAWS di beberapa negara dalam situasi non-kombatan seperti di Amerika Serikat, Korea Selatan, dan Israel menunjukkan bahwa kerangka hukum internasional saat ini belum mampu mengatur dan meminta pertanggungjawaban atas pembunuhan yang melawan hukum. Oleh karena itu, pelanggaran terhadap martabat manusia dan adanya kesenjangan akuntabilitas menjadi konsekuensi dari pendelegasian keputusan hidup dan mati kepada mesin tanpa pertimbangan manusia. Sebagai kesimpulan, untuk mengatur, mengawasi, memastikan kendali manusia yang bermakna, menjamin akuntabilitas, dan melindungi hak untuk hidup di era transformasi digital, ratifikasi suatu perjanjian internasional yang mengikat sangat mendesak untuk dilakukan.*

Kata Kunci: *Hak Hidup, Lethal Autonomous Weapons Systems, Akuntabilitas, Kecerdasan Buatan*

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INTRODUCTION

Artificial intelligence, one of the most important and controversial areas of technological advancement in the 21st century, has transformed human life in various ways.[1] However, this technology is not only a tool of digital progress and neutrality but rather a tool of the power and interests of a specific group. Humans lose their agency and responsibility when decisions are made by autonomous and technical systems. Therefore, a small number of people rule the fate of the majority based on the decisions of algorithmic logic.[2] "Yet rational though it may be, technology engulfs its creators, threatening both spiritual and material survival."[3] "Essentialism holds that technology reduces everything to functions and raw materials".[4] AL's military integration,[5] and the rise of LAWS has sparked intense debate in international law recently.[6] LAWS, after initial activation by a person, can identify, select, and target without human intervention. These systems use pre-programmed sensors and algorithms based on the general target profiles to decide whether to use force without a human determining the specific target, exact time, or location of the attack.[7] The deployment of LAWS poses serious threats that go beyond concerns about compliance with IHL. in the context of non-combat can lead to arbitrary deprivation of life and a lack of accountability, and the erosion of human dignity.[8]

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[1] Dino Pedreschi et al., "Human-AI Coevolution," *Nature Machine Intelligence* 5 (May 2024): p. 5, https://doi.org/10.48550/arXiv.2306.13723.

[2] Andrew Feenberg, "Critical Theory of Technology," Northeast China University, Shenyang, 2004, https://www.sfu.ca/~andrewf/books/Critical_Theory_Technology.pdf.

[3] Andrew Feenberg, "Questioning_Technology," *Routledge*, 1999, 1–9 P. 3, https://www.researchgate.net/publication/296706069_Questioning_Technology#fullTextFileContent.

[4] Feenberg. p.3

[5] Hektor Ruci, "LETHAL AUTONOMOUS WEAPON SYSTEMS (LAWS) ENFORCEMENT OF HUMAN RIGHTS BY ALGORITHMS?," Review of Legal and Related Contemporary Issues 5 (2024): 1–17. p.5 accessed May 24, 2025, https://doi.org/10.56461/iup_rlrc.2024.5.ch1.

[6] Elliot Winter, "The Compatibility of the Use of Autonomous Weapons with the Principle of Precaution in the Law of Armed Conflict," *The Military Law and the Law of War Review* 58, no. 2 (December 2020): 240–73, p. 243 https://doi.org/10.4337/mllwr.2020.02.18.

[7] International Committee of the Red Cross, *ICRC Position on Autonomous Weapon Systems and the Element of Human Control*, Position and background paper (Geneva: ICRC, 2021), 1–4, https://www.icrc.org/sites/default/files/document_new/file_list/icrc_position_on_aws_and_background_paper.pdf.

[8] Bonnie Docherty, *The Need for and Elements of a New Treaty on Fully Autonomous Weapons*, Policy Report (Human Rights Watch and Harvard Law School International Human Rights Clinic (IHRC), 2020), 1–12, p.3- 4 s://www.hrw.org/news/2020/06/01/need-and-elements-new-treaty-fully-autonomous-weapons.

A LAWS can identify, select, and attack a target, and a weapon with these capabilities is considered a fully autonomous weapon.[9] So far, all discussions about LAWS have focused on armed conflicts, but their uses in domestic law enforcement, [10] surveillance,[11] counter-terrorism,[12] and border control[13] is increasing.[14] Example of use the LAWS outside the armed conflict include Iron Dome by Israel,[15] the San Francisco Police Department (SFPD)'s suggestion for using killer robot in law enforcement,[16] a remote-controlled robot armed with explosives was used to kill a shooter who had killed five officers and wounded seven others vehicle in 2016 by US Dallas police,[17] and South Korea's SGR-A1 which was made as stationary sensor robot in 2000 and settled in Korean Demilitarized Zone.[18] IHRL is more restrictive than IHL,[19] as the use of LAWS in law enforcement requires compliance with the principles of necessity and proportionality,[20] to respect the right to life, which is protected and recognized under the UDHR and ICCPR.[21] According to the ICCPR, the right to life must be protected by law, and no one should be arbitrarily deprived of it. Therefore,

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[9] John Lewis, "The Case for Regulating Fully Autonomous Weapons," *THE YALE LAW JOURNAL* 124, no. 4 (2025): p. 1309–25, https://www.jstor.org/stable/43617052?seq=1.

[10] Christof Heyns, "Human Rights and the Use of Autonomous Weapons Systems (AWS) During Domestic Law Enforcement," *Human Rights Quarterly* 38, no. 2 (2016): 350–78, p.352 https://doi.org/10.1353/hrq.2016.0034.

[11] Ingvild Bode and Hendrik Huelss, "Autonomous Weapons Systems and Changing Norms in International Relations," *Review of International Studies* 44, no. 3 (July 2018): 393–413, https://doi.org/10.1017/s0260210517000614.

[12] Alberto Rinaldi and Sue Anne Teo, "The Use of Artificial Intelligence Technologies in Border and Migration Control and the Subtle Erosion of Human Rights," *International & Comparative Law Quarterly* 74, no. 1 (January 2025): 61–89, p. 67 https://doi.org/10.1017/S0020589325000090.

[13] Mirko Forti, "Addressing Algorithmic Errors in Data-Driven Border Control Procedures," *German Law Journal* 25, no. 4 (June 2024): 635–45, https://doi.org/10.1017/glj.2023.102.

[14] Heyns, "Human Rights and the Use of Autonomous Weapons Systems (AWS) During Domestic Law Enforcement," 2016.

[15] GUNASEKARA-ROCKWELL CENTER/AUP ERNEST A. CIV USAF AETC LEMAY, "Laws on LAWS: Regulating the Lethal Autonomous Weapon Systems," Air University (AU), September 21, 2023, https://www.airuniversity.af.edu/JIPA/Display/Article/3533453/laws-on-laws-regulating-the-lethal-autonomous-weapon-systems/.

[16] Alexander Blanchard, "Autonomous Force beyond Armed Conflict," *Minds and Machines*, 2023, 2, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4340209.

[17] Blanchard.

[18] Bode and Huelss, "Autonomous Weapons Systems and Changing Norms in International Relations."

[19] Christof Heyns, "Human Rights and the Use of Autonomous Weapons Systems (AWS) During Domestic Law Enforcement," *Human Rights Quarterly* 38, no. 2 (2016): 350–78, p.353 https://doi.org/10.1353/hrq.2016.0034.

[20] Maya Brehm, *Autonomous Weapon Systems under International Law: Academy Briefing No. 8*, Academy Briefing (Geneva, Switzerland: Geneva Academy of International Humanitarian Law and Human Rights, 2017), 1-76 P. 11, https://www.geneva-academy.ch/joomlatools-files/docman-files/Publications/Academy%20Briefings/Autonomous%20Weapon%20Systems%20under%20International%20Law_Academy%20Briefing%20No%208.pdf.

[21] Ondrej Bajgar and Jan Horenovsky, "Negative Human Rights as a Basis for Long-Term AI Safety and Regulation," *Journal of Artificial Intelligence Research* 76 (April 2023): 1043–75, https://doi.org/10.1613/jair.1.14020.

the use of LAWS due to the lack of an accountability mechanism and non-compliance with the strict human rights standard poses serious legal challenges, particularly regarding the right to life.[22]

LAWS sparked intense debate among the domestic and international organizations, and most studies focus on the use of LAWS during armed conflicts under the IHL, such as Mapping the Lethal Autonomous Weapons Debate: An Introduction by Josephine Jackson, which emphasizes that for governing LAWS, a multidimensional approach must be taken, including military, technological, legal, and ethical-theoretical dimensions.[23] Christof Heyns, in his research entitled Autonomous weapons in armed conflict and the right to a dignified life: an African perspective, addresses the use of LAWS in armed conflict and shows the impact on the right to life and dignity of human beings in war.[24] Moreover, Alexander Blanchard, in his research entitled Autonomous force beyond armed conflict, examined the moral, social, and political implications of the use of LAWS outside of war.[25] In addition, Human Rights and the Use of Autonomous Weapons Systems During Domestic Law Enforcement has examined the use of autonomous weapons in law enforcement, emphasizing meaningful human control and arguing that autonomous weapons should have no role in law enforcement because they conflict with states' human rights obligations. The current research addresses how the use of LAWS raises legal gaps and a lack of accountability in non-combat situations, particularly on the right to life, and how IHRL is inadequate to regulate this situation.[26]

The research argues that the use of LAWS in non-combat contexts creates serious legal implications for the right to life within the framework of IHRL.[27] Although the

[22] Heyns, "Human Rights and the Use of Autonomous Weapons Systems (AWS) During Domestic Law Enforcement," 2016. p. 365

[23] Josephine Jackson, "Mapping the Lethal Autonomous Weapons Debate: An Introduction," *Ethics & International Affairs* 37, no. 3 (2023): 254–60, https://doi.org/10.1017/S0892679423000345.

[24] Christof Heyns, "Autonomous Weapons in Armed Conflict and the Right to a Dignified Life: An African Perspective," *South African Journal on Human Rights* 33, no. 1 (January 2017): 46–71, https://doi.org/10.1080/02587203.2017.1303903.

[25] Blanchard, "Autonomous Force beyond Armed Conflict."

[26] Christof Heyns, "Human Rights and the Use of Autonomous Weapons Systems (AWS) During Domestic Law Enforcement," *Human Rights Quarterly* 38, no. 2 (2016): 350–78, https://doi.org/10.1353/hrq.2016.0034.

[27] Heyns, "Human Rights and the Use of Autonomous Weapons Systems (AWS) During Domestic Law Enforcement," 2016. p. 365

deployment of LAWS was intensively discussed in armed conflict under the IHL in many studies, insufficient attention has been given to their deployment of LAWS in non-combat contexts. This research aims to examine legal challenges of the use of LAWS in peacetime under IHRL, particularly the state's obligations regarding the protection of the right to life, and assess how the lack of meaningful human control, algorithmic decision-making, and weaknesses in accountability mechanisms challenge the right to life. In addition, it assesses the adequacy of existing human rights frameworks in regulating LAWS. This research shifts its focus from armed conflict to peacetime for contributing to existing literature by examining the legal challenges the use of LAWS in non-combat contexts poses to the protection of the right in peacetime and identifying existing legal gaps concerning accountability, human control, and the application of international human rights law to LAWS.

METHODOLOGY

This research utilizes a doctrinal legal methodology based on a qualitative approach, with the main focus on the interpretation of international documents such as ICCPR, UDHR, General Comment No. 36 of the Human Rights Committee, besides secondary materials from international organizations such as UN Human Rights Council, ICRC, and Amnesty International. A comparative case analysis, such as the use of police robots in the U.S, border technologies in South Korea, and Israel, allows me to identify the challenges of human meaningful control and legal accountability of the application of LAWS in non-combat situations. Through this approach, we will be able to critically assess the existing frameworks and provide legal recommendations to amend or develop regulations to protect the right to life.

RESULT AND DISCUSSION

A. Legal Challenges Posed by the Use of LAWS in Non-combat Contexts to the Protection of the Right to Life Under International Human Rights Law

Right to life is one of the most essential rights of humans, which is enshrined in Article 6 of ICCPR and Article 3 of UDHR, and other regional and specialized documents that support human life, such as the Convention on the Rights of the Child[28] and the European Convention on the matter.[29] It is considered a Prerequisite for enjoying other human rights, and most scholars consider this right as Jus cogens.[30] The right to life is an absolute right that prohibits any kind of arbitrary killing, and this prohibition includes actions by the state as well as other individuals.[31] The right to life prohibits the killing of innocent people on a utilitarian basis, and does not accept any form of utilitarian justification that disregards human dignity and permits immoral acts.[32] The right to life has the highest position among the inviolable rights, and no one should be arbitrarily deprived of this right because it is not only a violation of human inherent rights, but it is considered one of the cruel acts.[33] Therefore, the development and the use of LAWS outside of armed conflict pose serious concern regarding human rights, particularly the right to life.[34] Arbitrary deprivation of the right to life, even in armed conflict, is absolute and irreversible. International standards, such as the UN Code of Conduct for Law Enforcement Officials and the UN Basic Principles on the Use of

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[28] Petersen Niels, "Life, Right to, International Protection," in *Max Planck Encyclopedia of Public International Law*, with Petersen Niels (Oxford University Press, June 2019), https://doi.org/10.1093/law:epil/9780199231690/e841.

[29] Dumitru Popa and Georgiana Alina Ristea, "THE RIGHT TO LIFE IN THE INTERNATIONAL HUMAN RIGHTS LAW," *International Journal of Communication Research* 11, no. 1 (2021): p. 12–19, https://www.ijcr.eu/articole/531_002%20Dumitru%20Popa.pdf.

[30] Niels, "Life, Right to, International Protection."

[31] Stuart Casey-Maslen and Christof Heyns, *The Right to Life Under International Law: An Interpretative Manual* (Cambridge University Press, 2021), p.21-22 https://books.google.co.id/books?hl=en&lr=&id=f_w7EAAAQBAJ&oi=fnd&pg=PR9&dq=The+Right+to+Life+under+International+Law+An+Interpretative+Manual&ots=CuobwWKb9u&sig=4oHEl8tTVcPJuFEAbXdzsfp2BCM&redir_esc=y#v=onepage&q&f=false.

[32] Tom Finegan, *The Right to Life in International Human Rights Law*, No. 3464 (Washington, DC: The Heritage Foundation, 2020), 1–32 p. 7, https://reproductiverights.org/right-life-international-human-rights-law/.

[33] Dumitru Popa and Georgiana Alina Ristea, "THE RIGHT TO LIFE IN THE INTERNATIONAL HUMAN RIGHTS LAW," *International Journal of Communication Research* 11, no. 1 (2021): 12–19, p. 16 https://www.ijcr.eu/articole/531_002%20Dumitru%20Popa.pdf.

[34] Amnesty International, *Autonomous Weapons Systems: Five Key Human Rights Issues for Consideration*, ACT 30/1401/2015 (London: Amnesty International Publications, 2015), p.8, https://www.amnesty.org/en/wp-content/uploads/2023/05/ACT3014012015ENGLISH.pdf.

Force and Firearms by Law Enforcement Officials, state that law enforcement agents can use force if it is proportionate and necessary for a legitimate purpose, with full respect for human rights, especially the right to life. However, this kind of evaluation by LAWS is difficult and impossible.[35]

LAWS cannot adhere to basic principles, such as proportionality, necessity, and precaution, that are meant to protect people in war, because these principles depend on human judgment and understanding. Therefore, removing humans from decision-making, which requires a sense of responsibility and compassion, and leaving the decision of life and death to a machine creates an accountability gap and raises the risk of violating the right to life of civilians.[36] There are three types of duty-based arguments about LAWS: the inability of LAWS to comply with the rules of IHL and IHRL in the use of lethal force, the creation of an accountability gap, and entrusting the decision to take life to a machine, which is contrary to human dignity and necessity.[37] Before taking a human life, a conscious and deliberate decision must be made based on international humanitarian law in times of war and international human rights law. It includes non-combat activities such as domestic policing, crowd control, border control, keeping prisoners, and other deadly activities that require human judgment.[38]

The use of these weapons during peacetime and outside of a military context is dangerous for the international community because they may be technically imperfect and difficult to control with advanced technology.[39]The deployment of LAWS in peacetime and law enforcement, such as crowd control, hostage situations [40]

[35] Amnesty International. p.11

[36] Amanda Sharkey, "Autonomous Weapons Systems, Killer Robots and Human Dignity," *Ethics and Information Technology* 21, no. 2 (June 2019): 75–87 p. 76, https://doi.org/10.1007/s10676-018-9494-0.

[37] Sharkey. p.77

[38] Peter Asaro, "On Banning Autonomous Weapon Systems: Human Rights, Automation, and the Dehumanization of Lethal Decision-Making," *International Review of the Red Cross* 94, no. 886 (June 2012): 687–709 p. 689, https://doi.org/10.1017/S1816383112000768.

[39] Daniele Amoroso and Guglielmo Tamburrini, "Autonomous Weapons Systems and Meaningful Human Control: Ethical and Legal Issues," *Current Robotics Reports* 1, no. 4 (December 2020): 187–94 p.189, https://doi.org/10.1007/s43154-020-00024-3.

[40] Regina Surber, *Artificial Intelligence: Autonomous Technology (AT), Lethal Autonomous Weapons Systems (LAWS) and Peace Time Threats* (Zurich: ICT4Peace Foundation, 2018), 1–40 p. 13, https://ethicsandtechnology.org/wp-content/uploads/2022/06/2018_RSurber_AI-AT-LAWS-Peace-Time-Threats_final.pdf.

undermines the principle of proportionality and the value of human life in life-and-death decisions, as these systems rely on artificial intelligence and facial recognition technology to identify and engage the targets.[41]

In international law, governments must adhere to principles such as necessity, proportionality, and precaution when using force.[42] These principles are more stringent regarding how and when to use force, especially lethal or potentially lethal force, which is legitimate only as a last resort to protect the fundamental right to life.[43] These principles govern the use of force in law enforcement,[44] and IHRL and IHL allow the use of force if it is necessary to achieve a legitimate goal.[45] Given this point, when LAWS make lethal decisions in war, they have no advantage, and in the absence of advantage, they cause unnecessary harm to civilians and violate the principle of necessity.[46] Similarly, the use of force by law enforcement officers is permissible only when it is to achieve a legitimate goal and no peaceful options, such as persuasion, negotiation, or mediation, are effective.[47]

The principle of proportionality prohibits attacks that cause a lot of damage to civilians,[48] unless the purpose and military advantage of that attack is more compelling than the harm to civilians.[49] Therefore, the main challenge in the use of

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[41] Australian Human Rights Commission, *Human Rights and Lethal Autonomous Weapons Systems: Submission to the Human Rights Council Advisory Committee* (Sydney, Australia: Australian Human Rights Commission, 2023), 1–13 p. 4, https://humanrights.gov.au/sites/default/files/human_rights_and_lethal_autonomous_weapons__0.pdf.

[42] Stuart Casey-Maslen, *Use of Force in Law Enforcement and the Right to Life: The Role of the Human Rights Council*, Academy In-Brief No. 6 (Geneva: Geneva Academy of International Humanitarian Law and Human Rights, 2016), 1–43 p. 6.

[43] International Committee of the Red Cross (ICRC), *The Use of Force in Law Enforcement Operations* (Geneva: International Committee of the Red Cross, 2022), 1–7 2, https://www.icrc.org/sites/default/files/document/file_list/the_use_of_force_in_law_enforcement_operations.pdf.

[44] Sefriani - and Nur Gemilang Mahardhika, "The Legality of Military Involvement in Law Enforcement Operations Against Criminal Armed Groups in Indonesia's Papua Province," *Asia-Pacific Social Science Review* 23, no. 4 (December 2023): 28–41 37, https://doi.org/10.59588/2350-8329.1515.

[45] Dr. Gargi Bhatt, "Recognising Human Rights Concerns in Military AI: Stabilizing the Authority and Legal Ethics," *JSS Journal for Legal Studies and Research* Special Issue (2025): 20–39 P. 30, https://jsslawcollege.in/wp-content/uploads/2025/02/02.-Recognising-Human-Rights-Concerns-in-Military-AI-Stabilizing-the-Authority-and-Legal-Ethics-1_compressed.pdf.

[46] Nathan G Wood, "The Problem with Killer Robots," *Journal of Military Ethics* 19, no. 3 (2020): 220–40 p. 14, https://doi.org/10.1080/15027570.2020.1849966.

[47] Stuart Casey-Maslen, *Use of Force in Law Enforcement and the Right to Life*. p.7

[48] Bhatt, "Recognising Human Rights Concerns in Military AI: Stabilizing the Authority and Legal Ethics." p.23

[49] Anzhelika Solovyeva and Nik Hynek, "Going Beyond the 'Killer Robots' Debate: Six Dilemmas Autonomous Weapon Systems Raise," *Central European Journal of International and Security Studies* 12, no. 3 (2018): 166–208, https://cejiss.org/going-beyond-the-killer-robots-debate-six-dilemmas-autonomous-weapon-systems-raise-0. p.193 https://cejiss.org/going-beyond-the-killer-robots-debate-six-dilemmas-autonomous-weapon-systems-raise-0

LAWS is this type of weapon's ability to determine whether the expected military benefits are worth the potential harm to civilians and civilian property. Therefore, the principles of proportionality may be violated.[50] Another principle that is reasonable in the use of LAWS is the principle of precaution. [51]The precautionary principle states that in making decisions and policies that cause great and irreparable harm, and there is still no complete and conclusive evidence, one should refrain from doing it or act very cautiously and carefully.[52] It is better to act with caution in the use of LAWS due to technical problems, lack of recognition of their unexpected and dangerous effects, and consequences. Namely, when there is a possibility of widespread use of force and abuse by governments to consolidate power, the principle of precaution finds a special place to avoid possible harm.[53]

The use of LAWS not only requires compliance with IHL, but also with IHRL which applies at all times, even during war. [54] The goal of IHRL includes protecting fundamental human rights such as the right to life, which is central to IHRL, and the principle of safeguarding life is considered "the guiding star whenever lethal force is used." [55] Deploying LAWS without adhering to the principles of necessity, proportionality, and precaution creates serious challenges for fulfilling the government's human rights obligations, especially outside of armed conflict. [56] As LAWS are increasingly used in non-combat situations such as law enforcement, counter-terrorism, and border control, concerns about violating fundamental human rights, such as the right to life, have grown.[57] The absence or lack of meaningful human control over life and death decisions could lead to the possibility of arbitrary deprivation of life, disproportionate use of force, and lack of accountability, all of

[50] Christopher J Coyne and Yahya Alshamy, "Perverse Consequences of Lethal Autonomous Weapons Systems," *SSRN Electronic Journal*, March 10, 2021, 14 p.12, https://doi.org/10.2139/ssrn.3767512.

[51] Bhatt, "Recognising Human Rights Concerns in Military AI: Stabilizing the Authority and Legal Ethics."

[52] Coyne and Alshamy. p.12

[53] Coyne and Alshamy. p.12

[54] Bhatt, "Recognising Human Rights Concerns in Military AI: Stabilizing the Authority and Legal Ethics." p. 30

[55] Solovyeva and Hynek, "Going Beyond the 'Killer Robots' Debate: Six Dilemmas Autonomous Weapon Systems Raise." p.193

[56] Solovyeva and Hynek. p.193

[57] Asif Ali and Subramanian Ramamurthy, "Humanity at the Crossroads: Human Rights Challenges in the Age of Lethal Autonomous Weapon Systems," *International Journal of Legal Information* 53, no. 1 (March 2025): p 2–13, https://doi.org/10.1017/jli.2025.11.

which conflict with the UN Basic Principles on the Use of Force and Firearms (BPUFF) and the UN Code of Conduct for Law Enforcement Officials (CCLEO).[58]

Use of LAWS in Non-Combat Settings: Case Examples and Risks

In July 2016, Dallas police chief David Brown used an unusual method to end a violent conflict involving Micah Johnson, who had killed 5 police officers and injured several others. The police officer attached a pound of C4 plastic explosive to an F-5 Remote robot designed to defuse the bomb, and its intentional detonation resulted in Janson's death. This incident marked the first time that American forces deliberately used a robot equipped with lethal force.[59] With this action, the landscape of law enforcement's use of force was permanently changed.[60] These robots have the ability to detect abnormal and potentially dangerous behavior.[61] After the Micah Johnson case, this is a serious warning to the legal community because existing laws still cannot regulate the use of LAWS outside of armed conflict, and current standards are unable to respond to new developments that are expanding day by day.[62]

Another example of the use of LAWS in non-combat situations is South Korea's use of the SGR-A1 robot made by Samsung, on the border with North Korea. This robot is equipped with a system that can recognize people showing the signs of surrender, and the robot will shoot at intruders who do not surrender, using a light machine gun.[63] Mechanized killing is one of the human rights concerns that machines make life and death decisions without human intervention. To make a conscious decision to take a life, human presence is necessary.[64]

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[58] Amnesty International, *Submission to the UN Secretary-General Re: Res 78/241 — Autonomous Weapons Systems in Law Enforcement*, IOR 40/7981/2024 (London, United Kingdom: Amnesty International, 2024), 1-3 P.1, https://www.amnesty.org/en/wp-content/uploads/2024/04/IOR4079812024ENGLISH.pdf.

[59] Elizabeth E. Joh, "Policing Police Robots," *UCLA Law Review* 64 (November 2016), https://www.uclalawreview.org/policing-police-robots/.

[60] Thomas Wanebo, "Remote Killing and the Fourth Amendment: Updating Constitutional Law to Address Expanded Police Lethality in the Robotic Age," *UCLA Law Review* 65, no. 4 (2018): 976–1034. p.992

[61] Wanebo. p.994

[62] Wanebo. p. 995

[63] Andrea Spagnolo, "Human Rights Implications of Autonomous Weapon Systems in Domestic Law Enforcement: Sci-Fi Reflections on a Lo-Fi Reality," *QIL, Zoom-In* 43 (2017): 33–58, https://www.qil-qdi.org/human-rights-implications-autonomous-weapon-systems-domestic-law-enforcement-sci-fi-reflections-lo-fi-reality/.

[64] Mary Ellen O'Connell, "Banning Autonomous Weapons: A Legal and Ethical Mandate," *Ethics & International Affairs* 37, no. 3 (2023): 287–98, P. 294 https://doi.org/10.1017/S0892679423000357.

Moreover, in 2017, Dubai introduced the first police robot equipped with a facial recognition system for surveillance and law enforcement purposes. This shows an increasing use of automation in key areas such as border, suspect recognition, public order, and domestic law enforcement. [65] The San Francisco City Council has authorized the city's police to use lethal force in emergencies, but opponents argued that such authority would lead to the unfair use of force against minorities and the poor.[66] Since LAWS are equipped with AI, they pose challenges to IHRL and the command hierarchy,[67] as the ability of LAWS to select and attack targets without programming and human intervention creates a disturbing vision: entrusting the destiny of humans to the hands of robots.[68]

States must be accountable for the illegal actions of LAWS, which include states, software and hardware manufacturers, and political leaders.[69] LAWS undermine the inherent human value and consider humans as statistical tools, and delegating death and life decisions to a machine violates human.[70] The right to immunity from arbitrary deprivation of life requires that force be used only for a legitimate purpose, proportionately, and as a last resort to protect human life. LAWS can not recognize subtle behavioral, understand the necessity and proportionality, and calm the situation through human connection.[71] As a result, their use is arbitrary and illegal, because the lack of human meaningful control and judgment in peacetime under IHRL makes LAWS unable to meet the requirements of proportionality, precaution, and necessity.[72]

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[65] Spagnolo, "Human Rights Implications of Autonomous Weapon Systems in Domestic Law Enforcement: Sci-Fi Reflections on a Lo-Fi Reality." p. 41

[66] JANIE HAR, "San Francisco Will Allow Police to Deploy Robots That Kill," AP News, November 30, 2022, https://apnews.com/article/police-san-francisco-government-and-politics-d26121d7f7afb070102932e6a0754aa5.

[67] Erika Steinholt Mortensen, "Autonomous Weapon Systems That Decide Whom to Kill" (Master's thesis, UiT – The Arctic University of Norway, 2016).

[68] Mortensen. p.7

[69] Berkant Akkuş, "AUTONOMOUS WEAPON SYSTEMS UNDER INTERNATIONAL LAW," *Güvenlik Bilimleri Dergisi* 11, no. 2 (November 2022): 333–66 p 352, https://doi.org/10.28956/gbd.1078155.

[70] Akkuş. p.353

[71] Human Rights Watch; International Human Rights Clinic, Harvard Law School, *A Hazard to Human Rights: Autonomous Weapons Systems and Digital Decision-Making* (United States: Human Rights Watch, 2025), p.2, https://www.hrw.org/sites/default/files/media_2025/04/arms0425%20web.pdf.

[72] Human Rights Watch; International Human Rights Clinic, Harvard Law School. p.2

B. Legal and Accountability Challenges

In 2020, the Council of Europe launched preparations for creating a legal framework for artificial intelligence based on human rights standards, which was adopted in 2021 by the Ad Hoc Committee on Artificial Intelligence (CAHAI). Within this framework, Human Rights, Democracy, and the Rule of Law Assurance Framework (HUDERAF) emphasizes the analysis of risk, stakeholder participation, impact assessment, and transparent management. The aim was to ensure transparency, accountability, and adherence to human rights standards and the rule of law in AI projects.[73] In academic and societal debates, accountability and responsibility play the primary role regarding the ethical and political consequences of LAWS.[74] The use of LAWS in the absence of efficient regulation paves the way for governments and individuals to escape responsibility.[75] Therefore, humans should be fully responsible for making decisions about the use of LAWS, because moral and legal responsibility cannot be delegated to machines.[76]

However, there is a gap between military technological progress and the ability of international law to regulate the consequences of this technology. It creates legal and ethical challenges, increases the risk of illegitimate use of force, and weakens the accountability mechanism regarding LAWS.[77] Therefore, establishing a multilateral regulatory framework for LAWS is an urgent need to preserve human meaningful control while using force.[78] Moreover, deploying LAWS in law enforcement could threaten the right to life, and raises crucial and ultimately unresolvable issues under the IHRL standards.[79]

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[73] David Leslie et al., *Human Rights, Democracy, and the Rule of Law Assurance Framework for AI Systems: A Proposal* (Zenodo, 2022), P. 6, https://doi.org/10.5281/ZENODO.5981676.

[74] Verdiesen, Santoni De Sio, and Dignum, "Accountability and Control Over Autonomous Weapon Systems." p. 144

[75] Verdiesen, Santoni De Sio, and Dignum. p.144

[76] Verdiesen, Santoni De Sio, and Dignum. p.145

[77] Aponte García et al., "Governance and Regulation of Autonomous Weapons and Cybersecurity (2016–2024)."

[78] Aponte García et al. p. 553

[79] Amnesty International, *AUTONOMOUS WEAPONS SYSTEMS IN LAW ENFORCEMENT* (Amnesty International, 2024), p.1, https://www.amnesty.org/en/documents/ior40/7981/2024/en/.

LAWS weaken the principles of human rights-based law enforcement, which are based on positive and close human relationships between officers and the community.[80] Despite theoretical and practical efforts, a responsibility gap still exists, and it is difficult to determine the responsibility for the actions of LAWS due to a lack of mental state, and intent cannot be punished, suffer, nor can they understand deterrence.[81] This indicates that there is no binding and efficient framework at the international level to limit and regulate the use of LAWS.[82] To address this gap based on an engineering, socio-technical, and governance perspective on control, Verdiesen suggests a comprehensive human oversight that helps to have more control over LAWS. This led to a more comprehensive approach, which ensures more effective control and accountability of LAWS.[83]

C. Problem in assigning Accountability

In international law, accountability plays a crucial role in fulfilling the right to a legal remedy for victims.[84] There are often responsibilities vacuum regarding the use of LAWS in non-armed conflict.[85] In this context, no one can be held responsible when a machine commits an immoral action. Ultimately, responsibility will be shifted away by LAWS.[86] Many researchers emphasize that there is a gap in existing accountability structures when LAWS are deployed.[87]

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[80] Amnesty International. p.3

[81] Human Rights Watch and Harvard Law School International Human Rights Clinic, *Killer Robots and the Concept of Meaningful Human Control*, Memorandum (New York: Human Rights Watch and Harvard Law School IHRC, 2016), https://www.hrw.org/node/288610/printable/print.

[82] Aponte García et al., "Governance and Regulation of Autonomous Weapons and Cybersecurity (2016–2024)." p.554

[83] Verdiesen, Santoni De Sio, and Dignum, "Accountability and Control Over Autonomous Weapon Systems." p.137

[84] Thompson Chengeta, "Accountability Gap, Autonomous Weapon Systems and Modes of Responsibility in International Law," *SSRN Electronic Journal* 45, no. 1 (Fall) (2016): 1–51 P. 2, https://doi.org/10.2139/ssrn.2755211.

[85] Daniel N Hammond, "Autonomous Weapons and the Problem of State Accountability," *Chicago Journal of International Law* 15, no. 2 (2015): 652–91 664, https://chicagounbound.uchicago.edu/cjil/vol15/iss2/8/.

[86] Patrick Taylor Smith, "Resolving Responsibility Gaps for Lethal Autonomous Weapon Systems," *Frontiers in Big Data* 5 (December 2022): 1–6 2, https://doi.org/10.3389/fdata.2022.1038507.

[87] Verdiesen, Santoni De Sio, and Dignum, "Accountability and Control Over Autonomous Weapon Systems." p.144

1. Command Responsibility

Assuming that a commander is controlling a centaur human-drone hybrid, which will be a million miles away, and the commander or the rest of the team have on-time intervention to ensure the drone is operating properly or to stop it in case of an error.[88] It will be unreasonable to expect that the commander remains in the loop due to the rapid process, even if the algorithm is explainable.[89] Based on the commander's responsibility, the blame for crimes of subordinates rests fairly and squarely with the commander if there is a hierarchical relationship between the commander and the subordinate. Also, the commander knew or should have known of the possibility of a crime occurring and failed to take action to prevent it.[90] Therefore, if a commander has the obligation to know that an automated system will violate international law, they can be hold responsible for that violation.[91]

2. Corporate Liability

Consider that both the designer and the commander who deploys LAWS should be responsible for violations of international law.[92] The manufacturing company may be responsible for paying damages to victims, meaning it is legally liable. Meanwhile, the commander will face a reprimand in terms of his future career, such as restrictions or loss of his duties.[93] In this case, the responsibility is divided among several people, and no one will be held fully accountable, which creates a gap in responsibility.[94]

3. Institutional & State Responsibility

The International Law Commission (ILC) stated that states are internationally responsible for any wrongful actions against international law by their institutions, such as the military.[95]Therefore, if LAWS violate the IHRL, it is attributed to the

[88] Smith, "Resolving Responsibility Gaps for Lethal Autonomous Weapon Systems." p.3
[89] Smith. p.3
[90] Hammond, "Autonomous Weapons and the Problem of State Accountability." p. 664
[91] Hammond. p.664
[92] Smith, "Resolving Responsibility Gaps for Lethal Autonomous Weapon Systems." p.4
[93] Smith. p.4
[94] Smith. p.4
[95] International Law Commission (ILC), *Responsibility of States for Internationally Wrongful Acts (2001)* (New York and Geneva: United Nations, 2005).

government because it has the authority to decide the deployment of LAWS.[96] The management of both phases, such as the buying stage and the use of LAWS, is based on the government's decision, so it must pay all the costs of its decisions and be blamed the most. The best way to address this issue is that the absolute responsibility ought to belong to the state.[97] The fundamental rights, such as the right to life, are protected by ICCPR and emphasize the prevention of arbitrary deprivation of the right to life, and suspects must be put on trial to be held accountable. [98] Then, if the government uses the LAWS in peacetime for targeted killing, it could be considered a breach of international law, even if the victim is a terrorist. As a result, based on ICCPR, the state is responsible for the use of LAWS for extraterritorial killing.[99]

D. Meaningful Human Control

In the use of LAWS, meaningful human control (MHC) due to its close relation with life decisions sparked debate.[100] Scholars strongly oppose this technology because machines can target and kill people without human intervention. The concept of MHC is multi-layered, such that the meaningful refers to humans or control, or other human life values. Man refers to the operator, worker, or even the government, and also control refers to a system's consequences.[101] All these cases indicate technical, legal, and ethical aspects of MHC and its human legal concerns.[102] International bodies have not reached a clear definition of MHC. Different approaches to MHC are based on ethical issues, a compliance-based approach, and military considerations. In addition, different actors are involved in this concept, such as operators, commanders, designers, and it can apply to different stages of weapons systems, like design, targeting, and deployment.[103]

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[96] Bhatt, "Recognising Human Rights Concerns in Military AI: Stabilizing the Authority and Legal Ethics." p.30

[97] Bhatt. p. 30

[98] Bhatt. p. 31

[99] Bhatt. p.32

[100] Scott Robbins, "The Many Meanings of Meaningful Human Control," *AI and Ethics* 4, no. 4 (November 2024): 1377–88, p. 1377 https://doi.org/10.1007/s43681-023-00320-6.

[101] Robbins. p.1378

[102] Robbins. p. 1379

[103] Merel Ekelhof, "Moving Beyond Semantics on Autonomous Weapons: Meaningful Human Control in Operation," *Global Policy* 10, no. 3 (September 2019): 343–48 p. 343, https://doi.org/10.1111/1758-5899.12665.

Within the framework of IHRL, MHC demonstrated its crucial role in protecting the fundamental human rights, particularly the right to life,[104] by preserving human judgment in life and death decisions and ensuring accountability and attribution.[105] However, ICRC noted that ambiguity about the nature of meaningful control and the lack of practical and reliable criteria (including the traceability requirement) have meant that this principle cannot ensure the full realization of human rights obligations in practice. If the technical and ethical behavior of machines is not attributed to human beings, it results in a responsibility gap and understates the victim's rights, such as the right to life. Therefore, until MHC becomes clear and binding standards, the use of LAWS remains a serious threat to human rights.[106]

Santoni de Sio and Van den Hoven said that for the fulfillment of the MHC concept for the deployment of autonomous systems (LAWS), two conditions are necessary: the tracking and tracing conditions.[107] There is a broad consensus among countries about the MHC on LAWS, such as Colombia, Croatia, and Denmark asked for multidimensional regulation and MHC. Moreover, by November 2015, nine states asked for a preemptive prohibition on using LAWS.[108] Without a clear, practical legal framework, it can be a symbolic consensus that is not able to prevent the accountability gap, and MHC remains a vague and ineffective concept.[109]

Deployment of LAWS contradicts the right to life under IHRL. Although the Human Rights Committee, in General Comment No. 36 (2019), considers the right to life as a non-derogable right,[110] the lack of binding international regulations allows states to use LAWS in a way that leads to the denial of this fundamental right of humans. This

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[104] Filippo Santoni De Sio and Jeroen Van Den Hoven, "Meaningful Human Control over Autonomous Systems: A Philosophical Account," *Frontiers in Robotics and AI* 5 (February 2018): 15 p. 3, https://doi.org/10.3389/frobt.2018.00015.

[105] Santoni De Sio and Van Den Hoven. p.3

[106] Santoni De Sio and Van Den Hoven. p.3

[107] Verdiesen, Santoni De Sio, and Dignum, "Accountability and Control Over Autonomous Weapon Systems." p.148-149

[108] Santoni De Sio and Van Den Hoven, "Meaningful Human Control over Autonomous Systems." p.3

[109] Ashley Deeks, Noam Lubell, and Daragh Murray, "Machine Learning, Artificial Intelligence, and the Use of Force by States," *Virginia Public Law & Legal Theory Research* 10, no. 1 (2018): 1–26 p. 16, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3285879.

[110] Australian Human Rights Commission: Submission to the Human Rights Council Advisory Committee, *Human Rights and Lethal Autonomous Weapons Systems* (Sydney, Australia: Australian Human Rights Commission, n.d.), 1–13 p. 4, https://www.ohchr.org/sites/default/files/documents/hrbodies/hrcouncil/advisorycommittee/techmilitarydomain/submissions/1-nhri-australian-hrc.pdf.

regulatory gap not only threatens the right to life but also reveals the inefficiency of the accountability mechanism and raises serious doubts about the ability of international law in the era of LAWS.[111]

CONCLUSION

Deployment of LAWS in peacetime profoundly challenges the international framework that ensures the protection of the right to life. LAWS violates the principle of necessity, proportionality, and accountability, which are the essential elements for the legitimate use of force. Delegating life and death decisions to machines lacks human understanding and ethical judgment, raising the risk for extrajudicial killing and undermining human dignity. The findings of this research demonstrate the inability of IHRL to confront the legal and ethical consequences of the use of LAWS. Due to a lack of an accountability mechanism, the states, commanders, and designers may avoid full responsibility for extrajudicial killing by LAWS, and ask for reform of the international framework to promote accountability and fill this gap.

To address the legal and ethical challenges posed by LAWS, the international community needs a legally binding international framework to regulate the design, manufacture, and use of LAWS in armed conflict and peacetime. This framework should form rules on meaningful human control, accountability, and transparency in the deployment of LAWS. Moreover, governments should also create domestic accountability and oversight of the use of these LAWS by adopting laws consistent with international human rights principles. International cooperation, especially through establishing a monitoring mechanism, may strengthen accountability, transparency, and the protection of human life.

COMPETING INTEREST

There is no conflict of interest in the publication of this article.

[111] Australian Human Rights Commission: Submission to the Human Rights Council Advisory Committee. p.5

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