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LEGAL RESPONSIBILITY FOR ENVIRONMENTAL DAMAGE IN LIGHT OF THE SUSTAINABLE DEVELOPMENT GOALS

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ABSTRACT

The concept of "Sustainable Development" has emerged as a paradigm aiming to reconcile the utilization of natural resources with the entitlement of future generations to a viable environment. However, the practical implementation of this concept confronts the inadequacy of traditional civil liability norms to accommodate the distinct nature of environmental harm, which is frequently characterized by its diffuse and cumulative nature. This necessitates an examination of the efficacy of conventional legal mechanisms in establishing effective liability for environmental damages, in a manner congruent with the objectives of sustainable development. Indeed, traditional rules within civil statutes encounter significant impediments regarding the burden of proof for causation in complex pollution cases, as well as in defining appropriate compensation mechanisms. Such mechanisms must transcend mere pecuniary reparation, extending towards the objective of *restitutio in integrum* (restoration to the original state). Predicated on the premise that traditional liability rules are no longer sufficient to address contemporary environmental challenges, this study endeavors to formulate a novel legal framework for liability. This framework transcends the concept of "fault-based liability," shifting towards "objective liability," thereby seeking to operationalize preventive and deterrent legal instruments that guarantee the protection of the ecosystem *per se*. Ultimately, this aims to advance legislative proposals designed to bolster the efficacy of legal provisions in safeguarding the environment and realizing sustainable development.

Keywords: Sustainable Development, Environmental Damage, Ecosystem, Compensation, Natural Resources, Diffuseness, Accumulation (Latency).

1. INTRODUCTION

The Conceptual and Legal Framework of Environmental Liability

Sustainable development constitutes an integrated legal framework aimed at addressing the fundamental challenges facing societies through the conservation of natural resources and ensuring their optimal utilization. This guarantees the rights of successive generations and precludes the overexploitation of said resources. Consequently, within this Section, we seek to elucidate the concept of environmental damage, both jurisprudentially and legally, as well as the consequent legal liability, in light of the United Nations 2030 Agenda for Sustainable Development⁽²⁾. This will be achieved by structuring this Section into three Requirements: The

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² It is a comprehensive global plan of action adopted by all United Nations Member States in 2015. This plan aims to eradicate poverty, protect the planet, and ensure that all people enjoy peace and prosperity by 2030. This is achieved through the implementation of 17 main goals: (No Poverty; Zero Hunger; Good Health and Well-being; Quality Education; Gender Equality; Clean Water and Sanitation; Affordable and Clean Energy; Decent Work and Economic Growth; Industry, Innovation and Infrastructure; Reduced Inequalities; Sustainable Cities and Communities; Responsible Consumption and Production; Climate Action; Life Below Water; Life on Land; Peace,



First Requirement will address the concept of environmental damage and the goals of sustainable development, examining the jurisprudential and legal foundations of the concept of environmental damage. The Second Requirement will discuss the sources of environmental legal liability. The Third Requirement will address the elements (pillars) of environmental liability and the means of proving it, as follows:

Requirement One: The Concept of Environmental Damage and Sustainable Development Goals

The distinct characteristics of environmental damage, which differentiate it from ordinary damage, have rendered traditional liability rules inadequate in the face of the specific nature of this harm. This damage respects no geographic boundaries and is not bound by the time of the act; rather, it is characterized by diffusion and accumulation. It often affects an "environmental medium" that has no owner, rendering the application of traditional liability elements (fault, damage, and causal link) ineffective. In the face of this legislative deficiency and to address the depletion of natural resources, the concept of "Sustainable Development" crystallized, aiming to balance the imperatives of economic development with the necessity of environmental protection. Hence, the significance of this research emerges through clarifying the concept of environmental damage in light of the Sustainable Development Goals ⁽¹⁾The fundamental problematic lies in seeking how to adapt rigid legal mechanisms to accommodate flexible environmental concepts. This is to ensure the realization of effective deterrence for polluters and in-kind reparation of damages, thereby achieving the ultimate goal of law in our current era: the sustainability of life. This prompts us to divide this Requirement into two branches: The First Branch will be dedicated to explaining the concept of environmental damage and its distinct legal characteristics, while the Second Branch will be dedicated to discussing the goals of sustainable development and the governing legal principles regarding damage compensation and resource preservation for future generations, as follows:

Branch One: The Concept of Environmental Damage

It is imperative to define environmental damage and subsequently outline its legal characteristics, as follows:

First: Definition of Environmental Damage Environmental damage differs in its nature from traditional (civil) damage as established by the general rules of Civil Law (Tort Liability). Environmental Damage is defined as "any material infringement, whether direct or indirect, that causes a disruption in the natural balance of the environment or in one of its elements (water, air, soil), leading to the extinction of organisms, the degradation of natural resources, or harm to human health" ⁽²⁾.

Legal jurisprudence distinguishes here between two types of damage ⁽³⁾

1. **Indirect Environmental Damage (Consequential Damage):** Defined as "damage affecting persons or property through the environment, such as air pollution leading to human illness, or water pollution leading to crop destruction." This type of damage is covered by traditional liability rules.
2. **Pure Ecological Damage:** This is damage affecting "the environment itself" without necessarily being linked to a specific owner (e.g., the death of fish in international waters, or desert pollution). This type represents the greatest legal challenge regarding compensation.

Justice and Strong Institutions; Partnerships for the Goals). For more details, see the official website of the United Nations - Department of Economic and Social Affairs, Sustainable Development: <https://sdgs.un.org/ar>, accessed on January 15, 2026

¹ .Sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Definition from the **Brundtland Report**. This report is considered the cornerstone of the concept of sustainable development. It was issued in 1987 by the World Commission on Environment and Development (WCED) of the United Nations and was named the "Brundtland Report" after the Commission's Chair, **Gro Harlem Brundtland**, who was the Prime Minister of Norway at the time. For further details, see the official website of the United Nations Digital Library: <https://digitallibrary.un.org/record/139811?v=pdf>, accessed on January 15, 2025.

² .Dr. Majed Ragheb Al-Helou, Environmental Protection Law in Light of Sharia and Law, Munsha'at Al-Ma'arif, Alexandria, 2002, p. 45.

³ .Larsson, Marie-Louise. The Law of Environmental Damage: Liability and Reparation. Martinus Nijhoff Publishers, 1999, p. 112.



Second: Legal Characteristics of Environmental Damage⁽¹⁾ Environmental damage is characterized by features that make it difficult to apply traditional liability rules to it, the most important of which are:

1. **Diffuseness (Spread):** Environmental damage does not recognize geographical or political boundaries (Transboundary Pollution).
2. **Latency:** This refers to the time interval between the moment the harmful act occurs (e.g., leakage of toxic substances) and the moment symptoms of the damage actually manifest on the victim or the environment. The damage remains "latent" (hidden) and is not discovered until a long time has passed, potentially spanning decades. The effects of the damage may appear years after the occurrence of the harmful act (e.g., burial of nuclear waste which may pollute groundwater, yet the pollution is not detected until many years later), raising legal issues regarding the statute of limitations.
3. **Difficulty in Proving the Causal Link:** Pollution is often the result of contributions from multiple sources, rendering it difficult to accurately identify the directly responsible party.

Branch Two: Sustainable Development Goals and Governing Legal Principles

International Environmental Law has established a set of governing legal principles to achieve the goals contained in the United Nations 2030 Agenda for Sustainable Development, given the close link between these goals and environmental protection and the prevention of environmental damage. Specifically: Goal 6 regarding Clean Water and Sanitation ("Prevention of Water Pollution"); Goal 12 regarding Responsible Consumption and Production ("Chemical Waste Management"); Goal 13 regarding Climate Action ("Combating Global Warming as Grave Environmental Damage"); and Goals 14 and 15 regarding Life Below Water and Life on Land ("Protection of Biodiversity"). These principles are represented by:

1. **The Polluter Pays Principle:** This principle obligates the party causing environmental damage to bear the costs of pollution remediation. It serves as an economic-legal application for deterring damage.
2. **The Precautionary Principle:** This principle mandates the adoption of preventive measures even in the absence of full scientific certainty regarding the scope of the damage, in order to protect the future of development (2)

Requirement Two: Sources of Environmental Legal Liability

To discuss the provisions of environmental liability and the reparation of its damages, it is imperative to elucidate the sources of this liability. These sources have evolved from traditional sources to more modern ones, represented by international agreements, principles, and customs, constitutions, and civil laws. We will attempt to clarify this by dividing this Requirement into four branches: The First Branch will cover International Sources; the Second Branch will cover National Constitutional and Legislative Sources; the Third Branch will cover Sources of Civil Liability (The Basis of Compensation); and the Fourth and Final Branch will cover Modern Trends (Liability for Future Damage), as follows:

Branch One: International Agreements, Principles, and Customs

International agreements, principles, and customs constitute the primary source that creates obligations for States in the field of international relations generally, and in the environmental field specifically. These, in turn, transform into national legislation binding on individuals and companies. The international sources constituting International Environmental Law can be summarized as follows:

¹ .See in this sense: Dr. Mohamed Boudali, Civil Liability for Environmental Damages, Dar Al-Fajr for Publishing and Distribution, Cairo, 2007, p. 88.

² Rio Declaration on Environment and Development, United Nations Conference on Environment and Development (UNCED), 1992, Principles 15 & 16.



1. International Treaties and Agreements: Multilateral Environmental Agreements (MEAs) are a direct source of liability, as they obligate Member States to enact legislation punishing polluters, such as the Basel Convention (1989) on the Control of Transboundary Movements of Hazardous Wastes, and the MARPOL Convention for the prevention of pollution from ships. These agreements impose "Objective Standards"; if violated, liability is established ⁽¹⁾.

2. International Customary Law: International judiciary and practices have settled on principles that have become binding on States even without a treaty text. The most important of these principles are:

- The Principle of "Sic utere tuo ut alienum non laedas" (Use your own property in such a manner as not to injure that of another): This is the basis of liability for transboundary damage.
- The Polluter Pays Principle: This principle acts as the legal basis for charging the perpetrator with the costs of pollution removal. It has transformed from a mere economic instrument into a binding legal principle in many legal systems, such as French Environmental Law and the European Union ⁽²⁾

Branch Two National Constitutional and Legislative Sources

Domestic legal sources rank second among the sources of environmental legal liability. As is known in the domestic legal system, liability is based on a hierarchy starting from the Constitution and laws, ending with executive regulations, which can be summarized as follows:

1. The Constitution: Most modern constitutions have tended to regulate the right to the environment constitutionally, granting every citizen the right to a healthy environment, such that the State or individuals can be sued for violating this constitutional right. This trend gives the judge broad authority to interpret legal texts in favor of environmental protection ⁽³⁾

- **The Iraqi Constitution of 2005:** It did not overlook the environmental aspect; rather, it considered it a human right and a binding duty on the State, providing strong legal cover for holding polluting entities or those negligent in protecting the country's biodiversity accountable. It elevated a healthy environment to be a constitutional right for every citizen, not merely a service provided by the State, granting individuals the right to legal recourse for compensation in case of infringement upon this right⁴⁾. The Iraqi Constitution went further by including a constitutional provision guaranteeing the sustainability of natural resources by obligating the State and all its institutions to protect the environment from pollution and protect biodiversity (animals, plants, and ecosystems) ⁽⁵⁾
- **The Egyptian Constitution of 2014:** It is considered one of the most detailed Arab constitutions regarding environmental matters. It shifted protection from a mere general right to precise details including the protection of water bodies and reserves, and constitutionally—not just legally—criminalized the pollution of the Nile River comprehensively compared to the Iraqi . It addressed environmental protection more⁶⁾

¹ . Kiss, Alexandre, and Dinah Shelton. Guide to International Environmental Law. Martinus Nijhoff Publishers, 2007, p. 95.

² . Dr. Salah El-Din Amer, International Environmental Law, Dar Al-Nahda Al-Arabiya, Cairo, 2010, p. 130.

³ . Dr. Daoud Abdel Razzaq Al-Baz, Constitutional Protection of the Environment, Dar Al-Fikr Al-Jam'i, Alexandria, 2006, p. 55.

⁴ . Paragraph 1 of Article 33 of the Iraqi Constitution of 2005 states: "Every individual has the right to live in safe environmental conditions." This corresponds to Article 46 of the Egyptian Constitution of 2014 and its amendments, and Article 1 of the French Charter for the Environment of 2004.

⁵ . Paragraph 2 of Article 31 [sic: Art 33, Para 2] of the Iraqi Constitution of 2005 states: "The State guarantees the protection and preservation of the environment and biological diversity." This corresponds to Article 45 of the Egyptian Constitution of 2014 and its amendments.

⁶ . Article 44 of the Egyptian Constitution of 2014 states: "The State commits to protecting the Nile River, maintaining Egypt's historic rights thereto, rationalizing and maximizing its benefit, and not wasting or polluting its water... The right of every citizen to enjoy the Nile River is guaranteed..." Article 45 of the same Constitution states: "The State commits to protecting its seas, beaches, lakes, waterways, and natural protectorates..."



Constitution, allocating a set of articles protecting various environmental elements (the Nile, seas, reserves, and the general right), in addition to a provision for preserving natural resources ⁽¹⁾

- **The French Constitution of 1958:** It did not stop at citing scattered articles but adopted a complete constitutional document known as the "Charter for the Environment" (Charte de l'environnement) of 2004 and incorporated it into the Constitution, giving it legal force equivalent to the Constitution itself ([8]). It features a more advanced stance than the Iraqi and Egyptian constitutions; it does not base liability for environmental damages solely on the State but establishes it on the basis of personal liability as well. Furthermore, the legal value of environmental texts in France holds supreme constitutional status, enabling judges to annul any law passed by Parliament if it contradicts environmental protection. Thus, environmental protection in France is not merely an ordinary law but a binding constitutional principle for all authorities and individuals. In addition to guaranteeing the right to live in a balanced and health-respecting environment, and the duty to participate in preserving and improving the environment, Article 5 of the Constitution obligated the State to adhere to the "Precautionary Principle" in cases of scientifically uncertain risks (such as climate change or new epidemics) by taking temporary and proportionate measures to face the risk even without absolute scientific certainty. Article 3 of the Environmental Charter defined environmental liability precisely through articles imposing direct obligations on individuals, companies, or the State ⁽²⁾, and Article 4 defined the party responsible for compensating environmental damages. This article is the constitutional basis for environmental tort liability in France, shifting the "Polluter Pays" principle from a mere economic or legal principle to a constitutional obligation ⁽³⁾

2. Environmental Protection Legislation: In addition to constitutional provisions and Penal Code texts establishing environmental protection, there are special environmental legislations such as Environmental Protection Acts, Waste Management Acts, and Water Acts. These create two types of obligations: preventive obligations and remedial obligations. To achieve their goals, they include provisions preventing environmental pollution and provisions imposing penalties for violating those laws, as discussed below:

First: Iraqi Legislation

- **A. Environmental Legislation (Law on Protection and Improvement of the Environment No. 27 of 2009):** This law is the backbone of environmental action in Iraq. It established the "Council for Protection and Improvement of the Environment," mandated "Environmental Impact Assessments" before establishing any project, and granted broad powers to the Ministry of Environment, including the closure of violating projects.
- **B. Supporting Legislation:** Alongside environmental legislation, there are supporting laws:
 1. **Iraqi Penal Code No. 111 of 1969:** Contains articles addressing crimes affecting public health (such as polluting potable water ⁽⁴⁾ or spreading diseases ⁽⁵⁾). These texts support environmental legislation in imposing penalties on polluters.
 2. **Protection from Ionizing Radiation Law No. 99 of 1980:** Contains legal provisions for dealing with radioactive waste and nuclear risks.

¹ .Article 32 of the Egyptian Constitution of 2014 states: "The State's natural resources belong to the people. The State is committed to preserving them, utilizing them properly, not depleting them, and respecting the rights of future generations."

² .Prieur, Michel. Droit de l'environnement. 7e éd., Paris, Dalloz, coll. « Précis », 2011, p. 70 etS.

³ .Article 3 of the French Charter for the Environment of 2004 states: "Everyone shall, in the conditions provided for by law, foresee and avoid the occurrence of any damage which he or she may cause to the environment or, failing that, limit the consequences of such damage." (This establishes preventive liability).

⁴ .Article 4 of the French Charter for the Environment of 2004 states: "Everyone shall contribute to the repairing of the damage he or she causes to the environment, in the conditions provided for by law."

⁵ .Paragraph 2 of Article 496 of the Iraqi Penal Code provides for imprisonment or fine for anyone who neglects to clean or repair filth or dirty water if such cleaning is their duty.



Second: Egyptian Legislation Egypt possesses a denser and more detailed legislative structure, constantly updating its laws to keep pace with challenges such as waste management.

- **A. Environmental Legislation (Egyptian Environment Law No. 4 of 1994, amended by Law No. 9 of 2009):** This is the parent legislation that established the Environmental Affairs Agency (EEAA) and the Environmental Protection Fund to finance green projects. It includes very severe penalties regarding the pollution of the Nile River and the marine environment.
- **B. Supporting Legislation:**
 1. **Egyptian Penal Code No. 58 of 1937:** Contains articles addressing crimes of aggression against the environment, such as cutting and destroying crops and trees ⁽¹⁾
 2. **Waste Management Regulation Law No. 202 of 2020:** Addresses the problem of garbage and hazardous waste economically and explicitly criminalizes the open burning of waste.
 3. **Natural Protectorates Law No. 102 of 1983.**

Third: French Legislation

- **A. The Environmental Code (Code de l'environnement):** France has consolidated all matters related to the environment into a single unified legal code.
- **B. Supporting Legislation:**
 1. **Climate and Resilience Law (Loi Climat et Résilience) of 2021:** In this law, France introduced the crime of **Ecocide** to punish the most serious intentional environmental crimes, with penalties reaching 10 years in prison and fines up to 4.5 million Euros.

Requirement Two: Sources of Environmental Legal Liability

In addressing the provisions of environmental liability and the reparation of damages resulting therefrom, it is imperative to elucidate the sources of this liability. These sources have evolved from traditional origins to more modern ones, represented by international conventions, principles, customs, constitutions, and civil laws. We shall endeavor to clarify this by dividing this Requirement into four Branches. In the First Branch, we will address international sources; in the Second Branch, we will discuss constitutional and national legislative sources; in the Third Branch, we will examine the sources of civil liability (the basis of compensation); and in the Fourth and final Branch, we will address modern trends (liability for future damage), as detailed below:

Branch One: International Conventions, Principles, and Customs

International conventions, principles, and customs constitute the primary source creating obligations incumbent upon states in the sphere of international relations generally, and in the environmental sphere specifically. These, in turn, translate into national legislation binding upon individuals and corporations. The international sources comprising International Environmental Law may be summarized as follows:

1. **International Treaties and Conventions:** International agreements (Multilateral Environmental Agreements - MEAs) represent a direct source of liability, as they mandate member states to enact legislation penalizing polluters. Examples include the **Basel Convention** (1989) regarding the transport

¹ .Article 367 of the Egyptian Penal Code No. 58 of 1937 punishes anyone who cuts or uproots unharvested crops or trees.



of hazardous wastes and the **MARPOL Convention** for the prevention of marine pollution. These conventions impose "Objective Standards"; if breached, liability is established⁽¹⁾

2. **International Customary Law:** International jurisprudence and practice have settled upon principles that have become binding on states even in the absence of a treaty text. The most significant of these principles are:
 1. **The principle of "Use your own property in such a manner as not to injure that of another" (*Sic utere tuo*):** This serves as the foundation for liability regarding transboundary damages.
 2. **The Polluter Pays Principle:** This principle constitutes the legal basis for holding the perpetrator liable for the costs of pollution abatement. It has transformed from a mere economic instrument into a binding legal principle in numerous legal systems, such as French Environmental Law and the European Union⁽²⁾.

Branch Two: National Constitutional and Legislative Sources

Domestic legal sources occupy the second rank among the sources of environmental legal liability. As is well established in the domestic legal system, liability therein is based on a hierarchy that begins with the Constitution and laws, ending with executive regulations. These can be summarized as follows:

1. The Constitution: Most modern constitutions have tended to constitutionally regulate the right to the environment. The constitution grants every citizen the right to a healthy environment, such that the state or individuals can be sued for violating this constitutional right. This leads us to assert that this trend grants the judge wide discretion in interpreting legal texts in favor of environmental protection⁽³⁾. For instance, the Iraqi Constitution of 2005 did not overlook the environmental aspect; rather, it considered it a human right and a binding duty on the state, providing a strong legal cover for holding polluting entities or those negligent in protecting the country's biodiversity accountable. It elevated the concept of a healthy environment to be a constitutional right for every citizen, not merely a service provided by the state, thereby granting individuals the legal right to claim compensation in the event of an infringement upon this right⁽⁴⁾. The Iraqi Constitution went further by including a constitutional provision guaranteeing the sustainability of natural resources by obligating the state and all its institutions to protect the environment from pollution and to safeguard biodiversity (animals, plants, and ecosystems)⁽⁵⁾.

As for the Egyptian Constitution of 2014, it is considered one of the most detailed Arab constitutions regarding environmental matters. It transferred protection from a mere public right to precise details encompassing the protection of water bodies and nature reserves, and constitutionally—not just legally—criminalizing the pollution of the Nile River⁽⁶⁾. It addressed environmental protection in a more detailed and expansive manner compared to

¹ . Kiss, Alexandre, and Dinah Shelton. *Guide to International Environmental Law*. Martinus Nijhoff Publishers, 2007, p. 95.

² . Dr. Salah El-Din Amer, *International Environmental Law*, Dar Al-Nahda Al-Arabiya, Cairo, 2010, p. 130.

³ . Dr. Dawood Abdul Razzaq Al-Baz, *Constitutional Protection of the Environment*, Dar Al-Fikr Al-Jamiey, Alexandria, 2006, p. 55.

⁴ . Paragraph 1 of Article 33 of the Iraqi Constitution of 2005 stipulates that: ("Every individual has the right to live in safe environmental conditions"). This corresponds to Article 46 of the Egyptian Constitution of 2014 and its amendments, and corresponds to Article 1 of the French Charter for the Environment of 2004.

⁵ . Paragraph 2 of Article 31 of the Iraqi Constitution of 2005 stipulates that: ("The State guarantees the protection and preservation of the environment and biological diversity"). This corresponds to Article 45 of the Egyptian Constitution of 2014 and its amendments.

⁶ . Article 44 of the Egyptian Constitution of 2014 stipulates that: ("The State commits to protecting the Nile River, maintaining Egypt's historic rights thereto, rationalizing and maximizing its benefit, and not wasting or polluting its water. The State also commits to protecting its groundwater, taking necessary measures to achieve water security, and supporting scientific research in this field. The right of every citizen to enjoy the Nile River is guaranteed. It is prohibited to encroach upon the riverbank reserve or harm the river environment. The State guarantees the removal of any encroachments thereon, as regulated by law"). Article 45 of the same Constitution, which is considered one of the most important articles dedicated to the protection of biodiversity and (non-river) water bodies, stipulates that: ("The State commits



the Iraqi Constitution; it did not suffice with a single general article but dedicated a set of articles protecting various environmental elements (the Nile, seas, reserves, and the public domain), in addition to including a provision for the preservation of natural resources⁽¹⁾.

Regarding the French Constitution of 1958, it did not suffice with scattered articles but adopted a complete constitutional document known as the "Charter for the Environment" (*Charte de l'environnement*) of 2004 and incorporated it into the Constitution, giving it legal force equivalent to that of the Constitution itself⁽²⁾. It is characterized by a more advanced position than the Iraqi and Egyptian constitutions, as it does not base liability for environmental damage solely on the state but also establishes it on the basis of personal liability in addition to state liability. Furthermore, the legal value of environmental texts in France possesses a superior constitutional status that enables judges to annul any law issued by Parliament if it conflicts with environmental protection. This implies that environmental protection in France is not merely an ordinary law but a binding constitutional principle for all authorities and individuals. In addition to guaranteeing the "right to live in a balanced and health-respecting environment" and the "duty to participate in preserving and improving the environment," Article 5 of the Constitution obligated the state to adhere to the "**Precautionary Principle**" in cases of scientifically uncertain risks (such as climate change or new epidemics) by requiring it to take temporary and proportionate measures to confront the risk even in the absence of full scientific certainty of its occurrence. Moreover, Article 3 of the Environmental Charter defined environmental liability precisely through articles that impose direct obligations on everyone (whether an individual, a company, or a state)⁽³⁾. Article 4 of the Charter specified the entity responsible for compensating for environmental damages; this article is the constitutional basis for environmental tort liability in France, as it transferred the "Polluter Pays" principle from a mere economic or legal principle to a constitutional obligation⁽⁴⁾.

2. Environmental Protection Legislation: In addition to constitutional provisions and legal texts in penal codes that recognize environmental protection, there are specific environmental legislations that establish this protection, such as environmental protection laws, waste management laws, and water laws. These create two types of obligations: preventive obligations and remedial obligations. To achieve their goals, they have established provisions preventing environmental pollution and provisions imposing penalties for violating those laws, which we address as follows:

First: Iraqi Legislation:

- **A. Environmental Legislation (Law on Protection and Improvement of the Environment No. 27 of 2009):** This law is considered the backbone of environmental action in Iraq. It established the "Council for Protection and Improvement of the Environment," mandated an "Environmental Impact Assessment" prior to the establishment of any project, and granted broad powers to the Ministry of Environment, including the closure of violating projects.
- **B. Supporting Legislation:** Alongside environmental legislation, there are legislations working in tandem with it, represented by:

to protecting its seas, beaches, lakes, waterways, and natural reserves. It is prohibited to encroach upon, pollute, or use them in a manner incompatible with their nature. The right of every citizen to enjoy them is guaranteed. The State also commits to protecting and developing green space in urban and rural areas, preserving plant, animal, and fish resources, protecting those at risk of extinction or danger, and ensuring animal welfare, all as regulated by law")

¹. Article 32 of the Egyptian Constitution of 2014 stipulates that: ("Natural resources of the State belong to the people. The State commits to preserving them, utilizing them properly, not depleting them, and observing the rights of future generations").

². Prieur, Michel. *Droit de l'environnement*. 7e éd., Paris, Dalloz, coll. « Précis », 2011, p. 70 et s.

³. Article 3 of the French Charter for the Environment of 2004 stipulates that: ("Everyone must, under the conditions defined by law, prevent the damage he or she may cause to the environment or, failing that, limit the consequences thereof." This establishes preventive liability before damage occurs).

⁴. Article 4 of the French Charter for the Environment of 2004 stipulates that: ("Everyone must contribute to the reparation of the damage he or she causes to the environment, under the conditions defined by law." This article is the constitutional basis for environmental tort liability in France, as it transferred the "Polluter Pays" principle from a mere economic or legal principle to a constitutional obligation).



1. **Iraqi Penal Code No. 111 of 1969:** This law includes articles addressing crimes affecting public health (such as polluting potable water⁽¹⁾ or spreading diseases⁽²⁾). These texts are considered the support for environmental legislation in imposing penalties on those causing environmental pollution.
2. **Protection from Ionizing Radiation Law No. 99 of 1980:** This law includes legal provisions for dealing with radioactive waste and nuclear risks.

Second: Egyptian Legislation: Egypt possesses a denser and more detailed legislative structure, and its laws are continuously updated to keep pace with challenges such as waste management.

- **A. Environmental Legislation (Egyptian Environment Law No. 4 of 1994, amended by Law No. 9 of 2009):** This law is the parent legislation that established the Environmental Affairs Agency and the Environmental Protection Fund to finance green projects. It also includes very severe penalties regarding the pollution of the Nile River and the marine environment..
- **B. Supporting Legislation:** Represented by:
 1. **Egyptian Penal Code No. 58 of 1937:** This law includes articles addressing crimes affecting the environment, such as cutting and damaging crops and trees⁽³⁾. These texts serve as support for environmental legislation in imposing penalties on polluters.
 2. **Waste Management Regulation Law No. 202 of 2020:** A law addressing the problem of garbage and hazardous waste in an economic and investment-oriented manner, criminalizing the open burning of waste.
 3. **Natural Reserves Law No. 102 of 1983.**

Third: French Legislation:

- **A. The Environmental Code (*Code de l'environnement*):** France has consolidated everything related to the environment into a unified legal legislation.
- **B. Supporting Legislation:**
 1. **Climate and Resilience Law (*Loi Climat et Résilience*) of 2021:** Through which France introduced the crime of "Ecocide" to punish the most serious intentional environmental crimes, with penalties reaching 10 years in prison and fines up to 4.5 million Euros.

Branch Three: Sources of Legal Liability in Civil Legislation (Basis of Compensation)

This Branch is of paramount practical importance, as it delineates the legal basis that compels the civil judge to order the polluter to pay compensation. In this Branch, we shall highlight the basis of environmental liability by shedding light on theories ranging from traditional ones to modern theories, while indicating their validity as a basis for compensation for environmental damage. We shall attempt to clarify this as follows:

¹. Paragraph 2 of Article 496 of the Iraqi Penal Code stipulates that: ("Punishment by detention for a period not exceeding one month or by a fine... 2. Whoever is negligent in cleaning or repairing filth, dirty water, refuse, or other materials thrown or placed on the public road if cleaning or repairing is obligatory upon him by virtue of laws, regulations, or administrative decisions").

². Article 368 of the Iraqi Penal Code stipulates that: ("Punishment by detention for a period not exceeding one year or by a fine... whoever causes by his error the spread of a dangerous disease harmful to the lives of individuals").

³. Article 367 of the Egyptian Penal Code No. 58 of 1937 stipulates that: ("Punishment by detention with labor... 1. Whoever cuts or uproots unharvested crops or naturally growing or planted trees, or throws them in a manner that harms them, or barks them, or kills them by other means. 2. Whoever damages saplings in nurseries or grafts in trees").



1. Traditional Theories: It is established that traditional theories generally base liability—and liability arising from environmental damage specifically—on fault, damage, and the causal link⁽¹⁾. One of the legal aspects relied upon by the judiciary when awarding compensation for environmental damage is the reliance on the provisions of "Liability of the Guardian of Things" (*la responsabilité du fait des choses*) in Civil Law⁽²⁾. The question that arises here is: What is the utility of relying on traditional theory in environmental cases? The answer lies in the difficulty of proving fault in this field, as in the case of an oil extraction or petrochemical company investing in Iraq, where cumulative pollution occurs as a result of such investment despite adherence to international standards.

2. Strict Liability (Objective Liability): This is the modern and most effective source in legal jurisprudence for establishing liability for environmental damages. It can be traced back to the maxim of "Gain entails Loss" (*Al-Ghurum bi Al-Ghunm*), a jurisprudential rule in Islamic Law meaning that whoever derives a benefit from a thing must bear its harm, costs, and risks. Alternatively, it is based on the "Created Risk" rule in legal jurisprudence. The content of this theory is that whoever engages in an activity that is inherently dangerous (chemical or nuclear plants) is liable for the damage resulting therefrom, even if they did not commit any fault and even if they followed all safety procedures⁽³⁾.

3. Abnormal Neighborhood Disturbances (Nuisance): Abnormal neighborhood disturbances constitute the third source of liability and are considered one of the oldest legal sources in civil laws. It does not require the existence or proof of fault; rather, it requires that the damage exceeds the "customary limit" (*limit of tolerance*) between neighbors. Adopting this source gives the judge flexibility in assessing environmental damage. For instance, liability for damages in environmental cases such as noise, odors, and dust is assigned based on custom and the circumstances of each case⁽⁴⁾.

Branch Four Modern Trends in Environmental Liability (Liability for Future Damage)

Given the ineffectiveness of traditional liability rules in establishing civil liability for environmental damages—which require the damage to be "certain"—a new source of liability has emerged in modern environmental jurisprudence known as "**Precautionary Liability**." This aims to prevent damage from occurring rather than enforcing reparation after the fact. Based on the Precautionary Principle, liability can arise merely for undertaking an activity that may threaten severe, irreversible damage in the future, even if the damage has not yet occurred⁽⁵⁾.

Requirement Three: Elements of Environmental Liability and Means of Proof Thereof

Environmental liability raises significant legal issues when attempting to apply general rules of tort liability thereto. The three traditional elements (Fault, Damage, and Causal Link) collide in the environmental sphere with a complex scientific and technical nature, specifically regarding the difficulty of proving the polluter's fault. This has prompted jurisprudence and the judiciary to abandon these elements and devise flexible means of proof to ensure the polluter does not evade punishment and to achieve swift environmental justice. This impels us, through this Requirement, to attempt to clarify the elements of environmental liability and the specificity of means of proof in light of technological and legislative developments, in two branches as follows:

Branch One Objective Elements of Environmental Liability

¹ . See Article 186 of the Iraqi Civil Code, corresponding to Article 163 of the Egyptian Civil Code and Article 1240 of the French Civil Code amended in 2016 (formerly Article 1382 before the 2016 amendments), which stipulates: ("Any act whatever of man, which causes damage to another, obliges the one by whose fault it occurred to compensate it"). The text in French is: "Tout fait quelconque de l'homme, qui cause à autrui un dommage, oblige celui par la faute duquel il est arrivé à le réparer."

² . Geneviève Viney, Introduction à la responsabilité, LGDJ, Paris, 2008, p. 412.

³ . Dr. Ahmed Abdel Karim Salama, Environmental Protection Law / Pollution Control, Natural Resources Development, Dar Al-Nahda Al-Arabiya, Cairo, 2003, p. 170.

⁴ . Dr. Abdel Razzaq Al-Sanhuri, Al-Waseet in Explaining the Civil Code, Vol. 8, Munsha'at Al-Ma'arif - Beirut, 1980, p. 660.

⁵ . Nicolas Sadeleer, Environmental Principles: From Political Slogans to Legal Rules. Oxford University Press, 2002, p. 91



Legal liability is not established unless its three elements are collectively present, but with evolved concepts commensurate with the gravity of the environmental risk. This necessitates the existence of the following elements:

First: Environmental Fault: Jurists in environmental jurisprudence are divided into two distinct trends regarding fault, which represents a deviation in conduct.

- **The First Trend:** Adopts **Subjective Liability** (Fault-based Liability). This requires proving negligence or default by the defendant, such as failure to maintain factory filters, causing environmental pollution. The drawback of this trend is the difficulty of proving fault against major corporations possessing an army of legal and technical experts⁽¹⁾.
- **The Second Trend:** Adopts **Non-Fault / Objective Liability (Strict Liability)**. This is the preponderant modern trend, which deems it sufficient for liability warranting compensation to be established by the occurrence of the "Harmful Act" (Activity), even if the perpetrator committed no fault, provided the activity is inherently dangerous. In this case, the person is liable for the "risks" they created, even if they did not result from their "errors." This is what the French and Egyptian judiciaries have settled upon in neighborhood cases, ruling that "fault is not a condition for establishing liability for abnormal neighborhood disturbances"⁽²⁾.

Second: Environmental Damage: Damage is the essential element without which a compensation claim cannot be filed. It is characterized by features distinguishing it from ordinary civil damage⁽³⁾.

- **Reflected Environmental Damage (Ricochet Damage):** Is what afflicts a person in their property or body as a result of pollution of the environmental medium.
- **Pure Environmental Damage (Ecological Damage):** Is the damage inflicted upon nature itself, such as the death of unowned fish or the pollution of seawater. Modern legislation (such as the French Civil Code amended in 2016) has recognized this type as compensable damage⁽⁴⁾.

Third: Causal Link: The causal link is one of the major obstacles in environmental disputes. It must be proven that the defendant's act, such as emitted gases, is the direct cause of the damage, such as illness or crop destruction. However, the problematic issue is that pollution may be the result of cumulative years or the interference of multiple factories in one area. Perhaps the closest solution adopted by the judiciary to protect the aggrieved party is the application of the theory of "Productive Cause" or "Presumed Solidarity" among polluters if it is impossible to pinpoint the perpetrator precisely⁽⁵⁾.

Branch Two: Means of Proof of Environmental Liability

Proof is the fundamental pillar in compensation claims in environmental cases. Given the difficulty of proving the fault of the party causing the damage, the legislator and the judiciary have departed from rigid rules of evidence to facilitate the victim's acquisition of appropriate compensation. This is evident through:

First: Shifting the Burden of Proof: The general rule of evidence in civil suits dictates that "the burden of proof lies with the plaintiff" (Onus probandi). However, in environmental cases, the defendant (Factory/Company) possesses technical information and financial capacity, whereas the plaintiff (Individual/Association) is the weaker party whose right to compensation may be lost if they fail to prove the validity of their claim. From this standpoint, modern environmental liability legislation has tended to alleviate the burden on the victim by presuming liability

¹ . Viney, Geneviève, and Patrice Jourdain. Les conditions de la responsabilité. LGDJ, Paris, 2006, p. 89.

² . Dr. Mohamed Hussein Mansour, Liability for Neighborhood Disturbances, Dar Al-Jami'a Al-Jadida, Alexandria, 2005, p. 112.

³ . We have previously explained the characteristics of environmental damage on page 6 of this study.

⁴ . See Article 1246 of the French Civil Code.

⁵ . Betlem, Gerrit. Civil Liability for Transfrontier Pollution. Graham & Trotman, London, 1993, p. 145.



on the part of the factory/company owner. Consequently, the latter must prove that they did not pollute, or that the pollution occurred due to "Force Majeure"⁽¹⁾.

Second: The Role of Judicial Presumptions: It is established in all types of lawsuits that in the absence of conclusive evidence, the judge resorts to presumptions. In environmental cases, presumptions are a very effective means of proof. This has been adopted by the judiciary in environmental damage matters. For example, damage to agricultural crops combined with gas emissions from a neighboring cement factory is considered a sufficient "Judicial Presumption" to link the activity and the damage, without the need for complex chemical analysis proving that the emissions came specifically from that factory⁽²⁾.

Third: Technical Expertise and Modern Technology: Technical expertise and modern technology have come to play an effective role in proof regarding emerging issues, especially in matters of compensation for environmental damage. Proof no longer relies on witnesses but has become "Scientific Proof."

- **Technical Expertise:** Represented by (Experts' Reports) commissioned by the court from the roster of accredited experts. For instance, the court appoints experts (chemists, biologists) to measure pollution levels and compare them with permissible standards.
- **Modern Technology:** Aspects that can be utilized in proving environmental compensation claims include remote sensing, such as using satellite imagery to prove environmental changes (like oil slicks in seas) and determining their source and time of occurrence with extreme accuracy, thereby closing the door of denial to the polluter⁽³⁾.

From the foregoing, it is evident that the elements of environmental liability are characterized by flexibility and evolution. "Fault" has transformed into "Risk," "Damage" has expanded to include the ecosystem, and "Causation" has evolved to include evidence, probability, and presumptions. As for the field of proof, the modern trend towards "shifting the burden of proof" represents the strongest guarantee for achieving environmental justice and preventing industrial activities from being lax in safety measures.

Section Two: Legal Mechanisms for Compensation for Environmental Damages and Their Effectiveness

Practical reality has demonstrated a clear deficiency in the traditional rules of tort liability regarding the reparation of environmental damages. This deficiency stems from the adherence to the element of fault and the limitation to monetary compensation of an individualistic nature. This necessitated a radical treatment of the subject by balancing the constants of traditional civil rules with the requirements of contemporary environmental sustainability, through the search for innovative compensation mechanisms that ensure reparation by restoring the status quo ante. This entails a shift towards modern legal mechanisms based on "Objective Liability" (Strict Liability). This leads us to address this Section in three Requirements. In the First Requirement, we will address the role of traditional means in compensating for environmental damage; in the Second Requirement, we will discuss the role of special laws in compensating for environmental damages; and in the Third Requirement, we will examine the role of modern instruments in ensuring compensation for environmental damages, represented by (Environmental Funds, Compulsory Insurance, Specialized Courts), as follows:

Requirement One: The Role of Traditional Means in Compensating for Environmental Damage

¹ . Environmental Liability Act (Umwelthaftungsgesetz - UmweltHG), Germany, 1990, Section 6 (Presumption of Causation).

² . Dr. Abdel Rashid Mamoun, Proof of Fault in Medical and Environmental Liability, Dar Al-Nahda Al-Arabiya, Cairo, 2009, p. 201.

³ . Purdy, Ray. "Satellites: A New Era for Environmental Compliance?" Journal of Environmental Law, Vol. 18, No. 3, 2006.



Satisfying the aggrieved party through the reparation of their damage is the primary objective of the traditional tort liability system. However, compensation in environmental disputes aims not merely at reparation but extends to the restoration of the ecosystem itself. Herein lies the greatest challenge: how to adapt traditional rules for environmental damage compensation to the goals of sustainable development, which mandate the preservation of resources for future generations. This is what this Requirement aims to address by analyzing traditional compensation means and their suitability for the specificity of environmental damage. We will discuss this in two Branches: in the First Branch, we will address specific performance (in-kind compensation) and its priority in sustainability, while in the Second Branch, we will address monetary compensation and its role in achieving sustainability, as follows:

Branch One: Specific Performance (In-kind Compensation) and its Priority in Sustainability

Legal jurisprudence defines specific performance as "the legal means that grants the judge the authority to order the restoration of the situation to the status quo ante (the state it was in before) whenever possible"⁽¹⁾. Whereas specific performance in the environmental field is defined as: "Obliging the party responsible for the damage to take the necessary measures to remove pollution and its effects, and to restore the environmental medium to its natural state"⁽²⁾.

From these definitions, we can assert that specific performance is the optimal application of the principle of "Sustainability," because it preserves natural capital. Monetary compensation may enrich the aggrieved individual, but it does not restore the environment to its former state. Therefore, modern legislation, such as **Directive 2004/35/CE** of the European Parliament and of the Council of 21 April 2004, tends to make specific performance the rule and monetary compensation the exception⁽³⁾.

Forms of specific performance within the scope of sustainable development include⁽⁴⁾:

1. **Removal of Pollutants:** Such as dredging contaminated soil or skimming oil slicks from water.
2. **Reintroduction and Reforestation:** Such as obliging the aggressor to replant the forest they burned or cut down.
3. **Providing an Alternative (Offsets):** In the event of the destruction of a specific environmental habitat, the polluter may be obliged to establish an alternative reserve with the same specifications in another location.

Branch Two: Monetary Compensation and its Role in Achieving Sustainability

It is an accepted premise that the rule for environmental damage compensation is specific performance. However, when recourse to this type of compensation is impossible (e.g., extinction of a rare species or irreversible environmental destruction) or when specific performance is insufficient, the judiciary must resort to monetary

¹ .Paragraph 2 of Article 209 of the **Iraqi Civil Code** stipulates that: ("...the court may, depending on the circumstances and at the request of the aggrieved party, order the restoration of the condition to what it was, or rule for the performance of a specific matter connected with the illicit act, by way of compensation."). This corresponds to Paragraph 2 of Article 171 of the **Egyptian Civil Code**, and Article 1240 of the French Civil Code (formerly Article 1382) as amended in 2016.

² .Dr. Abdel Nasser Hayajneh, Environmental Law: Theory and Practice, Dar Al-Thaqafa for Publishing, Amman, 2012, p. 245.

³ . European Directive No. 35 of 2004 (abbreviated as **ELD - Environmental Liability Directive**). This directive shifted environmental liability in Europe from mere "civil compensation claims" to an "integrated administrative and legal system" based on the **Polluter Pays Principle**.

⁴ .Marie-Louise Larsson, The Law of Environmental Damage: Liability and Reparation, Martinus Nijhoff Publishers, The Hague, 1999, p. 410.



compensation (compensation by equivalent). This is an application of the principle adopted by the European Directive: "The Polluter Pays"⁽¹⁾.

This type of compensation plays a deterrent role for others, especially when the amount is substantial. For instance, if compensation amounts are exorbitant, companies will voluntarily shift towards clean production to avoid paying such sums⁽²⁾. Despite the ease of recourse to this type of compensation, the judiciary faces a highly critical problem: the difficulty of assessing such compensation, highlighted by the lack of clear bases that can be adopted for estimation⁽³⁾.

Forms of monetary compensation that can be adopted for environmental damages include:

1. **Compensation for Reflected Damages (to Persons):** Such as compensating fishermen for the loss of their livelihood, or compensating residents for the costs of treating respiratory diseases. This type is easy to estimate according to ordinary rules.
2. **Compensation for Pure Ecological Loss:** This pertains to how to estimate the monetary value of air pollution or the death of wild birds that have no owner. To solve this problem, economic jurisprudence resulting from the European Directive (2004/35/CE) on environmental liability with regard to the prevention and remedying of environmental damage (ELD) has devised methods for estimating monetary compensation to serve deterrence, including⁽⁴⁾:
 - **Replacement Cost Method:** In this method, compensation is estimated by assuming the cost of repairing the damage caused to the environment to restore it to its pre-damage state, even if the repair is not actually carried out.
 - **Contingent Valuation Method:** In this method, recourse is had to surveying the public regarding the amount they are willing to pay to preserve this environmental resource; the average is then taken as the compensation value.

CONCLUSION

To achieve the essence of sustainable development and ensure that natural resources are passed on to future generations in a sound state, recourse can be had to traditional liability rules that recognize compensation in both its specific (in-kind) and monetary forms. These rules are capable of accommodating environmental damage, provided there is a shift from the concept of protecting private property to the concept of protecting the ecosystem. This is achieved by restoring the environment through specific performance as a primary system, with monetary compensation used only within the narrowest limits or as a supplementary measure. To achieve environmental safety, we recommend that the Iraqi legislator adopt the methods approved by the European Directive (2004/35/CE) regarding environmental liability—specifically the Replacement Cost Method and the Contingent Valuation Method.

Requirement Two : The Role of Special Laws in Compensating for Environmental Damages

Given the difficulty of proving fault and identifying the perpetrator, the general rules of civil law are no longer sufficient to confront the challenges imposed by environmental damage. This has prompted the legislator to establish exceptional compensation systems aimed at providing redress to the aggrieved party and overcoming

¹ . Dr. Nawaf Kanaan, Environmental Protection Law, University Library - Sharjah, 2nd Edition, 2006, p. 297.

² . This achieves Goal 12 of the **Sustainable Development Goals (SDGs)**, which seeks to ensure sustainable consumption and production patterns that preserve the planet's resources for future generations rather than depleting them.

³ .) Dr. Nawaf Kanaan, Human Right to a Healthy Environment in Law and Jurisprudence, University of Sharjah Publications, 2008, p. 302..

⁴ .Dr. Muslat Quwayan Al-Mutairi, Liability for Environmental Damages and their Insurability, Master's Thesis, Faculty of Law and Political Science - University of Abou Bekr Belkaid – Tlemcen - Algeria, 2016, p. 5.



traditional evidentiary obstacles through the enactment of special laws for environmental protection. Perhaps the reason for the emergence of special laws does not always lie in the absence of a penal text, but rather in the inadequacy of general civil rules to accommodate the specificity of environmental damage. This requires focusing on the weaknesses and deficiencies in traditional civil liability rules in the face of environmental damages compared to the substantial transformations in French law. When civil legislations such as the Iraqi Civil Code and the Egyptian Civil Code were issued, they were influenced by old French jurisprudence, which centered primarily on the protection of the individual and private property.

As a result of legislative developments and the direction of attention towards environmental protection, a deep legislative gap has emerged when applying civil laws to environmental disputes, as the environment by its nature represents a collective interest that often has no owner. This necessitates highlighting the weaknesses in these civil laws. We will attempt to clarify this in three branches: first, we address the inadequacy of the concept of damage and the condition of personal interest; in the second branch, we address the difficulty of proving the causal link and the problem of proof; and in the third and final branch, we will address the inappropriateness of traditional "compensation" mechanisms, as follows:

Branch One: Inadequacy of the Concept of Damage and the Condition of Personal Interest

The fundamental rule in tort liability is: "Where there is no damage, there is no liability." That is, the existence of liability necessitates the existence of damage. However, the concept of damage in Arab civil laws faces obstacles when applied environmentally, represented by the (Personal Nature of Damage). Most civil laws require, for filing a civil lawsuit to claim compensation, that the damage must have personally affected the claimant and that such damage must be to a right of theirs or a legitimate interest⁽¹⁾.

If this rule is applied to environmental laws, compensation will only be made for Reflected Environmental Damage, i.e., when pollution leads to a person's illness or damage to their car, for example. As for "Pure Environmental Damage"—such as pollution of international waters, the death of wild birds, or the degradation of biodiversity—it finds no cover in these laws because there is no "person" who has suffered damage to their private property. The environment is "common property" (*res communis*), and individuals do not possess the right to claim on its behalf. The French legislator realized this deficiency and intervened by amending the Civil Code in 2016, adding Article 1246, which explicitly stipulated that ("Every person responsible for environmental damage is obliged to repair it"). Thereby, the French legislator recognized pure environmental damage as an independent damage warranting compensation, which is lacking in most Arab legislations⁽²⁾.

Branch Two: Difficulty of Proving the Causal Link and the Problem of Proof

Among the difficulties facing the aggrieved party when claiming compensation for environmental damage is the problem of proving the causal link between the damage suffered and the wrongful act. The damage may result from pollution accumulated from several factories, or this pollution may appear after several years. This is something the aggrieved party is often unable to prove. This is known as the (Direct and Certain) relationship⁽³⁾. The aggrieved party is often unable to provide precise scientific proof of causality due to technical complexity.

¹ .Article (204) of the Iraqi Civil Code stipulates that ("Every encroachment that causes any other damage to third parties other than what was mentioned in the preceding articles necessitates compensation"). Article (205) thereof defined damage as that which affects the person or property. Article (163) of the Egyptian Civil Code stipulates that ("Every fault which causes damage to another obliges him who committed it to pay compensation").

² . ([2]) Dr. Khaled Jamal Ahmed Hassan, Civil Liability for Pure Environmental Damage (Comparative Study), Dar Al-Fikr Al-Jamiey, Alexandria, 2019, p. 68.

³ . Article 204 of the Iraqi Civil Code; Article 163 of the Egyptian Civil Code.



Courts often refuse to rely on "probability" or "simple presumptions," leading to the loss of the right to compensation⁽¹⁾.

Branch Three: Inappropriateness of Traditional "Compensation" Mechanisms

Even when liability is proven, the mechanisms provided by Arab civil laws for reparation suffer from inadequacy in facing environmental disasters. This inadequacy is represented in the dominance of monetary compensation, which consists of a judgment for monetary damages that enter the financial assets of the aggrieved party and are not used to repair the environment. For example, a polluting company might pay a fine to fishermen affected by river pollution, while the river remains polluted. Civil law possesses no mechanisms to oblige the perpetrator to "allocate compensation for environmental repair"⁽²⁾. Furthermore, there is an absence of sound standards for economic valuation of environmental compensation, represented by the lack of bases for evaluating natural elements. For instance, the problem of estimating the compensation value for the environmental damage of cutting down a 100-year-old tree; if the traditional standard for compensation—which is "market price of timber" or "diminution in land value"—is followed, this will lead to injustice against the environment given the role trees play in carbon sequestration, not to mention the biodiversity that trees provide in nature⁽³⁾.

CONCLUSION

The civil laws in Iraq and Egypt are incapable of facing environmental challenges. Adherence to the concept of direct personal damage, the difficulty of proving causality, and recourse to arbitrary monetary compensation are all factors rendering civil law ineffective in protecting the environment. This requires the legislator to amend the Civil Code to include "Environmental Damage" as an objective damage independent of personal damage, by adopting the position of the French Civil Code in Article 1246. Furthermore, legal standing for filing compensation lawsuits should be expanded by granting environmental associations and governmental bodies the right to litigate to claim compensation for damages affecting the environment itself. The judiciary in environmental cases should be obliged to rule for "Restoration of the Status Quo Ante" before resorting to monetary compensation, by establishing the principle of priority of specific performance (in-kind enforcement).

Branch Four: The Role of Modern Instruments in Ensuring Compensation for Environmental Damages

Traditional rules of civil liability face a significant obstacle represented by the "Execution" stage. Environmental damages are often catastrophic, exceeding the financial solvency of the facility causing them, or the perpetrator is unknown (pollution of unknown origin). To avoid the loss of the rights of the aggrieved and the right of society to a sound environment, modern legislative policies have introduced compensation guarantee systems that are integrated with one another. These systems transcend the bilateral relationship (between the aggrieved and the liable party) to include collective and institutional guarantees represented by compulsory insurance, compensation funds, and specialized environmental judiciary. We address these as follows:

¹ . Dr. Adnan Ibrahim Al-Sarhan, Dr. Nouri Hamad Khater, Explanation of the Jordanian Civil Code: Sources of Personal Rights, Dar Al-Thaqafa, Amman, 2010, p. 312.

² . Neyret, Laurent. Atteintes au vivant et responsabilité civile. LGDJ, Paris, 2006, p. 210.

³ . It is worth noting that modern French jurisprudence relies on "**Nomenclatures**" to estimate the value of non-market environmental units, which is lacking in the Arab system that relies on traditional expertise. For more detail: See Dr. Taha Hadi Al-Malali, "Civil Liability for Environmental Pollution in Iraqi Legislation," Journal of Law, Al-Nahrain University, Vol. 12, No. 2, 2011, p. 45.



First: Compulsory Environmental Insurance

Compulsory environmental liability insurance represents an effective means in confronting environmental risks, as the burden of compensation is transferred from the "Polluter" (the Insured) to the "Aggrieved" (the Beneficiary) via the "Undertaker" (the Insurance Company).

It is a practical application of the "Polluter Pays" principle. Instead of the State bearing the costs of disasters, the industrial sector bears them through insurance premiums⁽¹⁾. It is defined as "the requirement by the legislator that facilities practicing environmentally dangerous activities obtain an insurance policy covering potential damages as a condition for granting them an operational license"⁽²⁾.

What distinguishes this system is that compulsory insurance guarantees "Financial Solvency." In the event of the bankruptcy of the polluting company (which is common after massive disasters), the aggrieved party (or the State) retains the right of Direct Action against the insurance company to exact compensation, thereby protecting rights from being lost⁽³⁾.

It is worth noting that compulsory environmental liability insurance, which legislations oblige insurance companies to provide, is of two types:

A. Insurance against Sudden and Accidental Incidents: This is the traditional type (pipeline explosion, sudden leakage). Insurance companies accept this type easily. B. Insurance against Gradual Pollution: (Such as the slow leakage of chemicals into the soil over 20 years). This is the "**Major Risk**" that companies hesitate to cover, necessitating State intervention to impose it compulsorily or to establish insurance pools to cover it⁽⁴⁾.

Second: Environmental Compensation Funds⁽⁵⁾

Environmental compensation funds are considered the "**Second Line of Defense**" that intervenes when the traditional system or insurance fails to cover the damage. This system is based on the **Socialization of Risk** by establishing an independent financial pool, often funded by fees or taxes imposed on polluting activities (such as a tax on oil companies or companies producing chemicals). The function of these funds is to pay compensation to the aggrieved in the following cases⁽⁶⁾:

A. When the perpetrator is unknown (marine pollution from an unknown ship). B. When the perpetrator is insolvent and does not possess sufficient insurance. C. When the extent of the damage exceeds the legally established liability cap.

¹ . Dr. Salah El-Din Jamal El-Din, Guarantee Aspects in Insurance against Environmental Risks (Comparative Study), Dar Al-Fikr Al-Jamiey, Alexandria, 2008, p. 25.

² .Richardson, Benjamin J. "Mandating Environmental Liability Insurance." Duke Environmental Law & Policy Forum, Vol. 12, 2002, p. 293.

³ . Dr. Salah El-Din Jamal El-Din, Op. cit., p. 155.

⁴ . Dr. Mohamed Ibrahim Desouki, Civil Liability Insurance for Pollution Damages, Dar Al-Nahda Al-Arabiya, Cairo, 2008, p. 115

⁵ . Examples of environmental compensation funds include the US **Superfund**, established in 1980 under **CERCLA** to clean up abandoned hazardous waste sites whose owner is unknown. It has the authority to clean up and then pursue those responsible to recover funds at three times the cost. Also, the **International Oil Pollution Compensation Funds (IOPC Funds)**, whose mission is to intervene to compensate states and individuals affected by oil tanker incidents when the damage exceeds the shipowner's liability limit. It is worth noting that the Iraqi Law for the Protection and Improvement of the Environment No. 27 of 2009 stipulated in Article 26 the establishment of a fund called the (**Environmental Protection Fund**) in accordance with the Law for the Protection and Improvement of the Environment No. (27) of 2009, but its role does not include compensating the aggrieved; rather, it is limited to: 1. Confronting disasters and emergencies; 2. Establishing natural reserves; 3. Monitoring and measurement by purchasing necessary devices and equipment for environmental laboratories and pollution monitoring stations; 4. Spreading environmental awareness; 5. Rewards and incentives.

⁶ . Larsson, Marie-Louise. The Law of Environmental Damage. Martinus Nijhoff Publishers, 1999, p. 550.



Third: Specialized Environmental Courts⁽¹⁾

The modern system for compensation for environmental damages is the system of specialized environmental courts. These courts have succeeded in developing flexible judicial principles such as alleviating the burden of proof and accepting class actions. The justifications for establishing this type of court include⁽²⁾:

A. Sophisticated laws are of no value if applied by a non-specialized judge who does not grasp the scientific dimensions of the environmental disaster (**Functional Specialization Element**). B. Environmental cases require an understanding of chemistry, biology, and hydrology. An ordinary civil judge may be overwhelmed by the details of technical reports (**Scientific Specialization Element**). C. Environmental damage is exacerbating, and a delay in issuing an "**Injunction**" (Amr Walā'ī) to stop the activity may lead to irreparable destruction. Specialized judiciary provides "**Swift Justice**" (**Time Element**).

CONCLUSION

The conclusion includes the sum of the results and proposals reached, as follows:

First: Results

1. Compensation is no longer merely a tool for repairing the victim's damage but has become a system of social and economic security.
2. Sources of environmental liability are no longer confined to the traditional theory of "fault".
3. Contemporary legislative and judicial trends clearly tend towards adopting "Strict Aggravated Liability" derived from international agreements and constitutional principles.
4. Traditional liability rules, in both their in-kind and monetary forms, are capable of accommodating environmental damage provided that the judicial approach is reconsidered from the idea of "protecting private property" to the idea of "protecting the ecosystem".
5. Civil laws in Iraq and Egypt are incapable of meeting environmental challenges. Adherence to the concept of direct personal damage, difficulty in proving causation, and recourse to arbitrary monetary compensation are factors that make Civil Law ineffective in protecting the environment.
6. The integration provided by modern means of environmental compensation between compulsory insurance, environmental funds, and specialized judiciary in environmental cases is the only way to ensure that legal texts related to environmental protection find their way to actual application, achieving resource sustainability and equitable redress.
7. Adopting modern methods of compensation will move the legal system from the stage of financial deterrence compensation to the stage of "Proactive and Preventive Action" that ensures the maintenance of natural resources.
8. Coordination between civil rules and sustainable development goals is no longer a luxury option, but an urgent legal necessity to protect the right of future generations to a clean environment under a deterrent legal cover.

¹ . Models of established environmental courts include: 1. The **National Green Tribunal (NGT)** in India, considered the most prominent global model. It is a specialized court comprising judges and **Scientific Members** who sit on the bench alongside the judge, with the authority to issue wide-ranging immediate orders. 2. Environmental courts in China and Australia. Cited in: George Pring and Catherine Pring, *Environmental Courts and Tribunals: A Guide for Policy Makers*, UN Environment Programme (UNEP), Nairobi, 2016, pp. 34-35 (India), p. 28 (China), p. 14 (Australia).

² . Pring, George, and Catherine Pring. *Greening Justice: Creating and Improving Environmental Courts and Tribunals*. The Access Initiative, World Resources Institute, 2009, pp. 14-16



Second: Proposals

1. Explicitly activating strict liability texts in Arab laws to avoid burdening the injured party with the burden of proving fault.
2. Relying on "abnormal neighborhood nuisances" as a flexible legal entry point for local pollution cases.
3. Making "In-kind Compensation" (repairing the environment) the primary and binding judgment in all environmental cases, with no recourse to monetary compensation except in the narrowest limits or as a supplementary measure.
4. Amending the Iraqi Civil Code by emulating the French legislator and adding an explicit article recognizing "Environmental Damage" as an objective damage independent of personal damage.
5. Establishing liability without fault (No-Fault Liability) for environmental damages.
6. Expanding legal standing in filing compensation lawsuits for environmental damages by granting environmental associations and government entities the right to litigate to claim compensation for damages affecting the environment itself.
7. Adopting the system of priority of specific performance (in-kind execution) by restricting the judge's authority in environmental cases to the obligation of ruling to restore the situation to what it was before resorting to monetary compensation.
8. Activating the role of the summary judiciary by granting summary affairs judges broader powers to stop polluting activities immediately as a preventive measure before ruling on the subject of compensation, in activation of the Precautionary Principle.
9. Amending Paragraph 2 of Article 32 of the Iraqi Law on Protection and Improvement of the Environment No. 27 of 2009 to read as follows: (The Court shall obligate the person responsible for environmental damage to pay all costs of removing pollution and rehabilitating the damaged site, in addition to temporary compensation for the loss of environmental benefits during the repair period).
10. Adding a legal article to the Iraqi Law on Protection and Improvement of the Environment No. 27 of 2009 obligating facilities practicing classified activities (environmentally hazardous) to conclude a comprehensive insurance policy covering civil liability for environmental damages, including cleaning and rehabilitation costs, as a prerequisite for practicing the activity or renewing the license.
11. Activating the role of the Environmental Protection Fund stipulated in the Law on Protection and Improvement of the Environment No. 27 of 2009 to be a guarantor for the payment of compensations awarded to those affected by environmental disasters in the event of the insolvency of the responsible party or if they are unknown.

REFERENCES

First: Legal Books :

- Dr. Ahmed Abdel Karim Salama, Environmental Protection Law / Pollution Control, Natural Resource Development, Dar Al-Nahda Al-Arabiya, Cairo, 2003.
- Dr. Khaled Gamal Ahmed Hassan, Civil Liability for Pure Ecological Damage (Comparative Study), Dar Al-Fikr Al-Jam'i, Alexandria, 2019
- Dr. Daoud Abdel Razzaq Al-Baz, Constitutional Protection of the Environment, Dar Al-Fikr Al-Jam'i, Alexandria, 2006.
- Dr. Salah El-Din Gamal El-Din, Aspects of Guarantee in Insurance against Environmental Risks (Comparative Study), Dar Al-Fikr Al-Jam'i, Alexandria, 2008.
- Dr. Salah El-Din Amer, International Environmental Law, Dar Al-Nahda Al-Arabiya, Cairo, 2010.
- Dr. Abdel Razzaq Al-Sanhuri, The Mediator in Explaining the Civil Law (Al-Waseet), Volume Eight, Munsha'at Al-Ma'arif - Beirut, 1980.



- Dr. Abdel Rashid Ma'mun, Proving Fault in Medical and Environmental Liability, Dar Al-Nahda Al-Arabiya, Cairo, 2009.
- Dr. Abdel Nasser Hayajneh, Environmental Law: Theory and Practice, Dar Al-Thaqafa for Publishing, Amman, 2012.
- Dr. Adnan Ibrahim Al-Sarhan, Dr. Nouri Hamad Khater, Explanation of the Jordanian Civil Law: Sources of Personal Rights, Dar Al-Thaqafa, Amman, 2010.
- Dr. Majed Ragheb Al-Helou, Environmental Protection Law in Light of Sharia and Law, Munsha'at Al-Ma'arif, Alexandria, 2002.
- Dr. Mohamed Ibrahim Desouki, Insurance against Civil Liability for Pollution Damages, Dar Al-Nahda Al-Arabiya, Cairo, 2008.
- Dr. Mohamed Boudali, Civil Liability for Environmental Damages, Dar Al-Fajr for Publishing and Distribution, Cairo, 2007.
- Dr. Mohamed Hussein Mansour, Liability for Neighborhood Nuisances, Dar Al-Jami'a Al-Jadida, Alexandria, 2005.
- Dr. Nawaf Kanaan, Environmental Protection Law, University Library - Sharjah, Second Edition, 2006.
- Dr. Nawaf Kanaan, Human Right to a Healthy Environment in Law and Jurisprudence, University of Sharjah Publications, 2008.

Second: University Theses :

- Dr. Muslat Quwaian Al-Mutairi, *Liability for Environmental Damages and Their Insurability*, Master's Thesis, Faculty of Law and Political Science - University of Abou Bekr Belkaid – Tlemcen - Algeria, 2016.

Third: Research Papers

- Dr. Taha Hadi Al-Malali, *Civil Liability for Environmental Pollution in Iraqi Legislation*, Journal of Law, Al-Nahrain University, Volume 12, Issue 2, 2011.

Fourth: Websites :

- Official Website of the United Nations - Department of Economic and Social Affairs, Sustainable Development: <https://sdgs.un.org/ar>
- Official Website of the United Nations Digital Library: <https://digitallibrary.un.org/record/139811?v=pdf>

Fifth: Foreign Sources :

- Betlem, Gerrit. Civil Liability for Transfrontier Pollution. Graham & Trotman, London, 1993.
- Geneviève Viney, Introduction à la responsabilité, LGDJ, Paris, 2008.
- George Pring and Catherine Pring, Environmental Courts and Tribunals: A Guide for Policy Makers, UN Environment Programme (UNEP), Nairobi, 2016.
- Kiss, Alexandre, and Dinah Shelton. Guide to International Environmental Law. Martinus Nijhoff Publishers, 2007.
- Larsson, Marie-Louise. The Law of Environmental Damage. Martinus Nijhoff Publishers, 1999.
- Marie-Louise Larsson, The Law of Environmental Damage: Liability and Reparation, Martinus Nijhoff Publishers, The Hague, 1999.
- Neyret, Laurent. Atteintes au vivant et responsabilité civile. LGDJ, Paris, 2006.
- Nicolas Sadeleer, Environmental Principles: From Political Slogans to Legal Rules. Oxford University Press, 2002.
- Pring, George, and Catherine Pring. Greening Justice: Creating and Improving Environmental Courts and Tribunals, The Access Initiative, World Resources Institute, 2009.
- Prieur, Michel. Droit de l'environnement. 7e éd., Paris, Dalloz, coll. « Précis », 2011.



- Purdy, Ray. "Satellites: A New Era for Environmental Compliance?" *Journal of Environmental Law*, Vol. 18, No. 3, 2006.
- Richardson, Benjamin J. "Mandating Environmental Liability Insurance." *Duke Environmental Law & Policy Forum*, Vol. 12, 2002.
- Viney, Geneviève, and Patrice Jourdain. *Les conditions de la responsabilité*. LGDJ, Paris, 2006.

Sixth: Constitutions

- The Iraqi Constitution of 2005.
The Egyptian Constitution of 2024.
From the French Charter for the Environment of 2004.

Seventh: Laws and Conventions

- **Iraqi Laws:**

1. Iraqi Civil Code No. 40 of 1951.
2. Iraqi Penal Code No. 111 of 1969.
3. Protection from Ionizing Radiation Law No. 99 of 1980.
4. Iraqi Law on Protection and Improvement of the Environment No. 27 of 2009.

- **Egyptian Laws:**

1. Egyptian Penal Code No. 58 of 1937.
2. Egyptian Civil Code No. 131 of 1948.
3. Environmental Legislation (Egyptian Environment Law No. 4 of 1994, amended by Law No. 9 of 2009).
4. Waste Management Regulation Law No. 202 of 2020.
5. Natural Protectorates Law No. 102 of 1983.

- **Foreign Laws:**

1. Amended French Civil Code of 2016.
2. French Environmental Code (Code de l'environnement) No. 914 of 2000.
3. Climate and Resilience Law (Loi Climat et Résilience) of 2021.
4. German Environmental Liability Act of 1990.
5. European Directive No. 35 of 2004 regarding environmental liability.
6. Rio Declaration on Environment and Development, United Nations Conference on Environment and Development (UNCED), 1992, Principles 15 & 16.