



INTERNATIONAL PROTECTION OF WATER DURING ARMED CONFLICTS

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Abstract:

The legal protection provided by the rules of international humanitarian law (IHL) is the most clear and fundamental source for establishing the legal protection of water resources. It includes mandatory rules that cannot be violated, particularly with regard to water and water facilities, particularly during periods of armed conflict. Damaging them during military operations is considered a grave international violation that entails international responsibility. This is because the natural environment, in all its aspects, indirectly affects humans due to their connection to it and their survival thanks to it, just as it does to any other indispensable resource for the survival of civilians, particularly water resources.

Keywords: Water, civilian objects, armed conflict, international protection, international humanitarian law.

Introduction:

Protecting water, during armed conflicts, is considered as an important issue that has been imposed on the international community. Since wars use water bodies increasingly and widely including seas and oceans. The rapid development in the field of weapons: chemical, biological, nuclear and others, causes deterioration and pollution of the aquatic environment when the armed conflicts break out in the seas.

Moreover, the development of means and methods of combat has made the situation of water unsatisfactory in many places of the world due to wars. Especially when this situation has continued and worsened over the years, it will affect the properties and quality of the water and reduce its benefits, as well as expose marine uses, living

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resources, and human health and tourist sites to further damages. (BENSALEM, 2004, p. 1)

Therefore, caring for the aquatic environment is very important, especially when the problem of pollution in the seas and oceans can develop and lead to devastating impacts on living resources and also on human health and well-being. Recent studies have revealed the enormous risks resulting from the pollution of the marine environment, and they have clarified the terrible consequences it entails and its harm to humans and the environment. (Moubarek, 2017, p. 66)

Thus, the importance of this topic arises with the significance of human life continuity on Earth, as the health of ecosystems ensures this continuation, while their destruction threatens it. The international community still struggles against the necessities of armed conflicts and the imperative for environmental protection. Despite the existence of numerous international agreements and instruments, ambiguity still surrounds the implementation of the system of international responsibility for violations.

This is why several factors lead to focus on:

Personal reasons:

- Belonging to the specialization in Public International Law and in the International Humanitarian Law.
- A personal and self-interest in issues related to the human protection during peacetime, including the implementation of human rights, and international humanitarian law during armed conflicts.

The objective reasons:

- To delve into the violations that may affect water during armed conflicts.
- To contribute indirectly to the dissemination of International Humanitarian Law.

The objectives are:



- To identify the international legal norms governing the protection of water resources.
- To manifest the means and frameworks of international protection for water resources during armed conflicts.

In order to complete this brief research paper, we have adopted an analytical and descriptive approach, referring to several international agreements that address water protection during conflicts by applying the theoretical framework on water resources and their protection.

Accordingly, the following research question was posed:

How does International Humanitarian Law provide legal protection for water during armed conflicts?

As a response, we have divided this study into a two-part plan. In the first section, we addressed general concepts about water and conflicts, and the second section is devoted to: Direct protection of the natural environment, including the protection of water as an essential and important part of the environment as a whole.

1. The Aquatic Environment under the International Humanitarian Law Perspective

Knowing the issue of protecting water resources during armed conflicts requires studying the nature of water, by defining its composition and characteristics, as well as its importance in the human environment and living conditions, since humans cannot live without water. To clarify this, the definition of water and its resources is addressed in the first heading, in addition to identifying waterworks, which are considered as essential sources from which water is derived, as well as civilian properties and industrial facilities that are directly or indirectly related to water, in order to accurately describe the properties and distinguish the differences between them (Zinati, 2016, p. 47)

1.1. The definition of water

Water is the most spread chemical compound on Earth's surface. The name "water" refers to the liquid state of the compound oxygen and hydrogen. This was discovered by the French chemist Antoine

Lavoisier, and later confirmed by the German scientist Alexander von Humboldt and the French scientist Joseph Louis that water consists of two moles of hydrogen and one mole of oxygen. The currently accepted structural formula for water, H_2O , was given to it by the Italian scientist Stanzalo Canzaro in 1860. The aquatic environment encompasses traditional resources such as seas, rivers, lakes, and inland waters, as well as groundwater. (HEROUEL, 2024, p. 24) These include, but are not limited to:

1. Rainwater.
2. Groundwater.
3. Surface water (rivers, streams, lakes and seas, spring water, groundwater, and rainwater).
4. Seawater and ocean water.
5. Waterworks: (basic and technical structures used to collect, store, and conserve water for human use).
6. Dams.
7. Bridges built over dams.
8. Seawater desalination plants.
9. Electric power plants related to waterworks.
10. Nuclear power plants related to waterworks.
11. Waterworks on irrigation canals.

The protection depends on which these works regularly, significantly and directly support military operations. This is the reason given for terminating that support. The protection is barred, according to the article 56 of Additional Protocol I to the Geneva Convention -1977. The states parties should not establish military objectives in close proximity to these works, or use them for an attack as a protection given to them. (Zinati, 2016, pp. 48-81)

1.2. Concept of the international armed conflict

War is a phenomenon of organized collective violence that affects either relations between two or more societies or power



relations within a society. War is governed by the law of armed conflict, also known as "International Humanitarian Law."

War is the use of force instead of law, and it breaks out between two independent states and two regular armies. This type of war is subject to the laws of Hague Conventions and the Geneva Conventions of 1949 and their supplement protocols. An international organization may be a party of this conflict. It is a phenomenon that must be organized or its devastating effects mitigated as much as possible. Therefore, the existence of a law that organizes all of this is an urgent humanitarian necessity. (Achaoui, 2023, p. 8)

There was no legal definition for armed conflicts. Since 1949, the common article 2 of the four Geneva Conventions has provided a concept for an international armed conflict that entails the application of humanitarian law. The common article 3 of the four Geneva Conventions stipulates the minimum rules applicable to non-international armed conflicts, without providing a clear definition of such a conflict. The supplement Protocol I to the Geneva Conventions of 1977 (SOULINIER, 2006) further expanded upon this definition.

However, international armed conflicts can be defined as situations in which a state uses the armed force between two or more states, involving the regular armies of those states, regardless of the cause or intensity of the conflict. This also includes armed conflicts in which peoples struggle against colonial domination, foreign occupation, or apartheid. International Humanitarian Law applies to all these types of conflicts, regardless of whether a declaration has been made or whether the parties to the conflict recognize its existence. The scope of these conflicts is expanded, and they can be land, maritime, or air conflicts. (ALAHIANI, 2022, p. 20)

2. Protection of the Natural Environment

International protection of water during armed conflicts refers to the rules contained in international conventions, both customary and human treaty, which collectively constitute International Humanitarian Law. It is understood that the focus should be on the rules of humanitarian law as its primary source. However, it should be noted that other branches of public international law also play a

prominent role in providing international protection for water resources and waterworks during armed conflicts, such as International Human Rights Law and International Environmental Law. (ACHOUR, 2022, p. 851)

The direct protection of environment by International Humanitarian Law is embodied in the conventions texts that explicitly and directly indicate the environment and its protection during armed conflicts. These texts oblige states parties of the conflict to respect the environment when inventing, acquiring, or using any new means or method of warfare. As stated in the 1996 advisory opinion of the International Court of Justice on the legality of the use of nuclear weapons or the threat thereof, states are obliged to respect the environmental factors when assessing what is necessary and appropriate for the execution of legitimate military objectives. (BENSALEM, 2016, p. 14)

The International Humanitarian Law has traditionally focused its protection on human beings in terms of its application. Therefore, it has not primarily focused on protecting the natural environment by virtue of the provisions of the International Humanitarian Law, as it protects the civilian properties and the above mentioned. Consequently, environmental protection provisions are seemed to be in different way in the International Humanitarian Law, as follows:

a) The Fourth Hague Convention dated in 1907 concerning the laws and customs of war on land, while its executive regulations of law in article 29/R, stipulate that "the prohibition of destroying or seizing enemy property, except where the necessities of war demand such destruction or seizure."

This article constitutes the oldest rule for environmental protection during armed conflict.

b) The Protocol related to the prohibition of using asphyxiating, poisonous or similar gases and bacteriological/ biological methods, adopted in Geneva on June 17th, 1925.

c) The convention of prohibiting the innovation, production and stockpiling of bacteriological weapons, adopted on October 10th, 1980, related to the use of devices, traps, and incendiary weapons that



have a direct and concrete impact on protecting the natural environment during the period of armed conflict.

D. The fourth Geneva Convention dated in 1949, related to the protection of civilians, stipulates in article 53, the prohibition of the destruction of movable or immovable property. This article provides a minimum level of environmental protection in cases of occupation. (HOUARI, 2018, p. 46) However, referring to the text of this article, we have not found any explicit rule or conventional commits related to the environment, even though this convention did not address the protection of the marine environment.

At that time, the considerations or necessity of environmental protection had not yet fully developed to the point where it could be incorporated into the convention. Nevertheless, protection was not entirely absent from the discussion, while the article stipulates the prohibition against the occupying power destroying private, immovable, or movable properties belonging to individuals, groups, or to the state, public authorities, social organizations or cooperatives, unless such destruction is rendered absolutely necessary by military operations. (KRIDI, 2021, p. 45)

It is noteworthy that the adoption of the resolution on the protection of water resources and waterworks during armed conflicts marked a crucial turning point, as it paved the way for the adoption of the two supplement Protocols to the Geneva Conventions 1949, related to the protection of victims of International Armed Conflicts. These Protocols contain explicit legal provisions concerning the protection of water resources during armed conflicts, including prohibitions on a range of practices that could harm water resources.

Some of these prohibitions reaffirmed existing principles, while others were newly introduced. These two categories of prohibitions: the prohibition on destroying resources indispensable to the survival of the civilian population, and the prohibition on attacking structures and engineering works containing dangerous forces.

It is worthy to mention that the resolution issued by the commission of the water resources international law of the International Law Association, in its first paragraph, prohibits

poisoning water or rendering it non-consumable for human as a method of warfare. This includes prohibiting the dumping of any materials, bodies, or vehicles that could affect the quality of water resources, whether used for civilian or military purposes, given the widespread harm such actions cause to the environment and human.

Despite the importance of this prohibition in protecting water resources, especially that poisoning is a common practice during conflicts due to its ease of implementation and the extent of its harmful effects, the two supplement Protocols to the Geneva Conventions do not mention it. This omission could be considered a significant shortcoming that detracts from the positive impact of this resolution. (Abd-El-Aziz, 2022, p. 133)

2.1. International Humanitarian Law's protection of water

International Humanitarian Law has numerous objectives, including, but not limited, the following:

- Mitigating the impact of war on civilians and vulnerable populations, particularly marginalized groups.
- Specifying the types of weapons used and prohibiting certain dangerous weapons and landmines.
- The absolute prohibition of indiscriminate and lethal weapons.

It is generally recognized that International Humanitarian Law protects specific categories of people and properties. It does not contain specific regulations concerning water, as it is governed by the law applicable in times of peace, but the consequences of hostilities can extend to it as well. Indeed, certain rules of International Humanitarian Law, including specific prohibitions. Furthermore, water is an indispensable element for meeting the basic needs of protected persons. (ELACHAOUI, 2018, p. 343)

Therefore, several principles must be respected, though conflicts become more erupted, including, as a matter of priority:

First. The principle of military necessity

The principle of military necessity is one of the most important principles of International Humanitarian Law. It prohibits the



indiscriminate use of weapons, bombs, and explosives against targets intended for destruction without precise identification. It also applies the principle of distinction between civilians and combatants, as it is absolutely forbidden to attack civilians, civilian objects, or the natural environment, especially water, and all objects indispensable for the survival of civilians. Attacking civilians is punishable by international law and constitutes a serious violation of the rules of International Humanitarian Law and the rules of the law of armed conflict.

This principle is a very important safeguard for the aquatic environment, while, it reduces pollution and the destruction of the biosphere, which is one of the essential elements of the environment with the protection of human beings.

The principle of military necessity means that the use of means of warfare, whether a military equipment or plans, or tactics in wars and armed conflicts is for achieving a specific goal, which is always the ultimate goal of any war - imposing the will on the enemies and forcing them to surrender and retreat from their position - For this purpose, the use of means and methods of warfare should be within the limits that ensure the achievement of this goal in order to be legitimate. Thereafter, it is forbidden for parties to use means of warfare that increase human suffering without justification. Thus, the use of means should be within the limits required by military necessity. A number of other basic principles are derived from this principle, the respect for which results in reducing human suffering in armed conflicts. The most important of these principles is the prohibition of inflicting unnecessary suffering. (Essadi, 2014, p. 67)

If military operations cause environmental damage due to excessive force or deliberate destruction unrelated to the military objective, no justification can establish a clear military advantage in destroying the environment, since the effects of such destruction are not limited to the parties involved in the conflict but extend beyond borders and across generations. Therefore, when conducting military operations, a balance must be struck between environmental protection which requires respecting civilians and sparing them the effects of armed conflict, as well as protecting civilian properties, including the environment and all its natural resources on the one

hand and achieving the military objective on the other hand. (Soufafa Tarek ECHAALANE, 2018, p. 134)

Second. The Principle of prohibiting attacks on the Natural and industrial environment

The reality has proved that attacking and destroying the environment has become permissible once it becomes a military objective, in accordance to the article 54/3 of Protocol I dated in 1977. This article permits attacking, removing, destroying, or disabling objects and materials indispensable to the survival of the civilian population, as being elements of the civilian environment, if they directly support military action. The second exception allows, according to the treaty rules, attacking or harming the environment if military necessity demands it to achieve a clear military advantage. The destruction of property, as an element of the civilian environment, or its widespread seizure, is not justified by military necessity and is carried out unlawfully and arbitrarily, constituting a grave breach of article 50 of the First Geneva Convention dated in 1949. This means that the destruction of the civilian environment justified by military necessity is not considered a grave breach of these conventions. (M'HAMED, 2019, pp. 63, 64)

Regarding environmental protection during armed conflicts, the prohibition against destroying enemy structures during wartime is evident. These structures are sometimes related to the environment elements (such as water and air), hence, the need for this protection to prevent their destruction. The article 13 of the Hague Convention 1907 addresses this prohibition, stating that a combatant is prohibited from punishing an enemy state by destroying its natural heritage, as it is not a military objective unless justified by military necessity. (ARRAB, 2013, p. 50)

The most important texts related to the environmental protection during armed conflicts, which prohibit the use of methods and means of warfare that intentionally cause widespread, long-term, and severe environmental damage, do not indicate the concept of military necessity. These rules are absolute and not subject to exception. Any method or means of warfare intended to cause serious environmental



damage, even accidentally, is considered prohibited. (KAYOUCH, 2018, p. 88)

Third. The principle of prohibiting attacks on structures containing dangerous forces

These works, specifically article 54 of Protocol I and article 15 of supplement Protocol II, define dams, bridges, and nuclear power plants as exhaustive targets. This implies that other structures containing dangerous forces, such as factories producing toxic chemicals or oil fields, may be attacked. (BERKANI, 2007-2008, p. 98)

These structures are considered as favorite targets, and their destruction may determine the destination of a battle or even a war. Dams, for example, can be used for purposes other than their normal use, such as regularly and directly supporting military operations. Attacking them is the only way to end this support. Similarly, if nuclear power plants are used regularly, significantly, and directly to support military operations, the immunity granted to them against attack is forfeited. (ELACHAOUI, 2018, p. 347)

Without forgetting the extremely dangerous consequences of using mines in all their forms, such as unexploded bombs, sea mines, and land mines. Sea mines are either anchored, becoming harmful as soon as they detach from their moorings, or floating, becoming harmless after an hour when they are no longer under the control of their planter. There are also mines laid on enemy shores and ports to disrupt their trade. These are military tactics with far-reaching and severe environmental impacts. They serve as a defensive measure, creating obstacles to protect the area where they are planted. Their objective is to halt the enemy's advance and inflict the greatest possible losses on them and their forces. (Achaoui, 2023, p. 154)

2.2. The role of the international organizations in water protection

The International Committee of the Red Cross (ICRC) adheres to a system of priorities based on the direct interests of protected persons in carrying out its humanitarian mission for the benefit of victims of armed conflict, in accordance with the provisions of

International Humanitarian Law. Every action aimed at protecting water or any other type of civilian object is ultimately a means of assisting victims.

If combatants respect waterworks and civilian water supply networks, as required by humanitarian law, the ICRC can dedicate its efforts to the numerous other missions, it must accomplish in times of war. Conversely, the destruction of these structures and networks requires immediate responses and solutions, because any delay in repairing damaged objects or any obstruction of repair work will have bad consequences for the population and their means of survival. (Hani, 2010, p. 207)

The Committee's role also includes reminding the parties to the conflict of the rules protecting civilian objects and the necessity of their practical application. Ensuring the proper implementation of International Humanitarian Law requires the committee to strive, to prevent, and to correct violations through close cooperation with the parties to the conflict to implement the protection provisions. When states violate these rules, the committee's delegates, through their constant presence in the scene of armed conflict operations, draw the attention of the authorities to what they consider violations of the protection rules. The delegates offer concrete proposals to prevent the recurrence of violations and endeavor to thoroughly investigate the facts without seeking to identify the perpetrators. (BENMAIZA, 2024, pp. 227-228)

The Committee must also undertake all necessary efforts to ensure respect for this law rules. While, its efforts are confidential in principle, they may be public under certain conditions.

This is applied on the violations that harm protected persons or protected objects.

In this regard, any deliberate attack on waterworks and potable water reservoirs intended for civilian use must be met with appropriate efforts to halt the violations, prevent their recurrence, and take the necessary measures to deter the perpetrators. Public appeals issued by the ICRC should cite the principles of applicable law, if necessary. (Hani, 2010, p. 210)



In 1994, the ICRC organized a seminar on this topic in Montreux, Switzerland, focusing on water and armed conflict. Fifty experts from various United Nations Organizations, Non-governmental Organizations, and legal professionals participated, and they formulated a set of objectives, the most important are:

- Ensuring better physical and legal protection for water supply systems and sanitation engineers.
- Strengthening cooperation in this area between the ICRC, National Red Cross Societies, United Nations Organizations, Non-governmental Organizations, and the private sector.
- Seeking private sector assistance in repairing water supply networks damaged by hostilities.
- Taking necessary preventive measures in peacetime to avoid or mitigate the harmful effects of water shortages during wartime and expanding emergency medical operations during wartime.
- Promoting the widest possible dissemination and awareness of international standards protecting water storage facilities and structures through information and education at all levels of society. (ACHOUR, 2022, pp. 865-866)

Practically, the international civil society organizations has worked under the United Nations agencies to evaluate the circumstances of the existing water, sanitation, and hygiene (WASH) infrastructure. The required water quantity is calculated based on the projected population, and an immediate evaluation of water supply capacity is conducted. This calculation should be based on a requirement of 20 liters of water per person per day (excluding leakage) and should also include the needs of shared buildings.

Evaluating the circumstances and serviceability of existing sanitation infrastructure is a crucial part of any needs evaluation, particularly, in areas where infrastructure is inadequate or outdated (e.g., in urban areas).

In some cases, evaluating sanitation infrastructure is straight; especially in areas where toilet facilities have not yet been established (e.g. in newly established refugee camps).

Reports on the results of the initial rapid evaluation in the water, sanitation, and hygiene sector should also be prepared. These reports should be prepared using the approach outlined in the rapid methods for evaluating water services in emergency cases and should be submitted regularly to ensure the availability of this data for future reference.

Conclusion:

At the end of the study, it is concluded that water resources have gained a board legal protection during armed conflicts, particularly within the provisions of the two supplement Protocols to the Geneva Conventions 1977. This protection generally summed up in three fundamental prohibitions: the prohibition of using poison as a method of warfare, the prohibition of destroying materials indispensable to the survival of the civilian population, and the prohibition of attacking structures containing dangerous forces. Most principles of International Humanitarian Law are within this framework.

Results:

- Despite the numerous provisions of International Humanitarian Law (IHL) that provide protection for water resources during armed conflicts, these provisions are often disregarded, as evidenced by the observed cases.
- It is necessary to strengthen the rules of IHL with new legal texts specifically dedicated to water protection, without linking them to other matters or issues.
- New mechanisms should be established under the cover of the United Nations, specifically for water protection. Their mission would be to monitor attacks on water resources during armed conflicts, similar to the work of international relief agencies, with branches in various countries. These mechanisms would intervene when attacks on water resources occur in any armed conflict.

Recommendations:

- According to this study, it is recommended to develop detailed, independent legal texts that directly and definitively protect water during armed conflicts.



- International Humanitarian Law should be developed and updated to align with environmental protection and focus on water protection (through the dissemination of International Humanitarian Law).

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