



Legal Protection of the Aquatic Environment under International and Algerian Law

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Abstract:

Considering the important role that aquatic environments play in the lives of nations and communities, and their crucial importance in maintaining ecological balance, the international community has undertaken efforts to safeguard water resources from challenges and hazards. Thus, nations and international organizations have prioritized their protection by drafting international agreements focused on conserving and promoting this natural resource.

Algeria has similarly adopted stringent measures, enacting legislation against whoever harms the water environment by settling legal texts to safeguard water resources, whether they are general related to the whole environment protection or private which are related to the aquatic environment, as the Law 05-12 related to the Water.

Key words: *Water, Water Resources, Aquatic Environment, Water Protection, Pollution.*

Protection juridique de l'environnement aquatique en droit international et algérien

Résumé :

Compte tenu du rôle important que jouent les environnements aquatiques dans la vie des nations et des communautés, et de leur importance cruciale pour le maintien de l'équilibre écologique, la communauté internationale a entrepris des efforts pour protéger les ressources en eau contre les défis et les dangers. Ainsi, les nations et les organisations internationales ont donné la priorité à leur protection en rédigeant des accords internationaux axés sur la conservation et la promotion de cette ressource naturelle.

L'Algérie a également adopté des mesures strictes, en promulguant une législation contre toute personne qui porte atteinte à l'environnement aquatique, en établissant des textes juridiques visant à protéger les ressources en eau, qu'ils soient généraux et liés à la protection de l'environnement dans son ensemble ou privés et liés à l'environnement aquatique, comme la loi 05-12 relative à l'eau.

Mots clés : *Eau, ressources en eau, environnement aquatique, protection de l'eau, pollution.*



Introduction:

UNESCO has considered water to be the cornerstone upon which human life depends, a factor that highlights the strength of progress and the achievement of prosperity for societies and nations, or conversely, its absence. ⁱ

Like other nations, the Algerian legislator has taken an interest in protecting the aquatic environment. Therefore, through Law No. 05-12 on water resources, the elements of the aquatic environment have been identified, and they have been divided into natural public properties and artificial ones.

Natural Public Properties include:

Ordinary resources, which consist of groundwater, including recognized spring water, natural mineral water, and bath waters, once they are confirmed to exist or are discovered, particularly after the completion of drilling or exploration activities, regardless of their nature and whether carried out by individuals or legal entities subject to public or private law.

Surface waters, including rivers, lakesⁱⁱ, ponds, marshes, and coastal areas, as well as the lands and vegetation within their boundaries. This also includes the natural sediments and deposits that form within water bodies.

Extraordinary water resources, which consist of seawater, desalinated water, and water from which minerals have been removed for public use, as well as treated wastewater and used water, provided they are for public

benefit. These also include all types of water integrated into water systems via techniques of artificial replenishment.ⁱⁱⁱ

Moreover, the law (Law 05-12) also refers to artificial or non-natural water resources, which include any infrastructure or facilities established to explore, identify, and assess water resources, whether quantitatively or qualitatively. This includes facilities for gathering groundwater and surface water, as well as systems for water treatment, storage tanks, and water distribution systems via networks of canals and pipes, along with associated infrastructure for public use to supply both urban and rural communities with water or irrigation and drainage with water or irrigation and drainage of swampy areas, in addition to wastewater collection systems, stormwater, treatment plants, and other related infrastructure designed for public use to purify urban and rural communities, as well as flood control facilities and watercourse management structures aimed at protecting urban or flood-prone areas from floods^{iv}.

Both national and international legislations have recognized that the legal protection of aquatic environments is linked to achieving effective protection of water resources, whether at the domestic or international level. Therefore, this study focuses on highlighting various international and national legal provisions concerning the protection of aquatic environments. The central question is: **the facets of water resources protection in both international and Algerian national legislation?**

To answer the precedent question, this research paper is divided into two main sections. The first focuses on determining legal protection at the international level, while



Soumission : 12/03/2025 Acceptation : 14/06/2025 Publication : 15/08/2025

the second examines it according to the provisions of Algerian law.

1. Legal Protection of the Aquatic Environment in International Legislation.

International cooperation on water protection and the development of legal international rules regulating water resources has seen significant evolution over time. Many international agreements have been concluded, complementing each other, in defining the principles of international water law and achieving integrated water protection. The United Nations Integrated Water Resources Management (IWRM) Network has played a role in gathering various treaty texts that together form the body of international water law, applicable both in times of peace and during conflict.

1.1. International Protection of the Aquatic Environment during Peace time:

Given the large number of such agreements, we will mention some of the key international agreements, by way of illustration, though not an exhaustive list:

1.1.1. The International Treaty to Stop Oil Pollution in the Sea (1954):

This agreement took place on May 12, 1954, and entered into force in the same year, with subsequent amendments made on several occasions, including April 11, 1962, based on a recommendation issued by the International Maritime Organization, as well as on October 21, 1969, and October 15, 1971. The agreement aimed at protecting the aquatic

environment by prohibiting the discharge of oil waste into the seas by ships in cases where the discharge exceeds 60 liters per nautical mile, as stipulated in Article 3 of the agreement. It also included designated areas where the discharge of oil was prohibited. Furthermore, the agreement introduced the concept of International Oil Pollution Prevention Certificates, requiring each country to issue such certificates after its ships underwent prior inspections if they were chartered, ensuring the discharge rate to a lower bound of 60 liters per nautical mile and that the total discharge was lower bounded to 15,000 parts per million of total cargo capacity, Provided the ship was over 50 miles offshore^v.

In the same vein, ships found guilty of unlawfully releasing oil waste into the waterways were subject to fines under paragraph three of Article 16 of the agreement. It also required ships to maintain records of their oil loading and unloading operations, as specified in Article 9.

Several other international treaties have been found to protect the secure the aquatic environment from oil pollution. Notable agreements include the International Treaty on the Liability of Civilians for Oil the Damage of Pollution (1969, Brussels), which came into effect. on May 16, 1975, and the Brussels Treaty on International Responsibility for Damages Caused by Oil Pollution (November 29, 1969). Another significant agreement is the The International Fund for Compensation for Oil Pollution Damage, established in 1971, which decided a fund to compensate for damages resulting from oil pollution of sea^{vi}.



1.1.2- The 1992 Water Convention is an international treaty focused on the protection and sustainable use of shared rivers and lakes across borders

This convention was adopted in Helsinki, Finland, on March 17, 1992, but it entered into force on October 6, 1996. Although originally a regional agreement, it gained international significance in 2016 when it was recognized as a global treaty, following widespread ratification by many countries. This was due to amendments made in 2003, which opened the door for all United Nations member states to join, increasing the number of member states to 44 in 2020^{vii}.

- **Measures Established by the Convention to Prevent International Transboundary Water Pollution**

The convention focuses on the protection of international waters that cross national borders, whether surface or groundwater, located between two or more countries or that cross through or are located within a country's territory^{viii}. It obliges member states to take all necessary measures to prevent and control transboundary water pollution and mitigate its impacts. Specifically, the member states are required to:

1A- Monitor, prevent, and reduce water pollution that may cause transboundary harm.

2A- Utilize water for peaceful and legitimate purposes while ensuring the sustainable management and protection of water resources.

3A- Ensure reasonable and equitable use of the waters, considering the special nature of these waters as they cross national borders.

4A- Maintain the ecological balance of these watercourses and, if necessary, take corrective actions to restore it.

5A- Preventing, controlling, and reducing the impact of transboundary water pollution, the convention requires the member states to adopt and implement various administrative, legal, economic, technical, and financial measures to prevent and control transboundary water pollution^{ix}.

6A- Preventing water pollution from known pollution sources, the convention calls for controlling and reducing pollution by utilizing environmentally friendly technological means in various vital projects.

7A- Adopting the licensing system by States, so the convention obliges states to protect international waters from pollution caused by waste discharge, particularly from factories. It also mandates monitoring of authorized waste discharges, which must be subjected to advanced technological methods that detect harmful substances in the water that could emanate from the waste. The convention imposes stricter conditions on the waste that can be discharged into international waters to protect the aquatic food resources.

8A- Water quality monitoring by States, so the convention requires states to determine the quality of the waters within their territory and impose strict monitoring to detect any potential environmental pollutants. To ensure stringent monitoring, the convention sets guidelines based on water quality standards, including:

- Preserving and improving water quality whenever necessary.



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- Reducing the average pollution levels caused by hazardous substances to a specific level over a certain period.
- Protecting sensitive water resources such as lakes and groundwater, ensuring the preservation of their environment.
- Using environmental classification and chemical indicators to evaluate water preservation and improvement at both medium and long-term levels.
- Assessing the extent to which objectives are achieved and considering additional preventive measures required for specific cases^x.

9A. Research and Development:

The convention encourages member states to cooperate in research and the development of effective technologies to prevent, control, and reduce the transboundary impact of water pollution. This is done through the creation of research programs that are presented at relevant international forums^{xi}.

20A. Activation of International Responsibility for Damage from Transboundary Water Pollution according to Article 7 of the same convention.

2.2. Principles on Which the Convention is Based:

The convention obliges member states to take action to prevent, monitor, and reduce water pollution through various measures, guided by a set of principles as follows:

Precautionary Principle:

Under this principle, member states must take preventive actions to avoid potential transboundary harm due to the release of hazardous substances, even if scientific research

has not conclusively established a causal link between the hazardous substances and the potential effects.

Polluter Pays Principle:

This principle mandates that the polluter should bear the cost of the damage caused by their pollution, including monitoring and reducing the pollution

Protection of Future Generations' Rights:

Water is considered a shared heritage of humanity that must be used in a way that meets the needs and rights of the current generation while respecting the rights and needs of future generations. This is reflected in paragraph 5 of Article 1 of the convention.

1.1.3- The 1982 United Nations Convention on the Law of the Sea.

In terms of environmental protection from pollution, Article 206 in the 1982 Law of the Sea Convention states that States may submit reports if they have reasonable grounds to believe that activities within their jurisdiction or control

could potentially lead to significant marine pollution, so damage assessments are recorded in reports. States have a duty to safeguard the marine environment by adopting all necessary actions to prevent, minimize, and manage pollution, drawing on suitable scientific methods^{xii}.

In the 1987 conference on the protection of the Baltic Sea, participants recognized the importance of adopting a precautionary approach, especially with regard to the discharge of hazardous substances into the North Sea. This requires taking all necessary measures to monitor the emission of these substances until a clear causal relationship between the discharge and its effects is determined^{xiii}.



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On a continental level, the 1970 European Nature Protection Symposium, held in Strasbourg, proposed the creation of a European Protocol for Human Rights. This protocol would guarantee the right to a healthy, unpolluted environment and clean water for every individual^{xiv}.

1.1.4- Law on the Use of International Watercourses for Non-Navigational Purposes (1997)

The treaty was endorsed by the United Nations General Assembly on May 21, 1997, focuses on the protection, maintenance, and proper management of international watercourses^{xv}. It represents a significant step in the development of international water law, adopting key customary principles related to environmental protection. The convention enshrines international protection of water environments through the following principles:

- **Equitable and Reasonable Use and Participation:**

The principle of fairness and equity has been recognized since ancient times. For example, the Romans acknowledged these principles as early as the third century BC and incorporated them into their legal system and also during the

17th century, which contributed in a significant development in the evolution of international law, particularly in terms of customary legal international principles that have continued to influence the field^{xvi}.

The principle of equitable and reasonable use is now a well-established customary international law rule, recognized in national transboundaries water management of the State, and this is clear by incorporate it in numerous

international agreements related to water protection, forming the international law of water. This principle allows states sharing a river basin or groundwater system to utilize their share of water resources in a manner that is fair and sustainable, ensuring both their development and the protection of these water resources.

The International Law Commission (ILC) considers the principle of equitable use to describe a state's right to use international watercourses on an equal footing with other riparian states, regardless of geographical location. The principle of reasonable use, on the other hand, emphasizes the obligation of states to manage shared waters in a way that ensures sustainability and fairness. The Commission highlighted that reasonable management included in different legal and customary rules and conventions^{xvii}.

The international protection of water resources guarantees that states must use their shared waters in a manner that is equitable and reasonable. Every riparian state has the right to access and use the shared watercourse in a way that ensures sustainable development, while respecting the rights of other countries and safeguarding the water system. It also includes the participation in the watercourse against the benefit of using and the cooperation of protecting it^{xviii}.

Equitable and reasonable use and participation of water are ensured through respecting a standards which are highlighted in the convention especially in Article 6. Among the most important are:

- Considering the economic and social needs of the countries sharing the watercourse, particularly their water needs for the population.



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- Determining the effects of the use of the watercourse in one of the participating countries on other watercourse countries, with the identification of its existing and potential uses.
- The necessity of preserving the water resources of the watercourse and working to protect, develop and economize their use and specifying the measures taken in this regard.

- **Commitment not to cause significant harm:**

The Law on the Use of International Watercourses obliges countries through Article 7 thereof to take all necessary measures to prevent causing any harm to the watercourse countries while exercising their right to benefit from this watercourse, and in the event that such harm actually occurs, they must take all necessary measures to remove it or mitigate its severity.

- **General International Cooperation:**

General international cooperation is based on the necessity of respecting several established international principles in international legal relations, namely:

-Equality of sovereignty among states:

The principle of equality of sovereignty is considered one of the most important principles on which international legal relations are based. It was stipulated in the first paragraph of Article 2 of the United Nations Charter^{xix}, and was adopted in several international texts, the most important of which is the draft declaration issued by the United Nations General Assembly No. 375 of 1945 regarding the rights and duties of states^{xx}, which included in Article 5 the right to equality of

sovereignty with other states as one of the most important purposes on which the United Nations Charter was built.

-Territorial integrity:

The principle of territorial integrity holds significant importance within the provisions of international law, as it is considered one of the foundational principles upon which other international rights are based. Numerous international agreements have adopted this principle, in addition to the emphasis placed on it by the United Nations Charter^{xxi}.

The Declaration on Principles of International Law concerning Friendly Relations and Cooperation among States of 1970 ^{xxii} affirmed the inviolability of territorial integrity and the political independence of states. Furthermore, the International Court of Justice (ICJ), in the Corfu Channel Case, stressed that respect for the territorial integrity of states is a cornerstone of international relations. The Court emphasized the obligation of every state to refrain from knowingly permitting the use of its territory for actions that harm the rights of other states^{xxiii}.

-Mutual Cooperation:

The United Nations General Assembly, in its resolution on Permanent Sovereignty over Natural Resources, underscored the necessity of fostering international cooperation to develop the economies of developing countries. This cooperation should be grounded in respect for their sovereignty over their wealth and natural resources. Any violation of the rights of peoples and nations to sovereignty over their natural resources is deemed contrary to the spirit and principles of the United Nations Charter, obstructing international cooperation and the maintenance of international peace and security^{xxiv}.



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Good Faith in Utilizing International Watercourses
International watercourses should be utilized in good faith to ensure adequate protection.

Good faith is one of the fundamental principles deeply rooted in international relations. It is emphasized in international treaties, particularly in Article 2, Paragraph 2 of the United Nations Charter^{xxv}. It is also upheld by regional treaties, such as Article 3 of the Charter of the Organization of American States, which affirms that good faith governs international legal relations^{xxvi}.

In this context, strict respect for the sovereignty of peoples and nations over their wealth and natural resources must be observed.

- **Regular Exchange of Data and Information:**

States sharing a watercourse are required to exchange available information about the condition of the watercourse on a regular and systematic basis. This includes hydrological data related to weather, geological information, and ecological data concerning water quality, as well as forecasts pertaining to these factors

When one state requests specific information, other states must make every effort to comply with the request and provide the necessary data as appropriate^{xxvii}.

1.2. Scope of Water Resources Protection in International Humanitarian Law

The protection of water resources under international humanitarian law (IHL) refers to the safeguards provided by both treaty-based and customary legal rules applicable during armed conflicts^{xxviii}. These rules form the framework

of IHL and aim to ensure that water resources are not exploited as weapons against adversaries.

Using water sources as tools of warfare constitutes a blatant violation of human rights. Therefore, IHL, through both treaty and customary sources, imposes strict regulations prohibiting such actions. These regulations are articulated in both direct and indirect legal provisions aimed at safeguarding water resources.

1.2.1. Direct International Agreements on the Protection of Water Resources During Armed Conflicts:

These are the legal provisions adopted in the First and Second Additional Protocols to the Geneva Conventions, which provide protection for neutral zones. These zones are specific areas within states designated as neutral based on international agreements and treaties. Examples include international passages like the Suez Canal and the Panama Canal, as well as straits such as the Strait of Hormuz and the Bab el-Mandeb Strait.

Such areas have been granted international protection, and it is prohibited for parties to a conflict to target them^{xxix}.

In addition to neutral zones, there are objects and resources essential for the survival of civilian populations. These resources also enjoy protection under international humanitarian law (IHL), including agricultural crops, food supplies, livestock, and farmlands. This protection is explicitly provided by the First Additional Protocol of 1977^{xxx}, which was established in response to inhumane and internationally prohibited acts committed by conflicting parties. These acts include:

Destroying drinking water facilities and irrigation systems



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Damaging crops and food supplies essential for civilian survival^{xxxii}

- **The First Additional Protocol of 1977**

When discussing the legal protection granted to objects indispensable for the survival of civilian populations, as outlined in the First Additional Protocol of 1977, it is important to address the following points:

This provision highlights the obligation to preserve civilian resources during armed conflicts and prohibits the use of starvation tactics or the destruction of essential infrastructure as weapons of war.

The term "objects indispensable to the survival of the civilian population" is derived from the provisions on the protection of water and water-related installations during armed conflicts, as adopted by the International Law Association in Madrid in 1976, specifically in Articles 1 and 2. Consequently, this term is considered relatively modern^{xxxii}

Article 54 of the First Protocol of 1977 refers to such objects by way of example rather than limitation. In addition to the objects explicitly mentioned in this article, other objects also enjoy international protection, such as:

- Grain silos and storage facilities
- Civilian supply depots
- Fuel stations and facilities necessary for heating and cooking operations^{xxxiii}.

International law strictly prohibits attacking objects indispensable to the survival of the civilian population as a means of retaliation or to force civilians to abandon their homeland.

Exceptions Allowing Attacks on Protected Objects

International law outlines a few exceptional cases where parties engaged in armed conflict are permitted to target and destroy these indispensable objects:

1. Military Provisions:

If these objects are used as supplies for the armed forces (military rations).

- Direct Support for Hostilities:
- If these objects provide direct support to military operations, provided that civilian populations are not left without adequate water or food as a result.
- To deny the enemy control over these resources or the territory.
- Engineering Works and Facilities Containing Dangerous Forces as:

include dams, nuclear power plants, and hydroelectric stations provided that they don't cause health harm for civilians and future generations^{xxxiv}.

"Engineering Works or installations containing dangerous forces, namely dams, bridges, and nuclear power stations used for electricity generation, shall not be the object of attack, even if they are military objectives, if such an attack may cause the release of dangerous forces resulting in severe losses among the civilian population."

Furthermore, "the second paragraph of the same article adds that other military objectives located at or near such works or installations shall also not be subjected to attack if such an attack may cause the release of dangerous forces from these works or installations, resulting in severe losses among the civilian population"



- **The First Additional Protocol of 1977**

Compared to the First Additional Protocol, the provisions of the Second Additional Protocol regarding the protection of water resources are relatively modest. The Second Protocol emphasizes:

Prohibiting the starvation of civilians as a method of warfare.

Banning attacks, destruction, and disruption of objects indispensable to the survival of the civilian population.

However, it does not explicitly address the protection of installations and engineering works. Nevertheless, this omission does not imply that conflicting parties are allowed to target such installations. Instead, the fundamental humanitarian requirements applicable to international conflicts also apply by analogy to internal conflicts^{xxxv}.

Based on the above, both Additional Protocols I and II aim to protect civilian and environmental objects critical to ensuring the survival of civilians during conflicts. However, exceptions are clearly defined and limited to specific cases, not open-ended interpretations.

1.2.2. Indirect Provisions for Protecting Aquatic Environment During Armed Conflicts

There are several indirect legal provisions related to protecting water resources during armed conflicts, including the following:

A. The Protocol Prohibiting the Use of Asphyxiating, Poisonous, or Other Gases and Bacteriological Methods of Warfare^{xxxvi}:

The Geneva Protocol of June 17, 1925, which entered into force on February 8, 1928, prohibits the use of:

Poisonous or asphyxiating substances, gases, liquids, materials or devices posing environmental risks.

This protocol came into force on April 3, 1928. For more details, refer to the League of Nations Treaty Series.

Considering that the principles of this declaration are an integrated part of the international convention.

Signatory states must respect this prohibition and urge others to sign and ratify it.

The maritime Parsi Declaration (April 16, 1956)

It was the first international document of the second half of 19th century, regulating naval warfare, emphasizing distinction between military targets and civilian objects. It protected ships from piracy, enemy goods on neutral vessels, it excluded the military supplies and implicitly, the civilian supplies^{xxxvii}.

The St. Petersburg Declaration (December 11, 1868):

In accordance with this declaration, it prohibited explosive projectiles causing unnecessary suffering, banning those weighing under 400 grams^{xxxviii}.

2. Legal Protection of Aquatic Environment in National Legislation

The Algerian government has adopted the same approach as the international community in the field of environmental protection. The Algerian legislator has strengthened the legal protection of the aquatic environment through a series of laws, some of which are general laws aimed at protecting the environment as a whole, including the aquatic environment, and others specifically designed to protect and preserve water resources. This section will address the following points:



2.1. General Legal Protection of the Aquatic Environment in Algerian Law

In this section, we will examine several legal provisions that focus on the protection of aquatic environment. These include the Algerian Constitution of 2020, the Penal Code, the Environmental Protection Law, and laws related to waste management.

2.1.1. Protection of Water Environment in the 2020 Algerian Constitution

The constitutional focus on environmental protection came relatively late. It was first explicitly introduced in the 2016 constitutional amendment, which recognized the right of individuals to a healthy environment. The preamble of this amendment stated that the Algerian people remain committed to reducing social disparities and eliminating regional inequalities, while building a productive economy within the framework of sustainable development and environmental preservation ^{xxxix}.

Article 1/19 emphasized the need for rational use of natural resources, including water, and recognized water as a common heritage of all generations, ensuring it as a right for future generations ^{xl}.

Article 68 Stated explicitly that citizens have the right to a healthy environment, with the government obligated to take all legal and procedural measures to preserve it ^{xli}.

The 2020 Constitution further solidifies the environmental protection principle in general, and especially water, with a clear and continuous reference to these concerns throughout the text, particularly in the preamble. The preamble expresses the ongoing concern of the Algerian people

regarding environmental degradation and the negative effects of climate change, highlighting the rational use of natural resources and their conservation for future generations^{xlii}.

In addition, several legal articles in the body of the 2020 Constitution emphasize the importance of protecting the environment in general, as follows:

Article 21 (Paragraphs 2 and 3)^{xliii}: This article emphasizes the state's ongoing commitment to environmental protection to ensure optimal well-being for its citizens. It also highlights the need for continuous public awareness campaigns about the importance of environmental protection and the risks of pollution.

Article 64^{xliv}: This article reaffirms the right of citizens to a healthy environment, specifically within the framework of sustainable development.

Article 210^{xlv}: This article grants the National Economic, Social, and Environmental Council the responsibility for environmental protection. This further reinforces Algeria's commitment to maintaining environmental quality. The Presidential Decree No. 37/21, formalizes the creation of this council, detailing its structure and role in policy consultation and environmental preservation^{xlvi}.

Additionally, Article 63^{xlvii} of the 2020 Constitution introduces a significant development in constitutional law by guaranteeing the right to a healthy aquatic environment for all citizens.

It was stipulated through paragraphs 4 and 5 of Article 21^{xlviii} of the 2020 Constitution the necessity of rational use of water, the need to protect the marine environment, and the importance of employing all procedural measures to address the damages caused.



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2.1.2. *Protection of the Aquatic Environment under the Penal Code*

The Penal Code emphasized defining penalties for violations against the water environment. The protection provided by this law is reflected in the penalties prescribed for all criminal acts committed by individuals against water resources, which vary in severity based on the seriousness of each criminal act.

- **Terrorist and Sabotage Attacks on Water Resources:**

Paragraph 6 of Article 87, repeated in the Penal Code, punishes crimes committed through acts of violence or introducing harmful substances into water systems, thereby endangering human, animal, or plant health, as well as disrupting ecological balance. Such offenses are classified as felonies due to their severe impact on environmental stability^{xlix}.

- **Water Theft:**

Classified under Article 350 of the Penal Code, water theft is considered stealing someone else's property. Any person committing such an act is treated as a thief and is subject to imprisonment ranging from one year to five years, along with a financial fine between 100,000 DZD and 500,000 DZD. These penalties are specifically applicable to crimes involving water theft.

- **Disposal of Toxic or Harmful Substances in Water:**

Article 441, repeated in the Penal Code, establishes penalties for anyone who disposes of toxic or harmful substances in water intended for human or animal

consumption, even without intent to cause harm. Such acts are punishable by imprisonment and financial fines ranging between 8,000 DZD and 16,000 DZD, even if the act was not carried out with malicious intent, and the offender may

Also be sentenced to imprisonment for a period ranging from ten days to two months or more.

- **Obstruction of Watercourses or Springs:**

The law imposes a fine ranging between 3,000 DZD and 6,000 DZD under Article 464. The offender may also be sentenced to imprisonment for a period not exceeding 3 days if they place objects, substances, or materials in ways that obstruct watercourses or springs.

2.1.3. Protection of the Aquatic Environment under the Environmental Protection Law^l

The legislator, through the Environmental Protection Law 03-10, focused on protecting the environment as part of sustainable development^{li}. This includes the creation of protected areas dedicated to preserving biological diversity and shared natural resources, including water resources. These measures are stipulated under Article 4 of Law 03-10.

The text of this law criminalizes acts involving water pollution or engaging in any activity in the water environment that may harm its physical, chemical, or biological properties. This also applies to activities that may reduce its usability, whether for drinking or any other purposes^{lii}.



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2.1.4. Protection of the Aquatic Environment under the Waste Management Law ^{liii}

Law 01-19 on waste management, control, and elimination emphasizes the necessity of removing waste or treating it in accordance with approved environmental standards. It prohibits exposing human health, animals, or plants to danger and bans actions that may pose a risk to natural resources in general, and particularly to water resources, as specified in Article 11 of this law.

2.2. Legal Protection of the Aquatic Environment in Algerian Penal Law

The legislative framework established by the Algerian legislator for the protection and preservation of the environment includes specific legal provisions related to the management, protection, and conservation of the aquatic environment. Among the most important of these are:

2.2.1. Water Law No. 05/12, amended and supplemented^{liv}.

Law No. 05-12 addresses water-related matters, focusing on protecting the aquatic environment and ensuring its sustainable development by guaranteeing a continuous supply of water in the required quality and quantity. This applies to residents, animals, and various economic, social, agricultural, and industrial activities that depend on water availability.

The law also aims to protect different water resources from pollution risks, particularly those caused by industrial and domestic waste, as well as rainwater and floods in various urban areas.

To achieve these goals, Law No. 05-12 regulates the exploration of different types of water resources and their locations. It also works on utilizing and improving non-conventional water resources by establishing monitoring systems, controlling discharges, reducing their impacts, and protecting people and properties through regulating surface water flow levels^{lv}.

- **Legal principles adopted by Water Law No. 05-12:**

The exploitation, utilization, and management of water resources are based on several principles mentioned in Article 3 of the Water Law, including:

- **Crimes Defined in the Water Law**

The protection of water resources under the Water Law is reflected in the criminalization of various acts that harm these resources, which are divided into two categories:

Crimes committed against the nature of water are:

The crimes Related to Water Resources:

These crimes involve failing to report the discovery of groundwater, either intentionally or unintentionally, to the water resources management authority. Article 166 of the Water Law stipulates that the person committing this crime shall be fined an amount ranging from 5,000 Algerian Dinars to 1,000,000 Algerian Dinars^{lvi}.

In addition, the Algerian legislator has prohibited actions that affect the nature of valleys, lakes, and shores, such as construction activities and tree planting, which negatively affect the flow of water. A penalty ranging from 5,000 Algerian Dinars to 10,000 Algerian Dinars is imposed on those who commit these crimes.^{lvii}



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The same applies to the extraction of sediment by any means or the establishment of quarries in the beds of valleys without obtaining the necessary permit. The Algerian legislator considers all these actions crimes, punishable by imprisonment from one to five years, along with a fine ranging from 200,000 Algerian Dinars to 2,000,000 Algerian Dinars^{lviii}. Moreover, all tools used in committing these crimes, including equipment, machinery, and vehicles, will be confiscated. The penalty is also increased and doubled in the case of recidivism^{lix}.

Similarly, drilling wells without permission or making changes that affect existing facilities, leading to the consumption and depletion of extracted water without authorization, is considered a crime. The legislator punishes these actions with imprisonment from one to three years, along with a fine ranging from 50,000 Algerian Dinars to 100,000 Algerian Dinars^{lx}.

- **Crimes Related to Water Quality:**

In order to protect water from pollution and preserve its purity, as well as safeguard public health, the legislator has criminalized discharging waste or placing harmful substances into water without permission. The penalty for committing these crimes is a fine ranging from 10,000 Algerian Dinars to 100,000 Algerian Dinars^{lxi}.

The law also criminalizes the act of discharging wastewater into wells, pits, areas where clean water meets, drinking areas, valleys, springs, as well as into canals. This also includes harmful substances flowing into groundwater, and the disposal of animal carcasses in water. The person committing any of these actions is punished with

imprisonment from one to five years, along with a fine ranging from 50,000 Algerian Dinars to 1,000,000 Algerian Dinars^{lxii}.

Furthermore, the Algerian legislator criminalized the act of supplying people with water that does not meet the required standards. A penalty is established for this offense, which involves imprisonment from one to two years, along with a fine ranging from 20,000 Algerian Dinars to 1,000,000 Algerian Dinars^{lxiii}.

2.2.2. The Law on Protected Areas^{lxiv}:

The law concerning protected areas focuses on classifying those areas, protecting them, and defining the management methods as stipulated in the relevant legislative and regulatory systems related to environmental protection in general^{lxv}. The protected areas under this law include public maritime properties that are subject to specific regulations aimed at protecting animal and plant life, as well as terrestrial, marine, and coastal ecosystems^{lxvi}.

This law specifies the relevant areas, which are classified into seven (7) categories:

- 1- National park
- 2- Natural reserve
- 3- Full natural reserve
- 4- Protected natural reserve
- 5- Protected management of species and habitats
- 6- Natural site
- 7- Biological corridor ^{lxvii}

2.2.3. Maritime Law^{lxviii}:

Like other legal texts, the maritime law focuses on protecting the marine environment from pollution by



Soumission : 12/03/2025 Acceptation : 14/06/2025 Publication : 15/08/2025

prohibiting the discharge, dumping, or burning of hazardous materials into the sea that may cause serious harm to the marine environment^{lxxix}.

It also requires that any discharge of pollutants into the sea resulting from onshore and offshore industrial facilities be carried out only under a permit obtained in advance from the relevant authorities^{lxxx}.

Anyone who violates this provision is subject to a fine ranging from 5,000,000 Algerian Dinars to 50,000,000 Algerian Dinars. In the case of recidivism, the person is liable to imprisonment from 15 days to six months and the same fine, or one of the previous penalties^{lxxxi}.

Conclusion:

Protecting the aquatic environment is one of the greatest challenges faced by countries and the international community as a whole, given its importance as a vital resource across all aspects of life. Thus, it requires the establishment of internal and international legal texts ensuring effective water protection and promoting the implementation of strict policies that ensure sound management of the aquatic environment, especially in light of the severe violations that have increasingly affected this natural resource, such as pollution and irrational exploitation.

Therefore, various national and international legislations have been concerned with issuing both deterrent laws and regulatory measures to protect water and the aquatic

environment in general. This research paper addresses the most important of these laws.

References:

- ⁱ Ali Adnane El Fil, explication of the environmental pollution in the law of protectiong the arab environment, the National Center of Legal Publications.
- ⁱⁱ - Article 7 stipulates that the boundaries of rivers, lakes, ponds, marshes, and coastal areas are determined by the highest water level reached, particularly for rivers at the flood level that flows freely without any obstacles until its discharge.
The procedures for determining the boundaries of natural public water properties are set by regulation under Law No. 05-12, dated on August 4, 2005, concerning water, published in the Official Gazette No. 60, dated on September 4, 2005.
- ⁱⁱⁱ - See Article 4, Law 05-12.
- ^{iv} - See Article 16, Law 05-12.
- ^v - Abd El-Salam Mansour Al-Shiwy, International Protection of the Aquatic Environment from Oil Pollution, Scientific Journal of the Faculties of Commerce, Al-Azhar University, Issue 10, 2013, p. 454.
- ^{vi} - Ahmed Mahmoud El-Gamal, Marine Environment Protection from Pollution, Dar Al-Ma'arif Publishing and Distribution, Egypt, D.S.N P 103 and what follos it.
- ^{vii} - Report of the United Nations Economic Commission for Europe, Frequently Asked Questions on the 1992 Water Convention with a Roadmap to Facilitate Accession to the convention, United Nations, Geneva, 2021.
- ^{viii} - paragraph 1 of Article 1 from the convention.
- ^{ix} - See Article 4 of the Convention
- ^x - See Annex 3 of the Convention.
- ^{xi} - According to what is settled by article 5 of the convention.



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- xii -See Article 192 of The Montreux-Coupli Convention on the law of the sea (December 10,1982).
- xiii - Abdelmadjid Wahid, The Environment And Humans In A New World , International Politics, issue 110, October 1992, p 72.
- xiv - Salem Abdelaziz and Yacine Fathi, Equitable Use of International Watercourses, volume 8, issue 1, Ibn Khaldoun University, 2021, p 582.
- xv - See Article 1 of the convention on Law of the Use of International Watercourses for Non-Navigational Purposes, United Nations Assembly (May 21, 1997).
- xvi - Houda Azaz, Legal Protection of International Watercourses - Study in the Light of the Rules of Law, PhD thesis in law specializing in Human International Law, University Al-Arabi Tebsi Tebessa 2016/2015, p. 145 and beyond.
- xvii -International law commission . Report No. 60/10/A, 57th session, 2005, p. 15.
- xviii- Article 5, Convention on the Law of the Non-navigational Uses of International Watercourses, precedent reference.
- xix -Which stipulated that the organization is based on the principle of equality of sovereignty among all its members.
- xx -Report of the International Law Commission on the work of its first session, Official Records of the General Assembly, Fourth Session, Supplement No. Extract from the Yearbook of the International Law Commission: - , 12 April 1949, vol. I, P287.
- xxi - Mohammed Nasr Mohammed, "Al-Wasit in Public International Law," Law and Economics Library, Kingdom of Saudi Arabia, 2012, p. 279.
- xxii -states shall conduct their international relations in the economic, social, cultural, technical and trade fields in accordance with the principles of sovereign equality and non-intervention, p123. The General Assembly, Declaration on Principles of

International Law concerning Friendly Relations and Cooperation among States in Accordance with the Charter of the United Nations, A/8082.

- xxiii - Permanent Representative of Azerbaijan to the United Nations, Letter to the Secretary-General, Agenda Items 13 and 18, General Assembly Session 63, 2008, pp. 10–11.
- xxiv - United Nations General Assembly, Resolution on Permanent Sovereignty over Natural Resources, Resolution No. 1803 (D-17), December 14, 1962, p. 2.
- xxv - it stipulated that : "All Members shall fulfill in good faith the obligations assumed by them in accordance with the present Charter."
- xxvi - Article 3, "The American States reaffirm the following principles... (c) Good faith shall govern the relations between States."
- xxvii - Article 9, Convention on the Law of the Non-Navigational Uses of International Watercourses. Precedent reference.
- xxviii - Firas Zuhair Jaafar Al-Husseini, "International Protection of Water Resources and Water Facilities during Armed Conflicts," Al-Halabi Publications, 2009, p. 69.
- xxix - Suhail Hussein Al-Fatlawi & Imad Mohammed Rabie, "International Humanitarian Law," Dar Al-Thaqafa Publishing and Distribution, Jordan, 2009, pp. 174-175.
- xxx - Article 54 (Paragraphs 1 and 2) of the First Additional Protocol to the 1949 Geneva Conventions stipulates:
- 1 "Starvation of civilians as a method of warfare is prohibited".
 2. "It is prohibited to attack, destroy, remove, or render useless objects indispensable to the survival of the civilian population. These include foodstuffs, agricultural areas that produce food, crops, livestock, drinking water installations and supplies, and irrigation works, for the purpose of denying them to the civilian population or the adversary, whatever the motive, whether to starve civilians, force their displacement, or for any other reason."



- xxx i -Draft Additional Protocols to the Geneva Convention of August 1949, Commentary Article 27, Geneva (1973).
- xxxii - Hussein Ali Al-Duraidi, "International Law: Its Origin, Scope, and Sources," 1st Edition, Dar Wael Publishing, Jordan, 2012, p. 267.
- xxxiii - The same reference P 267.
- xxxiv - Article 1/56 of the First Protocol of 1977 states:
- xxxv - Article 14 of the Second Additional Protocol prohibits the starvation of civilians and forbids:
- "Attacking, destroying, transferring, or disrupting objects and materials indispensable to the survival of the civilian population, such as food supplies, agricultural areas, crops, livestock, drinking water installations and networks, and irrigation works".
- Article 15 of the same protocol adds:
- "Engineering works or installations containing dangerous forces, such as dams, dykes, and nuclear power plants, shall not be made the object of attack, even if they are military targets, if such an attack may cause the release of dangerous forces resulting in severe losses among the civilian population."
- xxxvi -Protection of Civilian Populations - Geneva Protocol of 17 June 1925 concerning the prohibition of the use in war of asphyxiating, toxic, or similar gases and bacteriological methods.
- xxxvii -Nasreddine Ashour, "International Protection of Water During Armed Conflicts," Journal of Human Sciences, Vol. 22, issue 1. 2022, p. 855."
- xxxviii -The declaration states in its preamble the following:
- "The declaration also prohibits the use of weapons that only serve to multiply the suffering of those who are incapable of defending themselves".
- xxxix - Constitution of the People's Democratic Republic of Algeria, 2016

^{xi-} Article 1/19 of the 2016 Constitution states: "The state guarantees the rational use of natural resources and their preservation for the benefit of future generations."

^{xli-} Additionally, the article specifies: "Every citizen has the right to a healthy environment. The state works to preserve the environment. The law defines the duties of natural and legal persons in protecting the environment."

^{xlii-} It is worth noting that the preamble of the 2020 Constitution holds the same legal weight as the body of the constitution and is considered an integral part of it, as confirmed by its last paragraph, which states: "This preamble is an integral part of this constitution."

^{xliii-} Article 21 of the 2020 Constitution states:

"The state ensures:

A healthy environment to protect individuals and promote their well-being.

Continuous awareness of environmental risks..."

^{xliv-} Article 64 of the 2020 Constitution states:

"Citizens have the right to a healthy environment within the framework of sustainable development.

The law defines the obligations of natural and legal persons to protect the environment."

^{xlv} Article 210 of the 2020 Constitution states:

"The National Economic, Social, and Environmental Council is tasked, in particular, with:

Providing a framework for civil society participation in national consultation on economic, social, and environmental development policies within the framework of sustainable development.

Ensuring the continuity of dialogue and consultation between national economic and social partners.

Assessing and studying issues of national interest in the economic, social, environmental, educational, vocational training, and higher education fields.



Presenting proposals and recommendations to the government."

^{xlvi}- Refer to Presidential Decree No. 37/21, dated January 6, 2021, concerning the composition and functioning of the National Economic, Social, and Environmental Council, published in the Official Gazette No. 03 of 2021.

^{xlvii}- Article 63 of the 2020 Constitution states:

"The state ensures that citizens have access to drinking water and works to preserve it for future generations."

^{xlviii}- Paragraphs 4 and 5 of Article 21 of the 2020 Constitution state:

"The rational use of water, fossil energy, and other natural resources.

The protection of the environment in its terrestrial, marine, and aerial dimensions, and the adoption of all appropriate measures to punish polluters."

^{xliv}- Paragraph 6 of Article 87 bis states:

"An act is considered an act of terrorism or sabotage, under the meaning of this ordinance, if it targets the security of the state, national unity, territorial integrity, the stability of institutions, or their normal functioning through any act aimed at: ... attacking the environment or introducing or releasing substances into the atmosphere, underground, or onto the surface of the earth or into water, including territorial waters, that could endanger the health of humans, animals, or the natural environment."

Refer to Ordinance No. 66-156 dated on July 8, 1966, containing the Penal Code, as amended and supplemented.

ⁱ- Law 03-10 dated on July 19, 2003, related to environmental protection as part of sustainable development

ⁱⁱ- Article 4 of Law 03-10

ⁱⁱⁱ- Article 4 of Law 03-10.

liii- Law 01-19 dated on December 12, 2001, related to waste management, control, and elimination, Official Gazette Issue No. 77, published on December 15, 2001.

liv- Law No. 05-12 of August 4, 2005, concerning water

lv- Article 2 states:

The objectives aimed at the use, management, and sustainable development of water resources are to ensure the following:

- Water supply through mobilization and distribution in sufficient quantity and required quality to meet the needs of the population, livestock, and the demands of agriculture, industry, and other economic and social activities using water.
- Preservation of public hygiene by protecting water resources and aquatic environments from pollution risks through the collection, classification, and treatment of industrial and domestic wastewater, as well as rainwater and runoff in urban areas.
- Exploration of surface and underground water resources and monitoring their status in terms of quantity and quality.
- Utilization of non-conventional water resources, regardless of their nature, to improve water reserves.
- Flood control by regulating the flow of surface water to reduce the harmful effects of floods and protect people and property in urban and other flood-prone areas.
- The right to access water and sanitation to meet the basic needs of the population must be ensured while respecting social balance and the rules set by this law in the field of public water and sanitation services.
- The right to use water resources is granted to any natural or legal person, whether subject to public or private law, within the limits of public benefit and with respect to the duties defined by this law and its regulatory texts.
- The planning of irrigation development aims to gather and distribute water resources within hydrographic basins or



major water systems, which are natural hydrographic units. This must be done with respect to the water cycle, coordination with regional development guidelines, and environmental protection, taking into account the true costs of providing water services for domestic, industrial, and agricultural uses, as well as the collection and classification of wastewater using pricing systems.

- The adequate recovery of public intervention costs related to the quantity and quality protection of water resources and aquatic environments is achieved through water tariffs, water conservation, and the protection of their quality.
 - Water conservation practices are organized, and water efficiency is promoted by using water-saving techniques and equipment, as well as installing water meters for both produced and consumed water to combat leaks and waste.
 - Consultation with administrations, local communities, stakeholders, and representatives of various users is necessary, and participation in addressing water-related issues, protection, and water management is encouraged at both the level of natural hydrographic units and nationally.
- lvi - Article 5 of the Water Law states: "Any natural or legal person who intentionally or accidentally discovers groundwater, or is present during such a discovery, must notify the relevant regional water resources authority."
- lvii - Article 167 of the Water Law.
- lviii - Article 168 of the Water Law.
- lix - Paragraph 2 of Article 168 of the Water Law.
- lx - Article 170 of the Water Law.
- lxi - Article 171 of the Water Law.
- lxii - Article 172 of the Water Law.
- lxiii - Article 176 of the Water Law.
- lxiv - Law No. 11-02 of February 17, 2011, concerning protected areas within the framework of sustainable development

Published in Official Gazette No. 13, dated February 28, 2011.

^{lxv} - Article 1 of Law No. 11-02 states: "This law aims to classify protected areas and define how they are managed and protected within the framework of sustainable development, in accordance with the principles and legislative foundations applicable in the field of environmental protection."

^{lxvi} - Article 2 states: "Under this law, protected areas are defined as territories consisting of all or part of a municipality or municipalities, as well as areas belonging to public maritime domains, subject to special regulations defined by this law. These areas are designated for the protection of animals, plants, terrestrial, marine, and coastal ecosystems, and/or relevant marine environments."

^{lxvii} - Article 4 states:

"Protected areas are classified based on their ecological status, as determined by the classification study outlined in the provisions of Article 23 below, as well as their assigned environmental objectives and the criteria and conditions specified in the provisions of Articles 5 to 13 below, in accordance with Article 2 above. These areas are classified into seven (7) categories as follows:

- 1 .National park
- 2 .Natural reserve
- 3 .Full natural reserve
- 4 .Protected natural reserve
- 5 .Protected management of species and habitats
- 6 .Natural site
- 7 .Biological corridor

^{lxviii} - Law No. 76-80 of October 23, 1976, on the Maritime Code, amended and supplemented, published in Official Gazette No. 29, dated April 10, 1977.

^{lxix} - Article 210 of Law No. 76-80 of October 23, 1976, on the Maritime Code, amended and supplemented.



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^{lxx} - Article 215 of Law No. 76-80 of October 23, 1976, on the Maritime Code, amended and supplemented.

^{lxxi} - Article 215 of Law No. 76-80 of October 23, 1976, on the Maritime Code, amended and supplemented.