

A legal approach to states' responsibility for the use of military robots in armed conflicts

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Abstract:

Self -operational weapons, or what is known as military fighting robots, represents a real challenge to contemporary international law, as the latter depends in its organization of the war on the ability, efficiency and readiness of people who participate in combat operations to

distinguish between legitimate targets and that forbidden international A material and human grave, while others go to the fact that these robots are more able to distinguish than soldiers.

Keywords: Fighter robots; international law; self-operating weapons; potential risks; international responsibility; International human law.

Introduction:

The use of artificial intelligence in the arms industry in the beginning of the twenty -first century was described as the largest revolution in the history of mankind in the field of military affairs after the use of gunpowder and the manufacture of nuclear bombs, as "Antonio Guterres" described the Secretary -General of the United Nations Organization to use artificial intelligence in making weapons as one of the most dangerous threats facing humanity in our time, calling for the need to confront the negative effects of the development of artificial intelligence technology, as he appealed to states to prohibit me Immediately what is called deadly independent weapons or what is known as fighting robots, especially since the latter may have self -independence, and machines capable of killing on their own will lead to human society to unacceptable moral and political conditions.

Accordingly, the use of artificial intelligence in the manufacture of weapons has become a real problem facing the international community today, because of the great ability and self -operating weapons enjoyed by defining their goals and attacking them without referring to humans or asking them to release live ammunition or destruction.

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The depth of the understanding of the fighting robots emerges to the surface a real problem related to the ability of these weapons to comply with the rules of international humanitarian law or not.

Accordingly, fighting robots and manufactured weapons using artificial intelligence technology raises the international community's concerns about the violation of states the rules of international humanitarian law, where international law lacks its current status of international rules that define the responsibility of the countries that develop, deploy or use independent armed robots and other land, air, or water -operating weapons systems, especially in light of many countries currently developing these weapons, which requires Determining its responsibility in the event of any harm to another country as a result of the use of these robots or weapons, which leads us to research on the legal basis of international responsibility that results from damage due to the decisions taken by the fighting military robots or any type of self -operating weapons?

Accordingly, this research aims to research the concept of fighting military robots, as well as standing on the responsibility of countries for the use of these fighting robots in light of the violations that may occur on them, relying on this on the descriptive approach with the use of tools of analysis in some aspects of the study.

This will be answered by researching the concept of military robots in preparation for the responsibility of countries for developing, publishing and using combat robots, and then exposure to the responsibility of states for assessing the risk of fighting robots, securing them and protecting their programs, provided that we conclude this study with a set of results on the basis of which a number of related recommendations are presented.

First: The concept of robots⁽¹⁾Military:

In the modern era, new weapons have emerged that depend on very advanced technologies, where they are controlled remotely, used in armed conflicts, and work is currently underway on self -operating weapons that depend on new systems that can be used in future wars, including military robots or as some call them fighting robots, which represent a great danger to all humanity because of their independent capabilities that do not need to enter the human element or any human control, which is the matter Research in the content of these robots is required due to the ambiguity that may be marred by, in preparation

for researching countries' responsibility for this type of dangerous technological progress.

1- Definition of military robots:

Military robots are one of the modern means that allow fighters to manage them remotely, which results in losses in civilians as well as civil property, and its defense systems are designed to bring down missiles and drones prominent for example, and jurisprudence differed about the definition of an inclusive inclusive of military robots as it represents the summit of the findings of artificial intelligence, where jurisprudence was divided into two directions One of them is a year and the other is private.

A. The general trend of the definition of military robots: This trend went to the definition of the robot is a general definition that enumerates the characteristics of the term without dealing with its essence, as they described the robot as the automatic man or the automatic man, considering that this type of description is accurate, because the robot's description is specialized in every god that can perform a human job, and therefore some have known the military robot as: "After", as well as the jurisprudence aspect of the last robot was known as: "God is dedicated to all purposes, and it is equipped with the edges and device of memory, and it is able to rotate and solutions replaces the ordinary person."

B. Criticism of this definition: A lot of jurisprudence has been scorned on this definition of a lack of accuracy and lack of clarity, especially what is related to them as the robot in the automatic man, because the description of the robot as a mechanical person is supposed to have the characteristics of perception and discrimination, which is what the robot lacks, and this definition guarantees loose general terms in its meanings that are limited to self-term clarifications and essence.

C. The objective trend of the definition of military robots: This trend defined the robot objective, an objective definition away from subjectivity and the lack of bias for any personal opinion, as a side of supporters of this trend went⁽²⁾ To the definition of military robots as: "one of the types of self-controlled weapons, and one of the weapons systems to use, where you can, if operating, choose the targets and clash without needing to additional intervention from the human element that occupies it", as some knew it as: "self-controlled weapons that make the decision in the field of fighting without human intervention", and



others defined it as: "a weapon that can choose, search or reveal or reveal or reveal He attacks, uses power, disrupts, hurts, or destroys goals without human intervention."⁽³⁾ As the Human Rights Committee was known in 2013, the military robots were: "Weapons systems to him, if operating, you can choose the targets and clash with them without needing an additional intervention from the human element that occupies them."⁽⁴⁾ Also, the International Committee of the Red Cross has known military robots as: "Weapons that can choose and attack targets independently."⁽⁵⁾ Also, independent fighting robots define, according to the US Department of Defense, as: "weapons systems are able to choose if they operate certain goals and clash with them without the need for additional intervention from the human element that occupies them." The most important thing that distinguishes these robots is that they have an independent option regarding the selection of the goal and the use of deadly force against it.⁽⁶⁾

2- Types of military robots:

Some divide the military robots according to the intervention of the human element or not into two types: ⁽⁷⁾

A.Independent military robots: They can determine and interact with actions without the intervention of a human element, as they are self-directed by choosing the behavior that follows him to reach the target set for him without looking at what the goal is, and it is not necessarily required to have devastating goals.

B.Semi -independent military robots: These are the robots that cannot define the goals alone or its society except with the intervention of the human element, as its systems do not contain complete artificial intelligence, as they are operated by the fighters, and therefore if determining the goal requires the choice, the human element plays an important role in such a case.

Another aspect of jurisprudence goes to the division of military robots, according to its tool, to use them into two types⁽⁸⁾:

□ **Fighter robots:** They are fully operating weapons, which are used by fighters remotely, provided that they are not randomly or cause long-term damage, and a part of jurisprudence went to say that the fighting robots are characterized by the ability to work without control or supervision of the human element, as they enjoy the ability to make decisions in an independent capacity, with their inability to predict as well It is stripped of humanity.

□ **Automatic robots:** *It is the one that carries out a pre-programmed series of operations that move in an organized environment, where it responds in an automatic way or to it to external factors without having the ability to distinguish these factors, which means that this type of robotics works in a self-polish Civilians, as well as his lack of principle when he carried out war operations.*

3-Military robots characteristics:

Military robots are characterized by a group of characteristics as follows:

A.Independence: *It means the ability of military robots to carry out their goals entrusted to them without human intervention, and the characteristic of independence enjoyed by military robots is the distinctive element between them and other other robots controlled by a person, and thanks to the military robots of independence to the devices of remote sensing and satellite satellites according to the GPS system, independence may depend on the environment in which it works and not on its mission On the level of human participation, if the task involves fatal force, and the deadly force aims to cause death, serious physical harm, injury, or any work that involves a great risk.⁽⁹⁾*

B.Duplication and development: *Military robots are characterized by their dual nature, due to the civil uses and military tasks where they can be used to achieve useful goals and harmful goals, as well as that military robots are characterized by their ability to develop, given the terrible technological progress that the world is witnessing today.⁽¹⁰⁾*

The tremendous development in manufacturing technology on the one hand and artificial intelligence has produced on the other hand to develop military robots, despite the interception of the ICRC, as many countries, especially the major countries, headed by the United States of America, have continued to develop military robots⁽¹¹⁾.

Second: The responsibility of the countries for the combat military robots system

Self-operational weapons, including military robots, have sparked widespread controversy among the jurists of international law, given their high ability to respond to the various changing conditions in the environment in which they are used, they are able to define targets through sensors that help them to realize the surrounding

circumstances, and therefore these robots have sparked controversy between the military and robotics about the development and spread of weapons capable of performing functions increasingly advanced, including targeting and the use of force, with a small amount of human supervision that may not exist at all at all, making the responsibility of states for these robots is important.

Second: The responsibility of the countries for developing, publishing and using combat robots:

The use of military robots in military actions has become a strong competition between the major countries as one of the important means to impose their logic and control on the international community, and this development, which has followed the military robots, would have used countries during international armed conflicts, which raises their responsibility at stake.

A- The responsibility of the countries for the development of combat robots:

The development of artificial intelligence programs reached a degree that has reached the goal of enabling weapons and fighting robots from dealing with a large degree of independence and here the danger lies, as the dismissed robots have enjoyed a great amount of self and independence in making decisions in the situations they are exposed to, and this is in isolation from their user or developer, as the human element no longer has an income or control in some cases, as these programs enable weapons and robots The fighter is the ability to make decisions in certain situations that were not clearly programmed on them, either to change the conditions surrounding the robot or the result of self-learning, which is achieved through training and simulation programs⁽¹²⁾.

The danger of these programs also lies in allowing these robots to choose their decision from a set of available and multiple decisions in the same position, which makes the machine the decision-making instead of human being and it is the risk and its homeland, as it becomes difficult if it is not impossible to predict the future risks of these weapons⁽¹³⁾.

Such an assumption raises a problematic problematic for the damage caused, as independent arms or the combat robot is a decision of this that results in harm that evaluates the international responsibility of the state, the developed of the artificial intelligence

within the decision of the decision -making decision⁽¹⁴⁾.

system as a whole, should be determined⁽¹⁵⁾.

the provisions of international humanitarian law.

these international controls that govern the work of these robots, as

they are obligated to take the legislative and administrative measures necessary to ensure Compliance with all private bodies and institutions that hold their nationality or their activity within its regional borders of these international obligations.⁽¹⁶⁾

In implementation of the general rules of international responsibility, despite the existence of internal laws and legislations in this regard, they control and regulate the work of such robots, this does not exempt the state from its international responsibility in the event of its official institutions or private companies within its region developing artificial intelligence programs that lead to violating self-operating weapons to the principles of international humanitarian law.

B- The responsibility of the countries for spreading fighting robots:

It stipulated the responsibility of countries for the deployment of fighting robots, the fourth principle of guidelines for autonomous, autonomous weapons, as it guarantees, according to this principle, accountability in accordance with international law in effect for the deployment of any weapons system in the fields of armed conflict, provided that this accountability includes a series of leaders that order this publication.⁽¹⁷⁾

Accordingly, the country that publishes this type of robots bear the legal responsibility and is a civil responsibility represented in compensation for the damage, in addition to the responsibility of the leaders who order the publication of this type of weapon as indicated by the aforementioned principle, where the military commander asks for the actions of his subordinates that extend to human and automatic subordinates, but in the field of international criminal responsibility, the military commander does not bear this type of responsibility for the actions His subordinates unless he is aware or assumed to be aware that the subordinate intends to commit a crime, which is difficult to prove in many cases, as it is difficult for the military commander to be widely informed of weapons programs and technologies that enable him to understand their reactions in all situations.⁽¹⁸⁾

However, the difficulty of the military commander with the techniques of designing weapons and independent robots and ignorance of the characteristics and capabilities of new weapons manufactured by using artificial intelligence technology does not prevent these military leaders from exempting the responsibility that

falls on them in the event of violating these weapons to any rule of international law in general and the rules of international humanitarian law in particular, and therefore the military commander who orders the use of any of these weapons or agrees to it must be used His participation or use in any conflict is aware of the capabilities of this new weapon, its characteristics and characteristics.

In the event that the military commanders are spreading any weapons that lead to violations of international humanitarian law, the state bears international responsibility for reparation and compensation for the damage occurred, and the military commander bears the criminal responsibility of this.

The accountability of the commanding state by spreading the fighting robot does not necessarily result in the extension of international responsibility to the country that has developed the artificial intelligence program used in making that weapon or the fighting robot, because the manufactured weapons using artificial intelligence are not absolutely forbidden, as there are some internationally accepted self-operating weapons, and in such a case it falls on the military leader the burden of assessing the characteristics and nature of the conflict The gunman who orders him to use it.⁽¹⁹⁾

As for this, in the case of the use of a fighter robot that cannot distinguish between human beings in a place in a place in soldiers or civilians, this is a violation of the principles of international humanitarian law, while the use of such a robot to detect explosive mines in a human -free square may be acceptable internationally.

Despite the recognition of the first situation in the case of limiting international responsibility to the country that orders the deployment of the fighting robot, this does not prevent the responsibility of the state developed for this type of robot, as such a case is fulfilled by the responsibility of the two countries together, the country that has developed the artificial intelligence program and made the weapon, and the state that ordered its leaders to use this weapon, and in such a case the proposed agreement must provide for the responsibility of the two countries together with solidarity, As the affected state is entitled to return to both both, as it is entitled to return to either of them, as it distributes the burden of compensation between them with a mistake of each of them, as it is distributed equally between them if it is not possible to determine the percentage of the mistake of each individual



country, and it is indicated in this regard that the agreement of international responsibility for the damage caused by the satellite bodies stipulated in its fourth article on the international solidarity responsibility between the state Harm for a third country.⁽²⁰⁾

C- The responsibility of the countries for the operation of the fighting robots:

It is the third image that can insert a third country in the circle of international accountability, and this is in the event that the exemption of the manufactured and socially manufactured states is proven from responsibility, which is achieved when the robot manufactured using artificial intelligence technology identical to the requirements of international law, when the program used to make the presence of the human element that remains the decision -maker in the situations that this robot may be exposed to, in such a case the state that has developed the program does not bear any kind Responsibility, and the latter does not bear the military commander who ordered the operation of the robot.

In such a case, the responsibility of the state is involved in this robot, as in the event that the human operator is wrong in overseeing the operation of this weapon, which leads to losses or injuries, the country that this operator or soldier follows is the one who bears international responsibility for the damages that occur Complete and knowledgeable is sufficient with the characteristics, characteristics and capabilities of the weapons that they oversee their operation, and therefore direct human supervision of any weapon of manufactured weapons using artificial intelligence technology represents one of the basic guarantees of not violating these weapons for the rules of international law, where man is behind any decision taken by fighting robots.⁽²¹⁾

And if the presence of the human element within the circle of fighting and supervising robots decisions, but embodying it practically and realistically is very difficult, because the ability of the human element occupied to cancel the decisions of robots is in fact very limited due to the speed of the automatic decision -making that is measured by the nano again, and it is much faster than what a person needs to resolve his decision, which prevents the interference of the honorable person to stop the robot decision in many cases that make the person who is operating outside The decision is actually.

Also, the hypothesis of the human element's supervision of the

fighting robots and made it within the decision -making circle and taken in many cases requires allocating an operating person for each robot, which is a teller who is incompatible with logic and with the goal for which such combat robots have developed that countries resort to using in order to reduce the cost and reduce the number of participating soldiers and forces and the speed of data processing electronically, Accordingly, some see that the survival of a person is supervising the work of these robots without enjoying sufficient self -will and independent of the will of its operator and its survival related to it will not have any positive return in terms of reducing material costs and dispensing with the human element that is the primary goal of creating such robots, In addition, it is difficult to operate the robot and at the same time one seeks to explain the information he collects and tries to process it in traditional ways.⁽²²⁾

To face these challenges and try to find solutions to these practical problems presented, the proposed agreement for the responsibility of states must provide for the damages caused by self-operating weapons for the full responsibility of the operating country of the fighting robot for any damages resulting from its use, because the desire of states to reduce the expenses of their weapons cannot be at the expense of damage that may cause other countries, especially losses in lives⁽²³⁾.

1-The responsibility of the countries for assessing the risks of combat robots, securing them and protecting their programs:

In order for countries to ensure the potential risks of combat robots, each country must obligate their affiliated institutions to assess the risks of using artificial intelligence technology to make them, and they must perform risk evaluation operations at each stage of weapons development, design, testing or publishing, which will be made in succession.

A- The responsibility of the countries for assessing the risk of fighting robots:

The first obstacle facing the issue of assessing the risk of fighting robots is to define the concept of these risks in preparation for their evaluation, especially in light of the absence of a unified international concept of risks, which makes it difficult to determine the criteria on which the countries must conduct this evaluation⁽²⁴⁾.

The problem that arises due to the lack of a unified international concept of risks is that many countries explain the meaning of the risks

according to a narrow concept that is limited to studying the potential risks in its armed forces and not the potential risks in the armed forces of the other state, especially the opponent's state, which would lead to irrational results, because the analysis of the risk of fighting robots from the potential risk of the armed forces of the state that it has of it To reduce the possibility of forces infection in the war, or make this possibility none if the state possesses sufficient force of these robots.⁽²⁵⁾

The main reason behind the preference of states is the suggestion of the narrow concept of the idea of the potential dangers of political leaders' concerns about the reaction of their people towards their decisions to participate in wars, because the emergence of fighting robots would make political leaders prefer to go to the war option more easily than it was previously where the person is fighting himself, and the former Secretary -General of the United Nations has expressed this meaning in his report on the role of science and technology In the context of international security and disarmament, where he mentioned: "The increase in the ability of self -operating vehicles allows countries to carry out military actions without restricting the reaction of their peoples to the losses of lives".⁽²⁶⁾

Therefore, the commitment of states to evaluate risk must be devoted to possible damage to the use of weapons on other countries and not only the country that they use or make, but also extend to other countries that may be attacked by these robots.

In the absence of a definition of the potential risks caused by deadly operating weapons, the proposed treaty must include a definition of the potential risks resulting from the use of these robots, while linking this concept to the idea of the accepted damage at the international level, and this can be reached by guiding the definition of the damage contained in the agreement of international responsibility for the damage that space bodies speak, where the latter defined the damage as: "the loss In lives, personal injury, or any other damage to health, loss, or damage to state property, natural or moral property, or the property of international governmental organizations.⁽²⁷⁾

Accordingly, it is possible to extract the definition of the potential risks resulting from the use of combat robots from the above definition that can be adopted as a basis for the definition of this type of risk, given that the damage caused by the use of combat robots constitutes one of

the forms of the damage mentioned in the previous definition that can affect any country due to the use of these weapons.

B- The responsibility of the countries for securing the risks of fighting robots and protecting their programs:

Under the influence of errors in which combat robots can occur and the severe damage that can result from them, the voices are raised internationally, especially those concerned with human rights that these combat robots should be completely lack of risk, in order to be authorized to use them, but such claims rejected them a lot as they lack logic, because the human beings themselves who will compensate these robots in the event of exclusion and dispensing with them Because they make mistakes in response to the opinions of these voices while they are fighting war instead of these fighting robots, they themselves are not infallible from mistakes, This was proven by practical and realistic experiences, as human -human soldiers and leaders of people often make errors during the battles, which led to the emergence of an average opinion that calls for a criterion for error when assessing the performance of fighting robots in wars and battles that correspond to the rate of error that humans make if they fought those battles.⁽²⁸⁾

Others also sparked another kind of concerns that relate to the possibility of these fighting robots in the hands of terrorist groups, which represents a major and dangerous threat to international security and peace, and even if these terrorist groups are not able to steal these robots, there is another danger that steals their manufacturing programs stored on computers in the countries that are made by piracy programs that have known a wide spread in recent years.⁽²⁹⁾

The United Nations Experts team has been exposed to this problem in the sixth principle of guidelines for self -operating weapons, as the states directed the need to provide the necessary protection for these weapons, as well as for programs manufactured in their use of the risks of theft or electronic attacks, especially from terrorist groups⁽³⁰⁾.

Conclusion:

The fighting military robots as one of the artificial intelligence applications if they are used during armed conflicts can commit many mistakes that are difficult to appreciate in advance, as it is not possible to determine their grave effects in an accurate way, especially in light of the possibility of the possibility of these robots from the control of



human beings if the development of their capabilities on almost complete independence from its programmer and not returning to it, especially in light of their lack of disobedience and awareness This leads to its inability to distinguish between civilians and military personnel.

This study concluded the following results:

□ *The robot is a mobile manufacturer that includes a smart system according to the principles of artificial intelligence, with the ability to think, learn and take self -decisions about what to do in different environments.*

□ *The spread of combat military robots may lead to the threat of international peace and security, especially when they are lost or a malfunction in one of its systems.*

□ *Fighting military robots such as dangerous random weapons of great harm are like nuclear or biological weapons, which makes them contrary to the provisions and rules of international humanitarian law, given their inability to distinguish between civilians and military fighters, and the distinction between civilian objects and military targets if they are used in armed conflicts.*

*Based on the **results** reached, we **recommend** the following:*

□ *The necessity of enacting a binding international treaty aimed at banning self-operating weapons systems, including military robots that operate without control or intervention of the human element.*

□ *The necessity of maintaining the human element and not completely absencing the military robots and self -operating weapons systems.*

□ *The need for humanitarian organizations the necessity of their responsibilities towards spreading awareness of the danger of excessive use of weapons that depend on self -controlled artificial intelligence programs.*

□ *Stressing the need to subjugate military robots to the supervision of the military commander in the battlefield, because the weapon is just a machine, so that it is under the control, control and guidance of the human operator.*

□ *The need for the United Nations Human Rights Council to adopt a civil society to take a position to develop these weapons until an agreement is concluded.*

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