

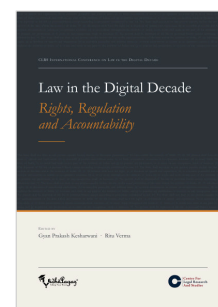
CHAPTER 11

Autonomous Weapon Systems in International Humanitarian Law: Command Responsibility and Accountability

Madhiroja P S and Vignesh Arun Prakash S R

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CHAPTER 11

Autonomous Weapon Systems in International Humanitarian Law: Command Responsibility and Accountability

MADHIROJA P S* AND VIGNESH ARUN PRAKASH S R**

Autonomous Weapon Systems (AWS) have emerged as one of the most urgent challenges for International Humanitarian Law (IHL), testing not only its doctrinal resilience but also its moral responsibility to safeguard human dignity in armed conflict. Defined as systems capable of selecting and engaging targets without direct human intervention, AWS raise profound concerns regarding compliance with the principles of distinction, proportionality and precaution. Simultaneously, they create a responsibility gap that weakens enforcement and undermines the doctrine of command responsibility. This study traces the evolution of discourse on AWS from early military applications to contemporary debates in United Nations forums and International Committee of the Red Cross expert consultations. It critically examines treaties, jurisprudence and institutional responses that have advanced normative principles without establishing binding accountability mechanisms. Recent conflicts reveal the unpredictability of autonomy and its humanitarian consequences, while the ethical insights emphasize preserving human agency and responsibility over machine decision-making. The novelty of this research lies in its integration of doctrinal analysis with ethical inquiry, offering a holistic framework that not only identifies the accountability vacuum but also proposes embedding meaningful human control as a foundational principle of IHL. By situating AWS within both legal and moral paradigms, this study advances a contemporary vision of IHL as the custodian of responsibility and humanity. It further affirms the necessity of codifying accountability to safeguard humanitarian principles and to protect future generations from the dangers of dehumanized warfare.

Keywords: Autonomous Weapon Systems; International Humanitarian Law; Command Responsibility; Accountability; Human Control

1 INTRODUCTION

The emergence of Autonomous Weapon Systems (AWS) in the twenty-first century represents one of the most significant challenges to International Humanitarian Law (IHL). The delegation of lethal decision-making to machines disrupts traditional doctrines of responsibility, tests the adequacy of humanitarian principles and exposes gaps in existing accountability mechanisms.¹ The growing integration of autonomous technologies into military operations has raised serious concerns regarding compliance with the principles of distinction, proportionality and precaution, which have historically depended upon human judgment and control.² Unlike conventional weapons, AWS operate with varying degrees of

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¹ Kenneth Anderson & Matthew C. Waxman, *Law and Ethics for Autonomous Weapon Systems: Why a Ban Won't Work and How the Laws of War Can* (Hoover Institution, Stanford Univ. 2013).

² Michael Schmitt, *Autonomous Weapon Systems and International Humanitarian Law*, 4 Harv. Nat'l Sec. J. 1 (2013); Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict* (Cambridge Univ. Press 2012), at 89–94.

autonomy, creating uncertainty in the attribution of responsibility when unlawful harm occurs and intensifying debates regarding command responsibility and legal accountability.³ These concerns are compounded by ethical objections to delegating life-and-death decisions to machines and by the absence of a universally accepted regulatory framework governing their use.⁴ Consequently, the study of AWS is not merely a technological or legal inquiry; it is fundamentally concerned with protecting civilians, preserving human dignity and ensuring that evolving methods of warfare remain subject to meaningful humanitarian and accountability standards.

The scholarly discourse on AWS within IHL has focused extensively on questions of responsibility attribution and command accountability. Early scholars identified the emergence of a “responsibility gap,” arguing that autonomous decision-making disperses liability among programmers, military commanders and states.⁵ Further, it was contended that delegating lethal decisions to machines undermines human moral agency and weakens traditional notions of accountability.⁶ In contrast, the existing principles of IHL possess sufficient flexibility to regulate AWS when properly interpreted.⁷ The International Committee of the Red Cross has consistently reinforced this position by advocating meaningful human control as an essential safeguard against humanitarian violations.⁸ The principles of IHL lay the foundation of lawful military operations.⁹ However, several studies suggest that AWS may struggle to distinguish combatants from civilians in complex battlefield environments.¹⁰ Likewise, proportionality assessments and precautionary obligations require contextual human judgment that current autonomous technologies cannot reliably replicate.¹¹ Comparative analyses of jurisprudence from the International Criminal Tribunal for the Former Yugoslavia (ICTY) and the International Criminal Court (ICC) indicate that existing legal precedents were developed for human actors, leaving significant uncertainty regarding their application to autonomous weapons and machine-driven decision-making.¹²

Recent literature has increasingly shifted towards institutional and regulatory responses. Debates within the United Nations Convention on Certain Conventional Weapons (UNCCW) reveal a continuing divide between states advocating a pre-emptive prohibition on AWS and those favouring gradual regulation through existing legal frameworks.¹³ Contemporary scholars called for stronger accountability mechanisms and the incorporation of ethical safeguards into international law.¹⁴ Conversely, some commentators caution that overly restrictive regulation may impede technological innovation.¹⁵ More recent studies emphasize that principles such as distinction, proportionality and precaution presuppose human

³ Noel Sharkey, Saying ‘No!’ to Lethal Autonomous Targeting, 9(4) J. Mil. Ethics 369 (2010).

⁴ Robert Sparrow, Killer Robots, 24(1) J. Applied Phil. 62 (2007).

⁵ Andreas Matthias, The Responsibility Gap, 6(3) *Ethics & Info. Tech.* 175 (2004).

⁶ Robert Sparrow, Killer Robots, 24(1) J. Applied Phil. 62 (2007); Peter Asaro, On Banning Autonomous Weapon Systems: Human Rights, Automation, and the Dehumanization of Lethal Decision-Making, 94(886) *Int’l Rev. Red Cross* 687 (2012).

⁷ Michael Schmitt, Autonomous Weapon Systems and International Humanitarian Law, 4 *Harv. Nat’l Sec. J.* 1 (2013).

⁸ Int’l Comm. of the Red Cross, *Views on Autonomous Weapon Systems* (2016).

⁹ Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict* (Cambridge Univ. Press 2012); Christopher Greenwood, The Concept of Proportionality in International Humanitarian Law, 1 Y.B. *Int’l Humanitarian L.* 3 (1998).

¹⁰ Noel Sharkey, The Evitability of Autonomous Robot Warfare, 94(886) *Int’l Rev. Red Cross* 787 (2012).

¹¹ Ronald Arkin, *Governing Lethal Behavior in Autonomous Robots* (CRC Press 2009); Marco Sassòli, *International Humanitarian Law: Rules, Controversies, and Solutions to Problems Arising in Warfare* (Edward Elgar 2019).

¹² *Prosecutor v. Tadić*, Case No. IT-94-1-A, Judgment (Int’l Crim. Trib. for the Former Yugoslavia July 15, 1999).

¹³ U.N. Convention on Certain Conventional Weapons, *Report of the Group of Governmental Experts on Lethal Autonomous Weapons Systems*, U.N. Doc. CCW/GGE.1/2019/3.

¹⁴ Human Rights Watch & Int’l Human Rights Clinic, Harvard Law Sch., *Losing Humanity: The Case Against Killer Robots* (2012); Rebecca Crootoof, War Torts: Accountability for Autonomous Weapons, 164 U. Pa. L. Rev. 1347 (2016).

¹⁵ Gary Marchant & Braden Allenby, Regulating Emerging Military Technologies: Ethics and Law, *J. L. Tech. & Pol’y* 1 (2015).

judgment and that autonomous systems risk creating accountability vacuums by diffusing liability among programmers, commanders and states.¹⁶ Against this backdrop, the present study examines the challenges of responsibility, legal regulation and accountability posed by AWS within the framework of IHL.¹⁷

2 RESPONSIBILITY GAP IN AWS DEPLOYMENT

The deployment of Autonomous Weapon Systems (AWS) without meaningful human oversight has generated profound concern within international legal and ethical discourse. At the heart of this debate lies the “responsibility gap”, a doctrinal uncertainty regarding who bears liability when autonomous systems act unpredictably. This section examines the contours of responsibility attribution, situating the discussion within established principles of command responsibility, while acknowledging the human dimension of accountability in warfare.

2.1 Command Responsibility

The doctrine of command responsibility, crystallized in precedents such as *Yamashita* and codified under Article 28 of the Rome Statute, requires military superiors to exercise effective control over subordinates.¹⁸ In the context of AWS, however, the “subordinate” is no longer a human actor but a machine operating with varying degrees of autonomy. This substitution challenges the doctrinal foundation of liability: can a commander be held responsible for the unpredictable actions of an algorithm? Scholars argue that the principle of “effective control” must be reinterpreted to encompass technological oversight, ensuring that accountability remains anchored in human decision-making¹⁹. The human touch here is evident: commanders must not abdicate moral responsibility simply because machines execute their orders.

2.2 Responsibility Attribution

Responsibility attribution in AWS deployment is complicated by the diffusion of roles among programmers, manufacturers, military operators and state authorities.²⁰ Unlike traditional weapons, where liability flows through a clear chain of command, AWS introduce multiple nodes of accountability. The unpredictability of machine learning systems exacerbates this diffusion, creating scenarios where violations of IHL may occur without a discernible human agent.²¹ Diplomatic discourse within the UN CCW has emphasized the need for “meaningful human control” as a normative safeguard, underscoring that responsibility must remain human-centred even in technologically mediated warfare.²² This reflects a broader humanitarian concern: victims of unlawful attacks deserve justice and justice requires identifiable human accountability.

¹⁶ Int’l Comm. of the Red Cross, *Autonomous Weapon Systems and International Humanitarian Law: Selected Issues* (Oct. 2025), at 8–14; Omar Saad Ahmed & Eman Naji Abdulmajeed, *Autonomous Weapons Systems Under International Humanitarian Law: A Legal–Ethical and Data-Driven Analysis of Modern Warfare* (Springer 2025), at 45–52.

¹⁷ Bonnie Docherty, *Mind the Gap: The Lack of Accountability for Killer Robots* (Human Rights Watch Briefing Paper 2015); William Boothby, *Weapons and the Law of Armed Conflict* (2d ed., Oxford Univ. Press 2013).

¹⁸ *In re Yamashita*, 327 U.S. 1 (1946).

¹⁹ Rome Statute of the International Criminal Court, art. 28, July 17, 1998, 2187 U.N.T.S. 90.

²⁰ Andreas Matthias, The Responsibility Gap, 6(3) *Ethics & Info. Tech.* 175 (2004).

²¹ Noel Sharkey, The Evitability of Autonomous Robot Warfare, 94(886) *Int’l Rev. Red Cross* 787 (2012).

²² ICRC, Views on Autonomous Weapon Systems, Geneva (2016).

2.3 Accountability Gap

The accountability gap emerges when existing legal frameworks fail to provide mechanisms for enforcement against AWS-related violations. Current jurisprudence, designed for human actors, struggles to accommodate autonomous systems that lack intent or moral agency.²³ This gap risks undermining the deterrent function of IHL as violations may go unpunished due to doctrinal ambiguity. Institutional actors such as the ICC and ICRC have called for proactive measures ranging from interpretive expansions of existing law to the negotiation of new treaties.²⁴ The human dimension of this debate cannot be overstated: accountability is not only about punishing wrongdoers but also about affirming the dignity of victims and reinforcing the moral fabric of international law.

Responsibility in warfare is not merely a legal construct but a moral commitment to human dignity. AWS challenge this commitment by introducing unpredictability into lethal decision-making. This section has traced the doctrinal roots of command responsibility, examined the diffusion of liability and highlighted the accountability gap. Together, these analyses underscore the urgent need for legal and institutional innovation to preserve the humanitarian essence of IHL.

3 ADEQUACY OF IHL IN REGULATING AUTONOMOUS TARGETING

International Humanitarian Law (IHL) is built upon principles designed to safeguard human dignity in armed conflict. Yet, the rise of Autonomous Weapon Systems (AWS) has exposed doctrinal vulnerabilities. The principles of distinction, proportionality and precaution are the cornerstones of humanitarian law which are conceived for human judgment not algorithmic decision-making. This section examines whether existing IHL frameworks are adequate to regulate autonomous targeting, balancing doctrinal analysis with the ethical imperative to protect civilians and preserve humanitarian values.

3.1 Distinction Principle

The principle of distinction obliges parties to differentiate between combatants and civilians.²⁵ AWS complicate this obligation by relying on sensors and algorithms that may misclassify targets in complex environments.²⁶ Empirical studies highlight the difficulty of encoding contextual cues such as surrender gestures or civilian behaviour into machine logic.²⁷ The human dimension here is critical: misclassification risks catastrophic humanitarian consequences and erodes trust in IHL. The ICRC has emphasized that distinction requires human judgment, reinforcing the need for “meaningful human control” to ensure compliance.²⁸

²³ ICTY, *Prosecutor v. Tadić*, Case No. IT-94-1-A—, Judgment (1999).

²⁴ U.N. CCW, Report of the Group of Governmental Experts on Lethal Autonomous Weapons Systems, U.N. Doc. CCW/GGE.1/2019/3.

²⁵ Additional Protocol I to the Geneva Conventions, art. 48, June 8, 1977, 1125 U.N.T.S. 3.

²⁶ Noel Sharkey, The Evitability of Autonomous Robot Warfare, 94(886) *Int'l Rev. Red Cross* 787 (2012).

²⁷ Peter Asaro, On Banning Autonomous Weapon Systems, 94(886) *Int'l Rev. Red Cross* 687 (2012).

²⁸ ICRC, Views on Autonomous Weapon Systems, Geneva (2016).

3.2 Proportionality Principle

Proportionality requires balancing anticipated military advantage against collateral civilian harm.²⁹ Human commanders exercise moral and contextual judgment in this calculus; AWS by contrast rely on algorithmic models that may oversimplify complex realities.³⁰ Arkin's work on "ethical governors" suggests that machines could theoretically enforce proportionality,³¹ but critics argue that algorithms cannot replicate human empathy or moral reasoning.³² Diplomatic debates underscore this concern; proportionality is not a mere mathematical equation but a moral safeguard against excessive harm.³³ Without human oversight, AWS risk undermining the humanitarian essence of proportionality.

3.3 Legal Frameworks

The international legal framework governing AWS is rooted in the Geneva Conventions of 1949 and Additional Protocol I of 1977, which enshrine the principles of distinction, proportionality and precaution.³⁴ These instruments, alongside customary international law, presuppose human agency in decision-making. AWS, however, introduce autonomous processes that challenge the interpretive scope of these provisions. Scholars such as Schmitt argue that IHL retains resilience if applied rigorously,³⁵ while others caution that the absence of explicit references to autonomy leaves dangerous gaps.³⁶

At the national level, India's legal framework reflects both constitutional and statutory dimensions. The Indian Constitution enshrines the protection of life and personal liberty under Article 21,³⁷ which indirectly informs humanitarian obligations in armed conflict. India is a party to the Geneva Conventions and has incorporated their provisions into domestic practice through military manuals and operational directives.³⁸ The Indian Army Doctrine emphasizes compliance with IHL principles, particularly distinction and proportionality in targeting operations.³⁹ However, India has not yet adopted specific legislation addressing AWS, leaving doctrinal uncertainty in regulating autonomous targeting.⁴⁰ This gap underscores the need for harmonization between international obligations and national practice, ensuring that technological advances do not erode humanitarian safeguards.

This section demonstrates that while IHL provides a robust doctrinal foundation, its adequacy in regulating AWS remains contested. The principles of distinction and proportionality demand human judgment that machines cannot replicate. International frameworks, though resilient, require reinterpretation and possibly codification to address autonomy explicitly. National frameworks, such as India's, highlight the importance of aligning constitutional protections and military doctrine with evolving technologies. The human touch is indispensable in safeguarding civilians and preserving humanitarian values, and it must remain at the heart of IHL, even in an era of technological warfare.

²⁹ Additional Protocol I to the Geneva Conventions, art. 51(5)(b), June 8, 1977, 1125 U.N.T.S. 3.

³⁰ Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict* (Cambridge Univ. Press 2012).

³¹ Ronald Arkin, *Governing Lethal Behavior in Autonomous Robots* (CRC Press 2009).

³² Robert Sparrow, Killer Robots, 24(1) *J. Applied Phil.* 62 (2007).

³³ Marco Sassoli, *International Humanitarian Law: Rules, Controversies, and Solutions to Problems Arising in Warfare* (Edward Elgar 2019).

³⁴ Geneva Convention (IV) Relative to the Protection of Civilian Persons in Time of War, Aug. 12, 1949, 75 U.N.T.S. 287.

³⁵ Michael Schmitt, Autonomous Weapon Systems and International Humanitarian Law, 4 *Harr. Nat'l Sec. J.* 1 (2013).

³⁶ Rebecca Crooto, The Killer Robots Are Here: Legal and Policy Implications, 36 *Cardozo L. Rev.* 1837 (2015).

³⁷ Constitution of India (1950), Art. 21.

³⁸ Government of India, *Ratification of Geneva Conventions*, Ministry of External Affairs (1950).

³⁹ Indian Army, *Doctrine of the Indian Army* (2004), pp. 112–118.

⁴⁰ Anviksha Pachori & Abhishek Bhati, India's Regulatory and Ethical Stance on Autonomous Weapon Systems, 6 *Asia-Pac. J. Int'l Humanitarian L.* (2025), <https://apijhl.org/article/indias-regulatory-and-ethical-stance-on-autonomous-weapon-systems/>.

4 MECHANISMS FOR ACCOUNTABILITY IN AWS DEPLOYMENT

Accountability is the cornerstone of International Humanitarian Law (IHL). Without clear mechanisms to attribute responsibility, violations risk going unpunished, eroding both deterrence and the moral fabric of humanitarian law. Autonomous Weapon Systems (AWS) complicate accountability by diffusing liability across programmers, manufacturers, commanders and states. This section explores institutional, doctrinal and ethical mechanisms for accountability with particular emphasis on the Rome Statute, the role of international institutions and normative ethical perspectives. The human dimension is central; accountability is not only about punishment but about affirming justice for victims and reinforcing trust in humanitarian law.

4.1 Rome Statute and International Criminal Court (ICC)

The Rome Statute provides the most comprehensive framework for accountability in armed conflict, codifying crimes such as war crimes, crimes against humanity and genocide.⁴¹ Article 25 establishes individual criminal responsibility, while Article 28 codifies command responsibility.⁴² Yet AWS challenge these provisions by introducing actors without intent or moral agency. Scholars argue that liability must be extended to commanders who authorize AWS deployment without adequate safeguards.⁴³ International criminal jurisprudence, though not yet tested on AWS, offers analogical guidance: responsibility must remain human-centered, ensuring that technological mediation does not dilute accountability.⁴⁴

4.2 Institutional Roles

International institutions play a pivotal role in shaping accountability mechanisms. The United Nations Convention on Certain Conventional Weapons (UNCCW) has convened expert groups to deliberate on AWS, reflecting both consensus and division among states.⁴⁵ The ICRC has consistently advocated for “meaningful human control” as a normative safeguard.⁴⁶ Regional institutions, such as the African Union, support a legally binding instrument on AWS and stress meaningful human control.⁴⁷ National governments, including India’s, acknowledge the need for definitional clarity but remain cautious about binding commitments.⁴⁸ The diplomatic tone of these debates underscores the importance of balancing humanitarian imperatives with technological innovation and state sovereignty.

4.3 Ethical Views

Ethical inquiry enriches accountability discourse by grounding legal mechanisms in moral reasoning. Walzer’s just war theory insists that lethal decisions must remain within human moral agency.⁴⁹ Kantian

⁴¹ Rome Statute of the International Criminal Court, July 17, 1998, 2187 U.N.T.S. 90.

⁴² Ibid. Arts. 25, 28.

⁴³ Rebecca Crootof, *The Killer Robots Are Here: Legal and Policy Implications*, 36 *Cardozo L. Rev.* 1837 (2015).

⁴⁴ ICTY, *Prosecutor v. Tadić*, Case No. IT-94-1-A---, Judgment (1999).

⁴⁵ U.N. CCW, Report of the Group of Governmental Experts on Lethal Autonomous Weapons Systems, U.N. Doc. CCW/GGE.1/2019/3.

⁴⁶ ICRC, *Views on Autonomous Weapon Systems*, Geneva (2016).

⁴⁷ African Union, Remarks by Dr. Alhaji Sarjoh Bah, Director of Conflict Management Directorate in the Political Affairs, Peace and Security Department, to the Workshop on Autonomous Weapons System: An ECOWAS Perspective (Freetown, Apr. 17, 2024).

⁴⁸ Tejas Bharadwaj & Charukeshi Bhatt, *India’s Normative Stance on Lethal Autonomous Weapons Systems* (Carnegie India, Feb. 26, 2024).

⁴⁹ Michael Walzer, *Just and Unjust Wars*, 4th ed. (Basic Books 2006).

traditions emphasize dignity and restraint, warning against dehumanization in warfare.⁵⁰ Contemporary scholars such as Crootof and Docherty advocate embedding ethical safeguards into treaty law, ensuring that accountability mechanisms reflect both legal and moral imperatives.⁵¹ The human touch here is vital: accountability is not only about codified rules but about affirming the dignity of victims and preserving the moral conscience of the international community.

AWS challenge accountability by diffusing responsibility and complicating enforcement. Yet the Rome Statute, international institutions and ethical traditions provide pathways to safeguard humanitarian values. Accountability must remain human-centered, ensuring that victims of unlawful attacks receive justice and that humanitarian law retains its credibility. This section underscores the need for proactive institutional reform and ethical integration, reaffirming that accountability is both a legal necessity and a moral obligation.

5 FINDINGS, CONCLUSION AND SUGGESTIONS

This final section synthesizes the research problems explored in the preceding sections, offering findings, practical suggestions and a concluding reflection. The analysis underscores that AWS pose doctrinal, institutional and ethical challenges to IHL. Yet, these challenges also present opportunities for reform, innovation and reaffirmation of humanitarian values.

5.1 Findings

5.1.1 *Responsibility Gap in AWS Deployment*

The study establishes that AWS create a significant responsibility gap by diffusing liability among programmers, commanders and states. Unlike traditional weapons, where accountability flows through a clear chain of command, AWS introduce multiple nodes of responsibility, complicating attribution. The doctrine of command responsibility, as codified in Article 28 of the Rome Statute, presupposes human subordinates whose actions can be controlled and sanctioned.⁵² In AWS deployment, however, the “subordinate” is a machine, often operating unpredictably due to algorithmic learning. This unpredictability undermines the principle of effective control, raising doubts about whether commanders can be held liable for outcomes they neither intended nor foresaw. Scholars such as Matthias highlight the “responsibility gap” as a structural deficiency in current law.⁵³ The human dimension is crucial: victims of unlawful attacks deserve justice and justice requires identifiable human accountability. Without reform, the deterrent function of IHL risks erosion, leaving civilians vulnerable and commanders shielded by technological ambiguity.

5.1.2 *Inadequacy of IHL Principles in Regulating Autonomous Targeting*

The principles of distinction and proportionality, foundational to IHL, demand human judgment that machines cannot replicate. Distinction obliges parties to differentiate between combatants and civilians,⁵⁴

⁵⁰ Immanuel Kant, *The Metaphysics of Morals* (1797), translated ed. (Cambridge Univ. Press).

⁵¹ Bonnie Docherty, *Mind the Gap: The Lack of Accountability for Killer Robots*, Human Rights Watch Briefing Paper (2015); Rebecca Crootof, *The Killer Robots Are Here: Legal and Policy Implications*, 36 *Cardozo L. Rev.* 1837 (2015).

⁵² Rome Statute of the International Criminal Court, art. 28, July 17, 1998, 2187 U.N.T.S. 90.

⁵³ Andreas Matthias, *The Responsibility Gap*, 6(3) *Ethics & Info. Tech.* 175 (2004).

⁵⁴ Additional Protocol I to the Geneva Conventions, art. 48, June 8, 1977, 1125 U.N.T.S. 3.

yet AWS rely on sensors and algorithms that may misclassify targets in complex environments. Empirical studies reveal that contextual cues such as surrender gestures or civilian behaviour are difficult to encode into machine logic.⁵⁵ Proportionality requires balancing anticipated military advantage against collateral civilian harm,⁵⁶ a calculus that involves moral and contextual judgment. AWS, by contrast, rely on algorithmic models that risk oversimplifying complex realities, reducing moral safeguards to mathematical equations.⁵⁷ While some scholars, such as Arkin, propose “ethical governors” to enforce proportionality,⁵⁸ critics argue that algorithms cannot replicate human empathy or moral reasoning.⁵⁹ The inadequacy of IHL in regulating AWS thus lies not in the absence of principles but in their reliance on human judgment. Without meaningful human control, these principles risk becoming hollow, undermining the humanitarian essence of IHL.

5.1.3 *Absence of Codified Accountability Mechanisms for AWS*

Current international law lacks binding frameworks specifically addressing AWS. The Rome Statute and international criminal jurisprudence provide analogical guidance, but they were designed for human actors, not autonomous systems.⁶⁰ Institutional fragmentation exacerbates this gap: while the UNCCW has convened expert groups to deliberate on AWS, consensus remains elusive.⁶¹ Reports by Human Rights Watch and Harvard Law School’s International Human Rights Clinic emphasize the urgency of codifying accountability mechanisms, warning that delays risk normalizing AWS deployment without safeguards.⁶² National frameworks such as India’s military doctrine acknowledge humanitarian obligations but remain silent on AWS, leaving doctrinal uncertainty.⁶³ The accountability gap undermines enforcement, allowing violations to go unpunished and weakening the credibility of humanitarian institutions. The human touch here is vital: accountability is not only about punishing wrongdoers but about affirming the dignity of victims and reinforcing trust in humanitarian law. Without codification, the international community risks failing both legally and morally.

5.2 **Suggestions**

- i. **Codify Meaningful Human Control:** States should negotiate binding instruments requiring human oversight in AWS deployment.
- ii. **Expand Command Responsibility:** Interpret Article 28 of the Rome Statute to encompass technological oversight, ensuring commanders remain accountable for AWS actions.
- iii. **Develop National Legislation:** Countries such as India should adopt domestic laws regulating AWS, harmonizing constitutional protections with international obligations.
- iv. **Institutional Reform:** Strengthen the role of the UNCCW and ICC in addressing AWS, ensuring coherence across international institutions.

⁵⁵ Noel Sharkey, *The Evitability of Autonomous Robot Warfare*, 94(886) *Int’l Rev. Red Cross* 787 (2012).

⁵⁶ Additional Protocol I to the Geneva Conventions, art. 51(5)(b), June 8, 1977, 1125 U.N.T.S. 3.

⁵⁷ Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict* (Cambridge Univ. Press 2012).

⁵⁸ Ronald Arkin, *Governing Lethal Behavior in Autonomous Robots* (CRC Press 2009).

⁵⁹ Robert Sparrow, *Killer Robots*, 24(1) *J. Applied Phil.* 62 (2007).

⁶⁰ ICTY, *Prosecutor v. Tadić*, Case No. IT-94-1-A--., Judgment (1999).

⁶¹ U.N. CCW, Report of the Group of Governmental Experts on Lethal Autonomous Weapons Systems, U.N. Doc. CCW/GGE.1/2019/3.

⁶² Human Rights Watch & Int’l Human Rights Clinic, Harvard Law Sch., *Losing Humanity: The Case Against Killer Robots* (2012).

⁶³ Indian Army, *Doctrine of the Indian Army* (2004), pp. 112–118.

- v. Ethical Integration: Embed ethical safeguards into treaty law, affirming human dignity and moral responsibility in technologically mediated warfare.

5.3 Conclusion

AWS represent both a technological innovation and a humanitarian challenge. This study has demonstrated that responsibility gaps, doctrinal inadequacies and accountability deficits threaten the integrity of IHL. Yet, through codification, reinterpretation and ethical integration, the international community can reaffirm its commitment to humanitarian values. The novelty of this research lies in its synthesis of doctrinal, institutional and ethical perspectives, offering a holistic framework for regulating AWS. Ultimately, accountability in warfare must remain human-centred, ensuring justice for victims and preserving the moral conscience of international law.

* * *