

Principles of the Environmental Law and Its Challenges in Achieving Sustainable Development

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Abstract:

The topic of environment protection has received both national and international attention due to its importance to human life. Environmental law works to safeguard the environment and is based on several principles such as participation and polluter-pays principle. However, it faces numerous economic and social challenges, especially in the technological era. Therefore, the key question raised is: What are the environmental law principles, and what challenges does it face in achieving the dimensions of sustainable development, social well-being, and the enhancement of human security?

Keywords: Principles, Environmental Law, Challenges, Sustainable Development, Human Security.

Introduction

The environment occupies great importance both internationally and nationally. Despite its significance for human life, people live in hazardous environmental conditions due to the spread of solid, gaseous, and liquid waste. Industrial and technological development directly impact on both humans and the environment. As a result, new forms of pollution have emerged like air pollution which causes threats to public health and the absence of clean air, both of which constitute a direct violation of the human right to a clean environment.¹ The environmental law aims to enhance human security, particularly in its environmental, economic, and social dimensions. However, it faces numerous challenges, such as the depletion of natural resources and

¹ Youcef Boualqamh, The Environment as a Human Right, Journal of Law and Human Sciences, Issue 1, Volume 10, University of Djelfa, 2017, p.105.

increasing levels of environmental pollution, which have reached alarming levels and caused significant losses.² Accordingly, this article will answer the following question.

The Main Question: What are the environmental law principles, and what are its challenges in achieving the social and economic dimensions of sustainable development?

To answer this question, we will follow a dual-structured plan based on the two axes outlined below:

Outline:

First Axis: Principles of the Environmental Law

Second Axis: Challenges of the Environmental Law and the Dimensions of Sustainable Development

We will begin with explaining the principles of environmental law according to both international and Algerian environmental law.

First Axis: Principles of the Environmental Law

In Algeria or other countries, the Environmental law is based on a set of principles that form its legal framework and reflect the influence of international environmental law on national environmental legislation. These principles include: the Principle of Sovereignty over Natural Resources and Biodiversity, the Precautionary Principle and International Cooperation, the Polluter-Pays Principle, the Principle of Sustainable Development and the Shared Future for Humanity. These principles will be elaborated in the following sections.

1. The Principle of Full Sovereignty over Natural Resources

It is the most fundamental right recognized in the international community, particularly for colonized countries. Former colonizers undermined these rights to prevent those nations from freely exploiting their natural resources within their territorial airspace, maritime zones, and land boundaries.³

Natural resources mean all the elements created by God in underground or the surrounding atmosphere like sunlight and vegetation, natural resources such as minerals, forests, and fisheries, traditional energy sources like gas and oil, nuclear or

² Majid Ragheb Al-Hilou, *Environmental Protection Law in Light of Islamic Law*, New University House, Egypt, 2018, p.34.

³ <https://mostaq1.com/portfolio/1895458->

renewable energy such as wind and solar power. In short, natural resources encompass everything involved in the production process that benefits human life.⁴

This principle is historical as reflected in various resolutions of the United Nations General Assembly, a form of self-determination, and a full political and economic independence. Key resolutions affirm this right include: 523, 626 and 1515. A major milestone was the establishment of the Permanent Sovereignty over Natural Resources Committee and Resolution 1803, adopted on December 14, 1962 and entitled "Permanent Sovereignty over Natural Resources."⁵ This resolution was issued following the committee's request despite the opposition from colonial powers that sought to protect their economic interests.⁶

2. The Principle of Protecting Biodiversity and Preventing the Degradation of Natural Resources

The Algerian Environmental Law No. 03-10 establishes this principle in Article 3-1 and states that "every activity must not harm biodiversity." As for the principle of preventing the degradation of natural resources, it is defined by the Algerian legislator in the same article as "avoiding harm to natural resources such as water, air, land, and subsoil, which are an integral part of the development process and should not be taken in isolation when pursuing sustainable development."⁷ This aligns with the Convention on Biological Diversity.⁸ According to the international environmental law and within the framework of shared international responsibility, the world's oceans and water play a vital role. Likewise, the sun, deserts, fertile soil, and clean air contribute to maintaining this unique environmental diversity, with forests serving as the lungs of the world by producing oxygen.⁹

3. The Principle of Precaution, Caution, and Environmental Impact

The Algerian Environmental Law establishes this principle in Article 3, Paragraph 3-4. It is the most important principle of environmental law. It refers to the necessity of taking all measures to protect environmental elements from activities that may cause environmental harm and affect the right to a clean environment for humans,

⁴ Ben Ramadan Anissa & Belmokadem Mostefa, Exhaustible Natural Resources and Their Impact on Economic Growth: A Case Study of Oil in Algeria, *Economic and Administrative Research*, Issue 15, June 2014, p.295.

⁵ https://legal.un.org/avl/pdf/ha/ga_1803/ga_1803_ph_a.pdf

⁶ Aït Ali Zina, *The Principle of Sovereignty over Natural Resources Under International Investment Law*, Houma Publishing, Algeria, November 2020, pp.53-55.

⁷ Article 03 of Law 03-10 on the Environment Law.

⁸ <https://www.cbd.int/doc/decisions/cop-12/cop-12-dec-14-ar.pdf>.

⁹ Al-Azhar Daoud, *Environmental Security from the Perspective of International Law*, Arab Knowledge Office, Cairo, Egypt, 2021, pp.61-63.

plants, and animals. For example, fires, harmful gases release, and radiation. It stresses the need to find alternative environmental solution and replace harmful materials with less environmentally damaging ones¹⁰ as a preventive measure, while correcting environmental damage using the best available environmental technologies.¹¹

In cases of doubt regarding the safety of an economic activity and its environmental impact, the law requires facility managers or those responsible for environmentally harmful activities to immediately seek alternatives to the environmental harm.¹² This applies to all activities that cause environmental pollution.¹³ This principle is linked to international ethics and environmental policies within the global community, and this really revolutionizes the environmental protection.¹⁴ Historically, the precautionary principle emerged with the Rio Declaration in 1992 under Principle 15, which is based on preventing environmental problems before they occur. This strengthens sustainable development by preserving environmental resources and ensuring the rights of future generations.¹⁵

4. The Principle of Good Neighbourliness and Common but Differentiated Responsibility

The concept of good neighbourliness is a deeply human idea due to the coexistence of people regardless of their cultural, religious, and political differences. It means that one state should not harm another neighbouring one and should prevent the spread of environmental damage while bearing shared responsibility and providing necessary compensation for harm caused. This principle has been adopted by both national and international environmental law through the provision on unusual neighbourhood nuisances, which aligns with the principle of good neighbourliness. The environmental damage has a unique nature as it spreads and moves from one

¹⁰ Article 3-3 of Law 03-10.

¹¹ Majid Ragheb Al-Hilou, previous reference, p.230.

¹² Ayat Mohamed Saoud Al-Zabidi, *International Protection of the Environment from Nuclear Radiation Pollution*, New University House, Egypt, 2020, p.372.

¹³ Bachir Gomaa Abdel Jabbar Al-Kubaisi, *International Protection of the Atmosphere*, Al-Halabi Legal Publications, Beirut, 2013, p.239.

¹⁴ Mohamed Askar, *International Environmental Law: Climate Change, Challenges, and Confrontation-An Analytical and Fundamental Study*, New University House, Egypt, 2013, p.188.

¹⁵ Mammeri Abdel Nasser & Hanan Malika, *The Precautionary Principle for Environmental Protection and Sustainable Development Promotion*, *Journal of Ijtihad for Legal and Economic Studies*, Issue 1, Volume 11, University of Tamanrasset, 2022, p.440.

place to another. One example is nuclear radiation pollution, which is a trans-boundary environmental issue.¹⁶

This principle has been incorporated into all international environmental conventions and conferences, such as Principle 21 of the Stockholm Conference on the Environment. It has since become a defining principle of environmental law. Additionally, the concept of common but differentiated responsibilities among states was introduced in Principle 7 of the Rio Declaration, which states: "In cases of environmental degradation, states have common but differentiated responsibilities." This is because the environmental damage necessitates international cooperation.

5. The Principle of International Cooperation, Environmental Justice and Media

As the environmental damage is severe and widespread, it is essential for states to strengthen international cooperation at all times, whether in peace or war. This principle has been enshrined in international law across its various branches. Since developing countries require assistance from nations and international organizations, this law achieves that goal. It emphasizes the global solidarity to drive industrial progress, particularly in technology transfer and environmental protection, to promote environmental justice, reduce the gap between industrially advanced and underdeveloped nations, and eradicate poverty and pollution. A key example is the International Atomic Energy Agency and its statute, which calls for assisting developing countries in acquiring nuclear advancement and benefiting from the peaceful uses of nuclear energy. Within the importance of nuclear energy in sustainable development, it is considered environmentally friendly, especially in economic and social aspects, as an alternative to fossil fuels such as gas and oil.¹⁷ Similarly, renewable energy has become an urgent necessity for all nations.

Environmental media and participation play a crucial role in encouraging cooperation for environmental protection, defining the dangers of pollution, and involving citizens in alerting environmental authorities to potential environmental hazards. This enables timely intervention, as established by Algerian environmental law.¹⁸ Since the environment with humans, water, air, and all human-made infrastructures belongs to all of humanity, it is considered a shared heritage. The environment has social, legal, and economic value that requires protection by everyone. All individuals must assume their responsibilities, whether under national or

¹⁶ Bachir Gomaa Abdel Jabbar Al-Kubaisi, previous reference, p.98 & Ayat Mohamed Saoud Al-Zabidi, previous reference p.344.

¹⁷ Ayman Abdel Salam Ibrahim, *Nuclear Energy and Its Role in Achieving Sustainable Development*, Egyptian Library, 2015, p. 89.

¹⁸ Article 3, Paragraph 8 of Law 03-10.

international law, because the environment is unified, regardless of geographical, national, or governmental boundaries.

6. The Polluter Pays Principle, Obligation to Remedy Environmental Damage, and Compensation

The Algerian legislator defined this principle in Article 3, Paragraph 7 of Law 03-10 on Environmental Protection as: "The polluter pays principle requires that any person responsible for environmentally harmful activities must bear the consequences of their actions, including any damage caused to environmental elements. They must also cover all costs related to preventive measures to avoid and reduce pollution, and restore the environment to its original state."¹⁹ Because polluters often evade legal responsibility, whether administrative, civil, or criminal, when their actions constitute environmental crimes like dumping waste into the sea or contaminating water sources, they must assume the responsibility, rectify the damage, restore the environment to its original state, and provide necessary compensation. This was reinforced by the International Court of Justice in its 1928 decision on the Chorzów Factory case, where it mandated compensation.²⁰ Consequently, this principle exists in both Algerian and international environmental law.

7. The Principle of Sustainable Development and the Common Future of Humanity

Sustainable development is both a principle of environmental law and a goal that strives to achieve. It is a legal, economic, political, and social concept that is the most frequently discussed environmental terms in both national and international media. It has gained significant attention from governments and policymakers, leading to its inclusion in international conventions, national constitutions, and dedicated national laws for its protection and promotes the right to a healthy environment as a human right.

The Algerian Law (Law No. 03-10 on Environmental Protection within the Framework of Sustainable Development) defines sustainable development in Article 4 as: "It refers to balancing sustainable social and economic development with environmental protection, meaning that environmental considerations must be integrated into development policies to meet the needs of present and future generations." As our future is one and shared across the world, regardless of differences in opinions and cultures, the official adoption of this concept is credited to the Brundtland Commission (1987), also known as the World Commission on Environment and Development under the United Nations, which introduced it under

¹⁹ Article 3, Paragraph 7 of Law 03-10

²⁰ Ayat Mohamed Saoud Al-Zabidi, previous reference p.345.

the title "Our Common Future." This principle was further reinforced by the Rio Declaration on Environment.²¹

Second Axis: Challenges of Environmental Law and Dimensions of Sustainable Development

After having tackled the principles of environmental law in the previous axis, this part will focus on the challenges of environmental law, including threats related to health, food, and environmental security, environmental damage and crime, nuclear testing, and environmental governance.

1. The Challenge of Health and Food Security Due to Environmental Pollution

One of the most dangerous challenges facing environmental law is the threat to health security for humans and living organisms due to food, land, air, and marine pollution. This has made human health at risk in several countries. Additionally, food security has deteriorated as a result, with food being either contaminated or industrially processed in ways that harm health, due to the polluted and unsuitable irrigation water, as well as the waste of large quantities of food globally. In response, the Food and Agriculture Organization and the United Nations Environment Programme have been working "to measure and monitor global efforts to reduce food loss and waste, using the Global Food Loss and Waste Index".²²

It is noticeable that environmental degradation has increased at an unacceptable rate, especially with technological advancements. It can be defined as: "The present or future harm that affects any element of the environment, results from human activities—whether physical or legal—or natural causes, and leads to an imbalance in the ecological system, whether originating from within the polluted environment or coming from external sources."²³ Professor Girod defines it as: "The damage caused by pollution, which applies to all harm caused by humans and affected various natural elements such as water, air, and noise..."²⁴

Meanwhile, the 1972 United Nations Conference on the Human Environment in Stockholm defines pollution as: "The direct or indirect introduction of substances or

²¹ Younes Atab & Halim Miloud, The Link Between Sustainable Development and the Environment in Algeria – Concept and Challenges, Journal of Legal and Political Thought, Issue 1, Volume 8, 2024, p.29.

The website of the Food and Agriculture Organization of the United Nations at: ²² <https://www.fao.org/policy-support/policy-themes/food-loss-food-waste/a>

²³ Ahmed Mahmoud Saad, Inductive Analysis of Civil Liability Rules in Environmental Pollution Disputes, Arab Renaissance House, Egypt, 1994, p.61.

²⁴ <https://cte.univ-setif2.dz/moodle/mod/book/view.php?id=11768&chapterid=2566&lang=en>

energy by humans into the marine environment, resulting in harmful effects."²⁵ Environmental damage can impact land (as nuclear pollution), soil, seas, and oceans—no part of the Earth has been spared. The severity of pollution varies depending on the extent of the harmful action. Moreover, natural pollution can occur due to earthquakes, volcanoes, winds, and others.

2. The Challenge of Environmental Security Due to Environmental Crime and Global Warming

Experts confirm that global environmental security is more threatened today than ever before due to climate change and global warming with rapid technological advancements. These threats have multiplied at an alarming rate, leading to an increase in environmental risks, the spread of greenhouse gases, and the worsening of the ozone layer depletion. This destructs biodiversity and the ecological balance,²⁶ ultimately jeopardizing the sustainable development.

Since environmental damage has a spreading nature, it can move from one place to another, be gradual, have a unique character, and sometimes remain undetected at all. This makes it a cause for multiple types of legal responsibilities, including: civil liability (compensation), criminal liability (environmental crime), administrative liability (licensing, negligence, and the responsibility of environmental authorities), and International liability in cases of environmental crimes under international environmental law. For this reason, environmental damage presents a significant challenge to environmental law, as its effects can change over time, and the full extent of the damage may remain undetectable for hundreds of years, making it difficult to determine its consequences.

The environmental crime can be defined as: "Legally prohibited actions that cause pollution or harm to the environment." It must meet the three general legal elements: the legal element, the material element, and the moral element (criminal intent).²⁷ It is subject to environmental law and can also be criminalized under penal codes or supplementary laws, such as water laws, coastal planning laws, or forest laws, among others.

Global warming and the deterioration of environmental security have led to new challenges in environmental law, giving rise to critical issues such as climate-induced migration (environmental refugees) and mass displacement of populations. This, in

²⁵ Mohamed Saleh Al-Muhanna, *Civil Liability for Environmental Pollution Damages*, Al-Halabi Legal Publications, Lebanon, 2018, p.34.

²⁶ Al-Azhar Daoud, previous reference, pp.64-67.

²⁷ Mohamed Al-Madani Boussaq, *Criminal Sanctions for Environmental Protection in Islamic Law and Contemporary Systems*, Al-Khaldounia Publishing House, Algeria, 2004, pp. 12-13.

turn, increases the risks of infectious diseases, waterborne illnesses, poverty, and public health crises, and places an additional burden on governments. Environmental crimes escalate during wars, where international crimes causing environmental destruction are committed. These actions fall under the jurisdiction of the International Criminal Court in accordance with the 1998 Rome Statute, as they constitute violations of international humanitarian law.

3. The Challenge of International Security Due to Waste, Classified Facilities, and Nuclear Testing

One of the most serious challenges in environmental law for achieving sustainable development is the threat to international security posed by nuclear weapons, as well as the alarming spread of waste generated by high-risk classified facilities, particularly those worked by nuclear energy. These facilities form an imminent danger to both local populations and neighbouring countries. Legal entities may bear liability without fault for engaging in extremely hazardous activities permitted by law under the theory of risk. This has been exemplified by major nuclear disasters such as the Chernobyl catastrophe (Ukraine, 1986) and the Fukushima nuclear accident (Japan, 2011). The industrial development presents a major challenge to environmental law due to toxic emissions and hazardous waste disposal dumping in oceans under the cover of darkness, which poses a direct threat to human life and ecosystems.²⁸ Additionally, the overuse of chemical fertilizers destroyed fertile agricultural lands,²⁹ exacerbated by the unchecked spread of urbanization.

The withdrawal of countries from the Nuclear Weapons Ban Treaty constitutes the most serious challenge, as well as the total prohibition on the use of nuclear weapons despite the International Court of Justice's advisory opinion in 1996. This has left the door wide open for nuclear testing³⁰ on land and at sea, representing a renewed race toward nuclear armament.

4. The Challenge of Environmental, Economic and Social Governance

Among the most significant challenges that faces environmental law is enhancing economic governance by developing the economy and relying on renewable energy sources instead of the traditional polluting ones. The limited shift toward renewable energy has led to an increase in harmful greenhouse gases which directly affect the ozone layer. Additionally, urban degradation and damage to the aesthetic character of coastal and mountainous areas, without adherence to urban

²⁸ Majid Ragheb Al-Hilou, previous reference, p.440.

²⁹ Al-Azhar Daoud, Environmental Security from the Perspective of International Law, previous reference, pp.65-67.

³⁰ Ayat Mohamed Saoud Al-Zabidi, previous reference, pp.84-85.

planning³¹ and permits, have contributed to the spread of slums, distorting cities, the spread of sewage and drinking water and others.

Conclusion

Based on the already mentioned, we confirm that the environmental law targets to promote the right to a peaceful environment as a human right. It rests on the principle of prevention from the potential risks, as well as the polluter-pays principle, which assigns shared responsibilities to states and individuals in times of peace and war. Additionally, it emphasizes the principle of environmental impact in all economic plans and the participation of stakeholders in all environment-related initiatives. However, in its pursuit of these goals to achieve sustainable development in economic and social dimensions and ensure social well-being within the framework of food, health, and environmental security, it faces numerous challenges and environmental, health, social, agricultural, and security issues, particularly in the current industrial era. Overcoming these challenges is essential to achieving the ultimate outcome which is the enhancing of human security in all its dimensions.

On the basis of what has been presented, we reach the following results:

1. The environment is a human right; thus, its violation constitutes a crime under both international and national law. However, national law provides stronger environmental protection by enforcing effective measures.
2. Excessive environmental exploitation and the reckless overuse of natural resources lead to severe environmental disasters and disrupt the ecological balance due to harmful human activities.
3. Any harm to an environmental component is a violation of the global environment as the environment is interconnected and protecting it ensures a shared future for all.

Recommendations:

1. The optimal enforcement of both national and international environmental laws is necessary to protect the environmental rights.
2. The immediate cessation of natural resource depletion, adherence to environmental impact policies, and the application of all environmental law principles, along with stricter penalties for environmental violations.
3. The adoption of environmental governance standards and environmental citizenship, as well as the replacement of traditional polluting energy sources with renewable energy alternatives.

³¹ Majid Ragheb Al-Hilou, previous reference, p.598.

4. Implementing the United Nations' technical program extending to 2030 to achieve the dimensions of sustainable development.
5. Resolving international wars and conflicts peacefully to protect lives, property, and the environment, and the immediate cessation of nuclear testing as it is the greatest threat to the environment, and the establishment of a treaty for the complete prohibition of nuclear weapons.
6. Integrating environmental education as a subject in all levels of schooling.

List of References and Sources

First: Laws

- Rome Statute of 1998 related to International Criminal Court.
- Convention on Biological Diversity.
- Algerian Environmental Law No. 03-10.

Second: Books

1. Ayman Abdel Salam Ibrahim, *Nuclear Energy and Its Role in Achieving Sustainable Development*, Egyptian Library, 2015.
2. Aït Ali Zina, *The Principle of Sovereignty over Natural Resources Under International Investment Law*, Houma Publishing, Algeria, November 2020.
3. Ayat Mohamed Saoud Al-Zabidi, *International Protection of the Environment from Nuclear Radiation Pollution*, New University House, Egypt, 2020.
4. Al-Azhar Daoud, *Environmental Security from the Perspective of International Law*, Arab Knowledge Office, Cairo, Egypt, 2021.
5. Majid Ragheb Al-Hilou, *Environmental Protection Law in Light of Islamic Law*, New University House, Egypt, 2018.
6. Bachir Gomaa Abdel Jabbar Al-Kubaisi, *International Protection of the Atmosphere*, Al-Halabi Legal Publications, Beirut, 2013.
7. Mohamed Askar, *International Environmental Law: Climate Change, Challenges, and Confrontation-An Analytical and Fundamental Study*, New University House, Egypt, 2013.
8. Mohamed Saleh Al-Muhanna, *Civil Liability for Environmental Pollution Damages*, Al-Halabi Legal Publications, Lebanon, 2018.
9. Ahmed Mahmoud Saad, *Inductive Analysis of Civil Liability Rules in Environmental Pollution Disputes*, First Edition, Arab Renaissance House, 1994.

Third: Articles, Periodicals, and Publications

1. Youcef Boualqamh, *The Environment as a Human Right*, *Journal of Law and Human Sciences*, Issue 1, Volume 10, University of Djelfa, 2017.

2. Ben Ramadan Anissa & Belmokadem Mostefa, Exhaustible Natural Resources and Their Impact on Economic Growth: A Case Study of Oil in Algeria, *Economic and Administrative Research*, Issue 15, June 2014.
3. Mammeri Abdel Nasser & Hanan Malika, The Precautionary Principle for Environmental Protection and Sustainable Development Promotion, *Journal of Ijtihad for Legal and Economic Studies*, Issue 1, Volume 11, University of Tamanrasset, 2022.
4. Younes Atab & Halim Miloud, The Link Between Sustainable Development and the Environment in Algeria – Concept and Challenges, *Journal of Legal and Political Thought*, Issue 1, Volume 8, 2024.
5. Mohamed Al-Madani Boussaq, *Criminal Sanctions for Environmental Protection in Islamic Law and Contemporary Systems*, Al-Khaldounia Publishing House, Algeria, 2004.

Fourth: Websites

1. <https://cte.univ-setif2.dz/moodle/mod/book/view.php?id=11768&chapterid=2566&lang=en>
2. <https://www.un.org/ar0/h>
3. <https://mostaq1.com/portfolio/1895458->
4. <https://facdr.univ-annaba.dz/wp-content/uploads/2022/11.pdf>
5. https://legal.un.org/avl/pdf/ha/ga_1803/ga_1803_ph_a.pdf
6. <https://cte.univ-setif2.dz/moodle/mod/book/view.php?id=11768&chapterid=2566&lang=en>
7. <https://www.fao.org/policy-support/policy-themes/food-loss-food-waste/a>
8. <https://www.cbd.int/doc/decisions/cop-12/cop-12-dec-14-ar.pdf>.