

Analysing Rules and Principles in International Environmental Law



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ABSTRACT: Environmental degradation remains a pressing challenge in many parts of the world. Climate change, loss of biodiversity, pollution, and depletion of resources continue to pose serious threats to sustainable development. Progressively, International Environmental Law has developed principles, including, the polluter pays, precautionary principle, common but differentiated responsibility and sustainable development, to guide states toward environmental sustainability.

This study examines how these principles and rules undergirding selected Conventions such as the Rio Declaration, Agenda 21, the Convention on Biological Diversity (CBD), and the United Nations Framework Convention on Climate Change (UNFCCC) address environmental challenges. We argue that these conventions and frameworks provide crucial standards for environmental protection, but their effectiveness depends on their adoption and robust implementation and enforcement mechanisms and strategies anchored on the principles of environmental law that animate these Conventions.

KEYWORDS : environment, principles, environmental protection, climate change, sustainable development

I. INTRODUCTION

According to the International Court of Justice (ICJ), “[t]he environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn” (*Legality of the Threat or Use of nuclear weapons*, 1996). Various dynamics have contributed to shaping environmental law. Cosmic and supernatural beliefs (Yelpaala, 1983), cosmological nuances and anthropocentric approach to environmental law (Emmerechts, 2010), as well as ecological or value totality views (Birnie & Boyle, 2002; Black, 1991), have all played vital roles in the development of environmental protection systems.

Meanwhile, despite the availability of these systems, environmental degradation continues to pose a serious threat to our ecosystems and biodiversity. Activities such as deforestation, pollution, overfishing, and poor waste management have led to climate change, loss of habitat, soil erosion, desertification, ocean acidification, and many other challenges. The impact of environmental degradation is far-reaching — affecting food security, water availability, and human health, and as a result posing a significant challenge to sustainable development.

In our world today, humans produce over 400 million tons of plastic waste annually, with only about 9% being recycled (The Ocean Cleanup, 2024; Koons, 2025). This figure is even more staggering when compared to the entire human population, which weighs approximately 390 million metric tons — meaning we generate plastic waste more than the combined weight of all humans. How intriguing! A study by *Aqueduct* confirms that four (4) billion people in the world live under high water stress conditions for at least one month every year (Kuzma et al., 2023). More troubling, food insecurity is estimated to affect over six hundred million (600,000,000) people by 2030 (Food and Agriculture Organization et al., 2024; Saarinen et al., 2023). These numbers paint a gloomy picture of environmental unsustainability, a cause for worry to all environmental stakeholders in the world, of which both the author and the reader are participants.

But for the development of frameworks governing environmental protection and sustainable development, the situation could have been far worse. Notably, it was not until the late nineties that states saw international cooperation as an effective tool to mitigate the looming danger arising from environmental degradation. From Stockholm to Rio to Paris, world leaders, both present and past, have expressed their commitments under numerous agreements to find effective solutions to these escalating environmental challenges.

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Underpinning these agreements are environmental pillars designed to provide structural support for the implementation of these frameworks. These environmental pillars, including the polluter pays principle, precautionary principle, sustainable development, and the principle of common but differentiated responsibilities, are principles that guide and promote the enforcement of the goals and aspirations enclosed in these agreements.

Significantly, international agreements have played diverse roles in environmental protection. A key strength lies in their ability to bring nations together to solve common problems by developing coherent frameworks for environmental protection and prescribing mechanisms for the implementation and enforcement of these standards and frameworks.

Like many countries, Ghana recognizes international cooperation as a mechanism for environmental protection and sustainability. The country has ratified several international treaties and agreements, including the Rio Declaration, Agenda 21, the Convention on Biological Diversity (CBD), and the United Nations Framework Convention on Climate Change (UNFCCC), among others. Beyond this, Ghana has taken concrete steps to incorporate and implement some of these conventions in her national frameworks. Ghana's National Environmental Policy (2012), Climate Change Policy (2012), Energy Policy (2021), Water Policy (2024), and Environmental Protection Act (2025) serve as great examples.

Nonetheless, more can be done to ensure that the principles undergirding these conventions are effectively implemented and operational in our national life. Translating these international commitments to yield fruitful national or local outcomes remains a complex challenge. Thus, the paper argues that effective implementation strategies are required to achieve this task. These strategies, however, must be grounded in the principles of environmental law that underpin the various Conventions.

The paper is structured in six (6) parts. It sets off with an introduction outlining the impact of environmental degradation on sustainable development and the role of international agreements in remedying these challenges. In the second part, the paper traces the evolution of international environmental law, with a specific focus on Ghana. The third part addresses the contribution of selected international frameworks to environmental sustainability. The frameworks to be discussed include the Convention on Biological Diversity, the United Nations Framework Convention on Climate Change, and the Aarhus Convention. Further, an analysis is made of some principles undergirding these frameworks, notably the polluters pays principle, the precautionary principle, and the principle of sustainable development, among others. Acknowledging that manifold challenges affect the enforcement of Ghana's obligations under these frameworks, the paper concludes by arguing that an incisive application of these principles is necessary to achieve sustainable development.

II. HISTORICAL OVERVIEW

Environmental law, although considered a relatively young discipline, has deep historical roots that predate the twenty-first century. This area of law has evolved from ancient customs and norms on environmental conservation to complex international agreements that address global environmental challenges.

Long before environmental law became a formal discipline, societies had internalized frameworks and mechanisms for protecting the environment. The Roman Empire, in regulating the exploitation of natural resources, allowed olive tree owners to cut down not more than ten live trees annually (Biosphere Sustainable, 2023). In Africa, environmental norms were conveyed through proverbs and taboos. For instance, the proverb, 'it is only a fool who praises the fruit of a tree and forgets its roots', speaks to the importance of preserving our environment as our major support system. Equally, the saying, 'Treat the earth well; it was not given to you by your parents,' underscores the essence of ensuring continuity in the services of the ecosystem.

In the 19th century and early 20th century, environmental approaches were largely conservative. The focus was largely managerial rather than preventive. Environmental matters did not engage global attention until the rise of industrialisation. By the mid-20th century, widespread pollution, deforestation, and over-exploitation of natural resources had led to gross environmental degradation, which in turn prompted the development of international legal norms that address environmental harm.

The ICJ has on numerous occasions, reiterated the "obligations of States to respect and protect the natural environment" (*Nuclear Tests Case*, 1995). These obligations had earlier been mentioned in the *Pacific Fur Seal Arbitration* (1893) and the *Trail Smelter Arbitration* (1941). In the *Trail Smelter Arbitration*, the US alleged that sulphur dioxide emissions from a smelter located in Trail, Canada, were causing substantial damage to a number of farms across the border in the state of Washington. It was held that a state has the duty not to harm the environment of another state or persons or property in that state by activities within its own territory, i.e., the "no-harm" rule (*sic utere tuo ut alienum non laedas*); and that if a state does cause damage to the environment of another state, the polluter state should pay.

It was however the 1972 Stockholm Conference (UN Conference on the Human Environment) that developed these obligations (obligations of States to respect and protect the environment) into a legal and institutional regime. It was the international community's first effort at constructing a coherent strategy for developing international environmental law, policy,

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and institutions such as the United Nations Environment Programme (UNEP). The 1987 Brundtland Report as endorsed by the UN General Assembly; and the 1992 Rio Declaration on Environment and Development, as well as Agenda 21, Convention on BioDiversity (CBD), UN Framework Convention on Climate Change (UNFCCC) which were all initiated during the 1992 Rio Earth Summit further developed international law in the field of sustainable development.

In the African context, inventory of the roots of environmental law began with the Berlin Conference (1884-86) where Africa and her natural resources were divided among colonial powers without any local participation. Forty-seven years later, a Convention was formed to protect 'fauna and flora in Africa against the excesses of European hunters and farmers' (London Convention, 1933). This became known as the Conclusion of the 1933 London Convention Relative to the Preservation of Fauna and Flora in their Natural State. In the post-independence era, a significant step toward regional environmental protection was taken when forty African heads of state signed the African Convention on the Conservation of Nature and Natural Resources. By this Convention, African states committed to 'adopt the measures necessary to ensure conservation, utilization and development of soil, water, flora and faunal resources in accordance with scientific principles and with due regard to the best interests of the people'. Ghana became a signatory to this agreement on 15th September 1968 at Algiers, Algeria.

III. SELECTED INTERNATIONAL LEGAL FRAMEWORKS AND THEIR INFLUENCE ON THE ENVIRONMENT LAW IN GHANA

Today, referring to Ghana as the Gold Coast would be restrictive of her abilities and potential. Besides the colonial baggage it carries, the name Gold Coast ignores the vast array of natural resources Ghana is blessed with, including her minerals, forests, waterbodies, biodiversity, and more. However, despite nature's blessings, the country still faces environmental challenges that resist her resolve for sustainable development.

Hitherto, traditional systems, rooted in customary laws and practices, were used as a means to address environmental concerns. Laws introduced in the colonial regime primarily focused on resource exploitation rather than environmental protection. Formal environmental governance on a national scale gained momentum only in 1974 with the establishment of the Environmental Protection Council (EPC).

The dawn of the fourth Republican dispensation marked a significant milestone in Ghana's environmental governance. It was during this period that Ghana established its first environmental policy in 1992 (Ministry of Environment, Science and Technology, 2012). The 1992 Constitution (Fourth Republican Constitution) expressly acknowledges the importance the environment plays in sustainable development. Article 41(k) imposes a duty on every citizen to protect and safeguard the environment. Article 36(9) directs the State to 'take appropriate measures needed to protect and safeguard the national environment for posterity'. The Constitution also makes elaborate provisions for the sustainable use of land and natural resources in the country.

Following the promulgation of the Constitution, the Environmental Protection Agency (EPA) was established in 1994, generally to regulate and manage environmental matters in the country. This Agency has now been changed to an Authority under the Environmental Protection Act, 2025 (Act 1124), with the mandate to regulate, protect, coordinate, and exercise general oversight over all matters relating to climate change and the environment.

Legal frameworks on the environment in Ghana are, therefore, not scarce. However, as Dowuona et al. rightly observe, laws alone are insufficient to bring about real change (Dowuona-Hammond et al., 2020). The National Environmental Policy (2012) itself identifies ineffective enforcement of environmental policies and laws as a major obstacle. Environmental challenges are still rife in Ghana. Deforestation triggered by improper agricultural practices and mining activities has led to the rapid loss of forest cover and biodiversity. Statista (2024) reveals that by 2022, Ghana had lost about eighteen (18) thousand hectares of forest. Water pollution, stemming from domestic, agricultural, and industrial waste, and illegal mining ("galamsey"), has reached alarming levels, with 60% of water bodies reported as polluted as of 2017 (Institute of Statistical, Social and Economic Research, 2023).

As a signatory to international conventions such as the Rio Declaration, United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), and the Paris Agreement, Ghana has expressed her commitment to addressing issues such as climate change, loss of biodiversity, and environmental degradation. Admittedly, signatory commitment does not mean much, considering Ghana's dualist approach to international law. To incorporate these international obligations into domestic law, further action to domesticate them must be taken.

Dei-Tutu and Atuguba (2023), identify seven ways through which international norms are incorporated into Ghana's domestic laws. The first mode is by ratification through the mechanism of an Act of parliament. Second, by ratification through a Resolution by Parliament. Next, is where Ghanaian laws coincide with international law principles. Further, domestication can be done by reference to International Law within Ghana's constitutional and statutory provisions. Another way it can be achieved is where principles of International Law serve as an interpretative tool for the exposition of Ghana's domestic legislation. It may also be achieved where government officials and judges use international law to cure a lacuna in the law. Finally, they argue that domestication can be achieved by reference to Customary International Law through the medium of the Common Law.

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In the following parts, the article surveys selected international legal framework, examines whether norms enclosed in these instruments are being implemented and how they have impacted Ghana's environmental law jurisprudence.

A. The Stockholm Declaration

The *Stockholm Conference* was the first to heighten awareness of the world's environmental conditions in a grand style. It showcased the view that environmental challenges were interlinked, and intergovernmental cooperation was required to combat these problems (Chasek, 2022). The Conference birthed the Stockholm Declaration, which contained twenty-six principles to guide states to preserve the environment and conserve natural resources. Renowned among these principles is Principle 21 which emphasizes the sovereign right of states to "exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction" (Rio Declaration, 1992). Today, this principle is recognized as a general norm of customary international law. (Trail Smelter Arbitration, 1941)

B. The Rio Declaration on Environment and Development (1992)

Twenty years after Stockholm, 13,000 participants from 176 countries gathered in Rio de Janeiro for the United Nations Conference on Environment and Development (UNCED) to address global environmental challenges and issues of sustainable development. One of the key outcomes of UNCED was the Rio Declaration on Environment and Development.

The Rio Declaration establishes twenty-seven (27) fundamental principles to guide states in pursuing sustainable development. The first principle firmly assures that human beings are at the center of concerns for sustainable development and are entitled to a healthy and productive life in harmony with nature'. The second principle, close in content with Principle 21 of the Stockholm Declaration, affirms that states have the sovereign right to exploit their own resources according to their environmental policies, subject to the duty to ensure that no transboundary harm is caused to other states.

According to the Declaration, sustainable development requires balancing the environmental and developmental needs of the present and future, integrating environmental protection into the development process, and promoting cooperation to eradicate poverty and reduce inequalities. In this pursuit, the least developed and environmentally vulnerable states must be given special priority (Rio Declaration, 1992).

Like many countries, Ghana ratified the Rio Declaration on Environment and Development in 1992. Upon ratification, it introduced policies and action plans to effectuate the spirit of the Declaration. The Environmental Protection Act, 1994 (Act 490) and the National Environmental Policy (1995) are proof of her noble efforts. The provisions of Act 490 were grossly influenced by the principles established in the Rio Declaration. Under Section 2(m) for example, the Environmental Protection Agency ("The Agency") was mandated to create public awareness of the environment and its importance to the economic and social life of the country — clearly in agreement with Principle 10 of the Rio Declaration, which encourages public awareness, public participation and access to information. The influence of Rio's Principle 17 can also be seen in section 12 of Act 490 which empowered the Agency to request environmental impact assessments for projects that may have adverse environmental consequences (Environmental Assessment Regulations, 1999).

The Environmental Protection Act, 2025 (Act 1124) has now replaced Act 490. Building on the foundation provided under Act 490, the new framework maintains and reinforces the old principles. Specifically, section 161 mandates that activities for enforcement and compliance, must adhere to the polluters pays principle, common but differentiated responsibility, intergenerational equity, precautionary principle and sustainable development.

C. Agenda 21

Agenda 21 is a comprehensive action plan adopted at the Earth Summit in 1992. This Action Plan 'reflects a global consensus and political commitment at the highest level on development and environmental cooperation'. This robust framework outlines practical strategies for achieving environmental and economic development.

The framework is organized in four parts. The first divide addresses the Social and Economic Dimensions. This part places emphasis on integrating the environment and development in decision-making, combating poverty, promoting human health conditions, and promoting sustainable human settlement development. The second section addresses issues on atmospheric protection, land and water resource management, and the protection of biological resources. The third part of the framework acknowledges the importance of bringing all groups on board to achieve the objectives stated in the Action Plan. It espouses in detail, the roles of women, children, non-governmental organizations (NGOs), local authorities, and the scientific community in promoting environmental justice. In its concluding section, Agenda 21 lays out effective mechanisms for implementing its stated objectives.

In an attempt to translate global commitment into concrete local action, Chapter 28 of Agenda 21 mandates: "By 1996, most local authorities in each country should have undertaken a consultative process with their populations and achieved a consensus

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on 'a local Agenda 21' for the community". This mandate influenced the formulation of a number of Ghana's environmental policies and strategies, including the 1993 National Environmental Action Plan (NEAP) and the National Environmental Policy (2012) (Ministry of Environment, Science and Technology, 1993).

Excellent as it is, the implementation of Agenda 21 has not been without challenges. Financial and technical constraints have been a major challenge, especially for developing countries. According to the United Nations Development Programme (UNDP), the non-binding nature of Agenda 21 has resulted in "uneven progress" in achieving its goals, especially in developing countries where resources and political will are limited (Stakeholder Forum for a Sustainable Future, 2012). This was also emphasized by the Report of the Inter-agency Task Force on Financing for Development, which noted persistent funding gap as a challenge for sustainable development initiatives.

D. *Convention on Biological Diversity (CBD)*

The objective of this Convention is to conserve biological diversity; ensure the sustainable use of its components; and the fair and equitable sharing of benefits arising from genetic resources (Convention on Biological Diversity, 1992). It occupies an important place in international environmental law as it was the first time the conservation of biological resources was recognized as a common concern for humankind. Unlike Agenda 21, which is a voluntary framework, the CBD is legally binding on all states that become parties to it.

The Convention of Biological Diversity (CBD) mandates states to develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity. It requires state parties to integrate the consideration of conservation and sustainable use of biological resources into national decision-making. In recognition of the utility of customary practices, the CBD encourages the customary use of biological resources in accordance with traditional cultural practices, provided they are consistent with the conservation and sustainable use requirements.

Ghana ratified the Convention on Biological Diversity on 27th November 1994 (Secretariat of the Convention on Biological Diversity, 1992). In keeping her commitments, Ghana developed a National Biodiversity Strategy in 2000, which was revised in 2016 as the National Biodiversity Strategy and Action Plan (NBSAP). The overarching goal of the Action Plan is to ensure that biodiversity is valued, conserved, restored, and wisely used to maintain ecosystem services, sustain life support services and promote continuous and equitable flow of benefits to all Ghanaians.

In addition to that, the country has enacted various laws and policies to protect biodiversity and the sustainable utilization of our resources. This includes the Forestry Commission Act, 1999 (Act 571), which established the Forestry Commission as a body tasked with managing the nation's forest reserves and protected areas. Relatedly, our fisheries' waters and resources were entrusted into the care of the Fisheries Commission upon the coming into force of the Fisheries Act, 2002 (Act 625). Botchway (2024), commenting on this law, observed that all sixteen functions of the Commission are "direct reflections of the key targets and objectives of the CBD, particularly those regarding marine biodiversity and their conservation, management and use". Ghana's Biosafety Act, of 2011 also makes provisions for the proper regulation of genetically modified organisms (GMOs) to ensure they do not adversely affect biodiversity.

Ghana has taken giant steps in incorporating many of the international norms on biological diversity in her national framework. As one commentator concedes: "...These legislations as a matter of fact cover every perceivable issue of biodiversity conservation and environmental protection in the country" (Botchway, 2024).

E. *UN Framework Convention on Climate Change (UNFCCC)*

The UNFCC envisions a global collaborative effort where countries of the world work together to address climate change, in a fair, equitable, and sustainable manner. Its ultimate objective is to stabilize 'greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system' (United Nations Framework Convention on Climate Change [UNFCCC], 1992). Meanwhile, the UNFCCC does not prescribe a timeframe for this objective but advocates that the 'level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner' (UNFCCC, 1992).

While Africa stands as the least contributor of greenhouse gas emissions, the impact of climate change on her people is much greater (United Nations, 2023). The 2023 State of Climate Change in Africa Report notes that 2023 is one of the warmest years in Africa in the last 124 years (World Meteorological Organization, 2023). Ghana, like many countries in Africa, has not been exempted from the adverse impacts of climate change. Erratic rainfall patterns, changes in temperature, rising sea levels, and coastal erosion are but a few of these challenges. The impact these risks pose on Ghana's hopes for sustainable development are not oblivious to her policy makers.

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In keeping with her commitments under the UNFCCC, Ghana has developed several policies and strategic plans. Notable mentions include, the National Climate Change Master Plan Action Programmes for Implementation (2015–2020), the Nationally Determined Contributions (NDC, 2015), the National Climate Change Policy (NCCP, 2013) and the National Climate Change Adaptation Strategy (NCCAS, 2012) (Arhin, 2022). One of the key achievements of these frameworks has been the strengthening of institutional responses to climate change impacts in Ghana.

Importantly, the current Environmental Protection Act, 2025 (Act 1124) also marks a further step in consolidating progress made in achieving a green Ghana and mitigating the impact of climate change in the country.

F. *The Aarhus Convention*

The Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice in Environmental Matters (Aarhus Convention) was adopted in Aarhus, Denmark, in 1998 under the auspices of the United Nations Economic Commission for Europe (UNECE).

It is established on three strong pillars that help to promote democratic environmental governance, which are: access to information, public participation, and access to justice. This treaty generally seeks to champion the rights of citizens to participate in decision-making regarding matters of the environment. Initially intended as a regional instrument, the influence of Aarhus' principles on global environmental jurisprudence is significant, and Ghana is no exception. Secretary General Kofi Annan, highlighting its impact, praised as follows: "It is by far the most impressive elaboration of principle 10 of the Rio Declaration, which stresses the need for citizens' participation in environmental issues and for access to information on the environment held by public authorities" (Newsroom E, 2001).

The increasing recognition of the Aarhus Convention is seen in its expanding influence beyond Europe. As worthy of note, Guinea Bissau recently acceded to the treaty, becoming the first African country to ratify an "international agreement on environmental democracy that holds governments accountable for environmental and human rights" (RFI, 2023). This momentous step is a good precedent for other African nations, including Ghana, to consider adopting similar frameworks to strengthen their environmental governance systems. It is noteworthy that existing frameworks in Ghana under the Environmental Protection Act (2025), the Right to Information Act (2019) (Act 989), the 1992 Constitution (Articles 21(1)(f)), etc, provide opportunities for citizens' participation in environmental issues and for access to information on the environment.

IV. PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW

This part addresses some principles of international environmental law and how they contribute to strengthening environmental governance systems in Ghana.

A. *Principle of Sovereignty*

All States, whether developed or developing, are considered sovereign. As Vattel illustrates, just as, '*a dwarf is as much a man as a giant; a small republic is no less a sovereign state than the most powerful kingdom*' (Crawford, 2019). As a sovereign state, a state reserves the right to control its own resources for the benefit of its people. However, in its use, a state must ensure its use of these resources does not in any way harm the environment of other states. This principle has been recognized in the *Trail Smelter case*, where the Tribunal held that no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence' (Trail Smelter Arbitration, 1941).

The sovereign right of a state to use its natural resources was affirmed in the case of *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*. In that case, the ICJ held that Uruguay, as a sovereign state, had the right to authorize the construction of pulp mills on its side of the River Uruguay. Like Uruguay in the *Pulp Mills case*, Ghana's developing status does not detract from its sovereignty. Its sovereignty is exercised by her people, from whom all powers of government springs forth. The natural resources of Ghana are vested in the President on behalf of and in trust for the Ghanaian people. In explaining the ambit of this trust, the Supreme Court of Ghana clarified in *Adjaye v. Attorney General* that the trust vested in the President amounts to 'trust in a higher sense', which does not lend itself to enforceability by its beneficiaries.

Rameau and Bamba (2024), contend with the decision, arguing that the court missed an opportunity to strengthen the fiduciary duty imposed on the government, an occasion that would have enhanced transparency and accountability in the management of natural resources in Ghana. It is hard to disagree with the conscience of their argument, as the Constitution clearly defines the constituents of Ghana's sovereignty. The sovereignty of the people reposed to the President, as a fiduciary, should not be regarded as a right but a duty. One that requires prioritizing the needs of present and future generations to the personal and political ambitions of state actors.

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B. No Harm Rule

In its 1996 Advisory Opinion on the *Legality of the Threat or Use of Nuclear Weapons*, the ICJ declared that States' "general obligation ... to ensure that activities within their jurisdiction or control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment." This is the "no harm rule" (Brunnee, 2021). Since 1996, the rule has been applied by the ICJ in decisions such as the Pulp Mills case, the Gabčíkovo-Nagymaros case, and the Costa Rica v Nicaragua cases. (Brunnee, 2021)

The Court in Pulp Mills made an observation on the threshold for satisfying this obligation. It remarked that states are 'obliged to use all the means at their disposal in order to avoid' transboundary harm from activities occurring in their territories or under their jurisdiction' (Pulp Mills, 2010). This certainly requires states to undertake due diligence measures to avert any risk of transboundary environmental harm. In this line of duty, the 2001 Draft Articles on Prevention of Transboundary Harm from Hazardous Activities serve as a good guide. The Draft Article requires states to assess the risks of transboundary harm before undertaking or authorizing hazardous activities (International Law Commission, 2001). Where any such risks are identified, they must notify potentially affected States and provide relevant information.

The Harm prevention principle which underpins these obligations is central to Ghana's international policy on environmental matters. Ghana's commitment to this principle is exemplified by her ratification of the Volta River Basin Agreement, which she signed with other riparian states including Burkina Faso, Togo and Benin. The aim of the agreement is to ensure that riparian states have fair and reasonable access to shared water resources, alongside promoting their sustainable management. By committing to this framework, Ghana demonstrates her dedication to prevent activities that cause transboundary harm to other states, consistent with the harm principle.

C. Good Neighbourliness and International Cooperation

This principle espouses that states must cooperate in addressing environmental issues that exist between them. It is closely linked to the 'duty to cooperate in investigating, identifying, and avoiding environmental harm' (Valverde Soto, 1996). The 1972 Stockholm Declaration in Principle 24 notes that 'international cooperation is essential to address environmental issues of common concern' (Stockholm Declaration, 1972). Similarly, the Rio Declaration affirms in Principle 7 that 'states have a duty to cooperate in a spirit of global partnership to conserve, protect, and restore the health and integrity of the Earth's ecosystem.' In the same way, the United Nations Framework on Climate Change, Convention on Biological Diversity (CBD, 1992), United Nations Convention on the Law of the Sea (1982), and the Paris Agreement (2015) spare no ink in reiterating the need for cooperation in addressing environmental challenges.

The duty to cooperate acknowledges that environmental challenges are a common concern for mankind, therefore collaborative efforts are required to tackle environmental concerns. Within the Ghanaian context, this principle recognizes that environmental sustainability in Ghana cannot be achieved without support from her neighbours and friends. This principle is grounded in Article 36(9) of the 1992 Constitution which encourages the State to co-operate with other states and bodies for purposes of protecting the wider international environment for mankind.' The principle is also provided in the Ghana's Climate Change Policy (2012) and Water Policy (2024) as a guiding light for the promotion of sustainable development.

As a party to the UNFCCC and the Paris Agreement, Ghana's good neighbourliness is demonstrated in her participation in international climate initiatives and her commitment to the National Determined Contributions (NDCs). This cooperative spirit is further evidenced by the formulation of the National Biodiversity Strategy and Action Plan (NBSAP), which was done in compliance with her obligations under the Convention on Biological Diversity (CBD).

1. *Procedural Obligations:* A corollary of this principle of cooperation is the procedural obligation to notify, consult, and negotiate. Where a state is planning an activity that could pose significant transboundary effects on neighbouring states, the duty to notify requires that such a state informs these potentially affected states about the proposed activity. This notification should provide sufficient information about the project and the potential impacts on the environment. Notification allows states to assess the weight of potential risks and make necessary arrangements to mitigate same. However, it must be noted that notification alone does not complete cooperation. An additional duty to consult requires the notifying state to engage in dialogue with potentially affected states to reach mutually beneficial outcomes. The dialogue may result in negotiations to reach an agreement on how to manage these environmental hazards.

This duty equally behoves Ghana in her relations to other states. Consider the Volta River Basin Authority agreement for example. In keeping with her obligations, Ghana is required to notify other States of any planned projects on the River; consult on the potential impact; and actively negotiate in order to promote equitable and sustainable water use'.

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D. Common but differentiated responsibility

This principle recognizes that all hands are not equal. Therefore, although all states have a common responsibility to protect the environment and conserve its resources, the obligations expected differ given 'each state's contribution to the creation of a particular environmental problem and its ability to prevent, reduce and control the threat' (Sands et al., 2012). The Rio Declaration is notoriously known for setting out the principle clearly in the following terms:

"States shall co-operate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, states have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command"

This principle has been recognised in several treaties since Rio. For example, the Montreal Protocol gives developing countries a grace period of ten years to comply with their commitments (Montreal Protocol, 1987; Bodansky, 2010). In making participation effortless, the Kyoto Protocol also exempts developing countries from the emission limitation targets imposed on developed countries (Bodansky, 2010). Again, Article 21 of the Convention on Biological Diversity also makes financial provision for developing countries to facilitate their commitments under the Convention.

Under Ghana's framework, this principle has been incorporated in section 161 of the Environmental Protection Act, 2025 (Act 1124). By this provision, public officers are mandated to apply the principle as a guide to ensure compliance under the Act. Finally, this principle is also employed as a guide in Ghana's Climate Change Policy, where developing countries are called on to lead the way in reducing greenhouse gas emissions and assist developing countries with the financial and technical support they may need (Ministry of Environment, Science and Technology 2012).

E. Polluter pays

According to this principle, liability for environmental harm should be borne by the person who causes the harm. It recommends a cost internalization mechanism as a means to reduce pollution. Sadeleer explains that 'internalization is complete when the polluter takes responsibility for all the costs arising from pollution; it is incomplete when part of the cost is shifted to the community as a whole' (Sadeleer, 2020). It has also been argued that the polluter pays principle serves restorative, redistributive, preventative, and punitive functions. (Asian Development Bank, 2016)

The principle was first expressly provided for in the 1972 OECD Council Recommendation on Guiding Principles Concerning the International Economic Aspects of Environmental Policies (Asian Development Bank, 2016), and in subsequent treaties such as the Rio Declaration on Environment and Development. The principle has since been recognized and applied by national and international courts. In *Vellore Citizens Welfare Forum v. Union of India* (1996) 5 SCC 647, the Supreme Court held that the industries responsible for the untreated discharges in rivers in Tamil should bear the cost of preventing and remedying the damage they caused. Liability for harm entails both compensation to the victims of the pollution and the cost of restoring the environment' (Asian Development Bank, 2016).

The Polluter Pays principle, functions as a central tenet in Ghana's environmental jurisprudence, appearing in almost all environmental policies in Ghana, including the National Environmental Policy (2012), Environmental Sanitation Policy (1999), and the Climate Change Policy (2013). The Environmental Sanitation Policy highlights that 'sanctions against polluters shall follow the "polluter pays" principle. Such payments should correspond to the costs of restoring any damage done to the environment.'

F. Sustainable development

Development is sustainable if it meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987; Sands et al., 2012). While the Report of the Brundtland Commission (1987) popularized the term, the seeds of sustainable development were sown earlier (Peel, 2021; International Union for Conservation of Nature et al., 1980). At Rio, states committed to "the further development of international law in the field of sustainable development."

Sustainable development is usually viewed as comprising four elements. The first is the principle of intergenerational equity, which emphasizes the need to preserve natural resources for the use of future generations. Second, sustainable development requires that natural resources be exploited in a sustainable manner. This is referred to as the principle of sustainable use. The third principle, closely related to the second, underscores the need to utilize resources equitably. Finally, the fourth principle highlights that environmental concerns must be integrated into development processes. Ghana has taken steps to incorporate these principles into its legal and regulatory framework. The 1992 Constitution expresses an unwavering commitment to the dictates of intergenerational equity. As noted above, Article 36(9) directs the State to take appropriate measures needed to

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protect and safeguard the national environment for posterity.’ This constitutional duty has been held to be presumptively enforceable, according to the decision in *National Lotto Operators v. Ghana Lottery Authority [2007-2008] SCGLR 1106*.

Undoubtedly, the essence of this principle is well captured in the timeless statement of Nana Sir Ofori Atta I where he observed, “I conceive that land belongs to a vast family of whom many are dead, a few are living and countless hosts are still unborn.” For our purposes, land and vast family refer to the entire Ghanaian ecosystem and the people of Ghana, respectively.

Sustainable use focuses on the ‘standards governing the rate of use or exploitation of specific natural resources rather than on their preservation for future generations’ (Sands et al., 2012). This principle was long recognized in the **Africa Convention for the Conservation of Nature and Natural Resources**, which stated that the use of natural resources ‘must aim at satisfying the needs of man according to the carrying capacity of the environment.’ **Ghana’s National Environmental Policy (2012)** embraces the concept of sustainable use, and its application to the management of her forest reserves is a clear example. The policy requires that forest harvests in a given period correspond with forest growth (Ministry of Environment, Science and Technology 2012).

Finally, recognizing the link between environment and development, the National Environmental Policy (2012) points out that environmental concerns be integrated at all levels of human endeavour, including policy, planning, programme and project levels.’ This approach is fundamental for achieving sustainable development and ensuring that economic growth is balanced with environmental protection.

G. Effective public participation

The principle of public participation illustrates the view that environmental decision making should not be monopolized. The basis of this principle is that environmental decisions should not be the reserve of scientists and economists. All stakeholders, including the general public, non-governmental organizations, and civil society groups, must be actively involved in environmental decision-making processes. This inclusive approach ensures that diverse perspectives are considered in order to reach environmentally sustainable outcomes.

Advocacy for public participation in environmental matters can be traced to Rio. Principle 10 calls on states to encourage public participation and provide effective access to judicial and administrative proceedings. Agenda 21 takes this principle a notch higher by recommending public participation in the formulation of Local Agenda 21 initiatives. Furthermore, the Aarhus Convention elaborates on public participation processes, describing the importance of public engagement in effective environmental governance. The Convention mandates that the public should be allowed to participate in decisions on specific activities that may have significant environmental impacts. As a related point, the public should be granted access to environmental information within the reach of public authorities.

In Ghana, public participation is not just a privilege but a constitutional responsibility. Under Article 41(k) of the 1992 Constitution, the people of Ghana are obliged to protect and safeguard the environment. At the same time, the Constitution guarantees the right to information to everyone. This right has been given statutory backing through the formulation of the Right to Information Act, 2019 (Act 989), which provides a framework and processes required for the enforcement of this right. In *Adjei Ampofo*, the action of the plaintiff, which resulted in the phasing out of the use of pan latrines in the Accra Metropolitan Assembly, also exemplifies the principle of public participation.

H. Precautionary principle

This principle holds that lack of full scientific certainty about environmental harm should not be used as a basis to postpone measures to prevent environmental harm. Principle 15 of the Rio Declaration provides that ‘where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation’

The precautionary principle is an evolving norm that encourages early intervention to address environmental challenges. It rejects the traditional approach, which required conclusive evidence of scientific certainty of harm or threat of harm before action could be taken (Peel, 2021). The usefulness of this approach is that it encourages early intervention, rather than waiting for environmental problems to escalate.

Under Ghana’s Environmental Protection Act, 2025, the principle is explicitly incorporated as a guide to public officers and other enforcement agencies in the implementation of the Act.

V. IMPLEMENTATION AND CHALLENGES

Developing a framework is one thing, but its implementation and enforcement is another. The norms and principles described in this paper would be ineffective in resolving environmental challenges unless it is anchored on strong enforcement structures. Bodansky explores the effectiveness of international agreements in three ways: legal, behavioural and problem-solving effectiveness (Bodansky, 2010). A treaty is legally effective if its outcomes conform to what the legal rule requires’. And where it

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influences the behaviour of its actors, it is behaviourally effective. Finally, where the treaty remedies the environmental problem for which it was formed, it is problem solving effective.

The effectiveness of international agreement is in some part dependent on the efforts by its actors in implementing its goals. As illustrated above, Ghana has largely incorporated most of its international law obligations embodied under these agreements, albeit, not exclusively by Acts of parliament. This incorporation has been achieved through the development of numerous policies that address the goals of these Conventions.

It is worth repeating that domestication may occur in situations where the provisions of Ghana's Constitution or other laws of Ghana coincide with principles of International Law. In this view, to the extent that Ghanaian environmental policies reflect the principles enshrined in these conventions, they are considered incorporated.

However, compliance measures only make Ghana legally effective. They may have influenced behaviour in some way, but it is difficult to vouch whether they have been effective in remedying environmental problems. The reasons are evident. Approximately, 35 percent of lands in Ghana are under threat of desertification, and 31 percent were classified as being degraded in 2016 (Institute of Statistical, Social and Economic Research, 2023). Even more striking, it is estimated that 60 percent of water bodies in Ghana are polluted (Institute of Statistical, Social and Economic Research, 2023). To resolve these challenges, a one-size-fits-all approach would not do. An incisive grasp of principle and implementation of same would be required.

The Environmental Protection Act, 2025 (Act 1124) reflects this understanding and is evidenced by the inclusion of these principles as guiding pillars of the Act. It is submitted, as a contribution, that similar integration should be done to address other environmental legal frameworks in Ghana. Finally, Ghana should ratify and implement the Aarhus Convention to enhance public participation and access to justice in environmental matters.

VI. CONCLUSION

Ghana has ratified the Rio Declaration (1992), the Convention on Biological Diversity (1992), and United Nations Convention on Climate Change (1992), in addition to other key international environmental agreements. This demonstrates Ghana's commitment to resolving global environmental challenges and her recognition of the contribution international cooperation makes in this pursuit. True to her words, Ghana has made significant progress in integrating her international obligations into her national framework. It has introduced laws, policies and programmes aimed at domesticating these obligations. Notable mentions include the National Environmental Protection Policy (2012), the National Climate Change Policy (2012), National Water Policy (2024), and the Environmental Protection Act, 2025 (Act 1124).

The introduction of these policies was influenced by her commitment to these international obligations. Despite positive strides made, Ghana still faces implementation and enforcement challenges. This paper has argued that a deeper understanding and application and enforcement of the conceptual pillars underpinning these international frameworks — including principles like common but differentiated responsibilities, sustainable development, public participation, the precautionary principle, and the polluter pays principle — are important and necessary to transform these obligations into concrete outputs.

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