

Globalization and Nigerianization of Marine Pollution and The Attendant Effort To Combat It Through Law

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ABSTRACT: *The marine environment constitutes 71.4 of the earth surface. Its economic importance for navigation, exploration and exploitation of its living resources are enormous and cannot be under estimated. However, in spite of its importance to mankind, it is experiencing serious threat from pollution, which damages the resources therein\ As a result of the above, several legal instruments put in place by the international communities and Nigerian legislators toward combating the menace were examined. The problem still persists. The paper conclude that the problem was not with the adequacy of the legal instruments put in place but that of its implementation and enforcement*

I. INTRODUCTION

In the beginning, God created the heaven and the earth...² God created man in his own image, in the image of God created he him; male and female created he them.³ And God blessed them and God said unto them, Be fruitful, and multiply, and replenish the earth⁴ and subdue it.⁵ With the above pronouncement emanating from God, the stage was therefore set for a healthy and invigorating environment to sustain life of man here on earth. The state of the environment was not meant to be unimpacted upon if the divine injunction to the same man to be fruitful, multiply and replenish the Earth and subdue it was to be any meaningful. Similarly the template was laid for man's interference, either positively or negatively with the environment in his day to day activities.⁶ From the rudimentary tillage of the earth crust to the very complicated and sophisticated technological operations, man set in motion a process of gradual alteration, interference and distortion of the ordered and serene environment.⁷ It was from this period that "development" started. The oceans and seas cover about 71.4 percent of the earth surface.⁸ They comprise nine-tenths (9/10) of our water resources and are home to over 97 percent of life in our planet. They are an essential part of our biosphere; they power our climate and affect our health and well being, indeed without the ocean, there would be no life on our planet.⁹ This ocean is what Hugo Grotius in 1608 described in eloquent terms as:

That expanse of water which antiquity describes as the immense, the infinite, bounded only by the heavens, parent of all things; the ocean which

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² Genesis I v 1 (1986). *Holy Bible*, Authorized King James Version, World Bible Publishers, Inc, USA p.7

³ Ibid; Gen 1 v 27

⁴ Replenish the earth and subdue it leads to no other irresistible conclusion except development.

⁵ Gen 1 v. 28

⁶ See Olanipekun Wole (SAN) (2007) "Adequacy of Environmental Laws and the Challenges of Social and Economic Pressures" in Olatunbosun I.A. (ed) *Legal Issues for Contemporary Justice in Nigeria: Essays in Honour of Hon. Justice M.O. Onalaja*. Cedar Productions, Ile-Ife. P104 at 105.

⁷ *ibid*

⁸ It is important to note that the issue of the exact size of the ocean and seas is far from being settled. For instance, some insist that the oceans and seas constitute 71% of the earth surface. See Elias T.O. (1992) *New Horizons in International Law*, 2nd Revised edition; Martinus Nijhoff Publishers, London, p.65; Mero J.L.et al (1977) "Oceans and Seas" *Encyclopedia Britannica (knowledge in depth)* 15th ed. P. 482. See also Friedheim L. R. (1977) "Toward a Treaty for the Oceans" in Don Walsh (ed.) *The Law of the Sea: Issues in Ocean Resource Management*. 1st ed. Praeger Publishers, New York page 1; Anand. R.P. (2007) "Law of the Sea in Historical Perspectives" *Conference Proceedings of Indian Society of International Law; Fifth International Conference on International Environmental Law*, Vol. II, p.1023.

⁹ (2004) "The Oceans, Our Heritage: Towards Sustainable Management of the Nigerian Marine Environment". <http://www.lead.org.ng/the%20oceans.%20our%heritage.htm>. Assessed 11/5/2012.

*the ancients believed was perpetually supplied with water not only by fountains, rivers and seas, but by the clouds, and by the very stars of heaven themselves; the ocean which although surrounding this earth, the home of human race, with the ebb and flow of its tides, can be neither seized nay inclosed; nay, which rather possesses the earth than is by it possessed.*¹⁰

Today, a realistic view of the ocean is almost diametrically opposed to that of Grotius. The ocean is very finite indeed. It constitutes a complex and delicate ecosystem facing injury from many sources.¹¹ In view of the foregoing, this paper examines the concept of the marine environment, pollution, causes, sources, incidence, and effect of pollution of the marine environment. It also examines and evaluates the legal instruments put in place to address the menace of pollution by International and Nigerian law to and assess the effectiveness or otherwise of these laws and offer the necessary way forward for the survival of this planet's inhabitants.

II. THE MARINE ENVIRONMENT

The hydrosphere is the liquid portion of the Earth and it is the word used to describe the total free water of the earth whether solid, liquid or gas and encompasses the oceans, the seas, the rivers, and lakes that gouge the continents, the polar ice packs and the subterranean aquifers.¹² The word "oceans" comprise of interconnected water bodies. However, it is common to recognize five oceans which are Atlantic,¹³ Pacific,¹⁴ Indian,¹⁵ Arctic,¹⁶ and the southern oceans.¹⁷

The topography of the world ocean is irregular forming certain continents and their political configurations while some are disadvantaged.¹⁸ The depths, shallow or deep, vary considerably, affecting navigation, plant, animal life and mineral extraction, large marginal seas and bays occur in the North Atlantic Ocean while the South Atlantic and the eastern rim of the Pacific Ocean tend to be regular. The Red Sea, the Persian Gulf, the Arabian Sea, and the Bay of Bengal mark the northern circle of the Indian Ocean, but the East African coast has a relatively smooth line, while the Western Pacific Coasts are greatly indented with contiguous seas and the ocean is pockmarked by Islands and archipelagos. Irregular coastlines, natural parts, and deep rivers cutting into the shorelines have all played important roles in the development of human communities and the transfer of cultures.¹⁹

Coastal wetlands, covering about six (6) per cent of the world's surface, divide the dry land from the sea. They play an important role not only in fish-spawning, but as a buffer for the land against seawater floods

¹⁰ Grotius, Hugo (1916); *The Freedom of the Seas* translated by Ralph Van Deman Magoffin. Oxford University Press for the Carnegie Endowment for International Peace p.37, cited by D'Amato A and Hargrove J.L (1975); "An Overview of the Problem" in (Hargrove J.L eds.) *Who Protects the Ocean? Environment and the Development of the Law of the Sea*; West Publishing Co. USA p.1.

¹¹ D'Amato A and Hargrove J.L (1975) "An Overview of the Problem"; *op. cit.* p.1.

¹² *ibid*

¹³ The Atlantic Ocean separates the continents of Africa and Europe to the east from the American to the west. The name is thought to be connected with the Atlas Mountain in north-west Africa and with the islands of Atlantis. Its natural boundaries include the Arctic Ocean and part of the southern Antarctic Ocean.

¹⁴ Pacific Ocean is the largest of all the oceans. It covers about one third of the earth's surface and represents nearly half the water of the earth. **It is larger than all the continents together.** Its total area is 180 million km². See Jeje L.K. and Adesina, F.A. (1996): *Man and Environment – An Introductory Note* PERDC Publisher, Ede, Nigeria p. 144

¹⁵ The Indian ocean unlike the Atlantic and the Pacific does not extend into the Northern hemisphere beyond the Tropic of cancer except through the Persian Gulf and the Red sea. In size, it is about 40 million square kilometer. It has no obvious physical boundary to the south.

¹⁶ The Arctic Ocean, also called the North Polar sea lies around the North Pole. It is 14 million square kilometer in area. Sea ice forms throughout the Arctic basin in most months of the year.

¹⁷ The southern of Antarctic Ocean surrounds the continent of Antarctica. It is separated from other oceans by the line of latitude 40°s. For most part of the year, pack icebergs cover most of the water, moving with the winds and currents. See Jeje and Adesina Supra at p.145

¹⁸ These are Landlocked and Geographically disadvantaged States. See Andreyev P. *et al* (1988) *The International Law of the Sea* Progress Publishers, Moscow; p.130. See also Ibler V. (1971) "The Interest of Shelf Locked States and the Proposed Development of the Law of the Sea" 11 *India J. Int. Law* p.389.

¹⁹ Mangone, G.J. (1981): *Law for the World Ocean* Stephen and Sons Publishers, London p.3.

and cyclones, and a buffer for the sea against sediment and pollution from the land.²⁰ Since 1900, the world may have lost half its wetlands to drainage for agriculture, clearance for forestry, urban and tourist development. Asia is thought to have lost as much as 60 per cent of its original wetlands area, Africa almost 30 per cent.²¹

The volume of the world ocean is eleven times the volume of land that lies above the sea level. In Mariana Trench, the bottom of the sea is almost 11,000 metres, a depth exceeding the height of Mount Everest²² but most of the world ocean has a depth of three to six thousand metres. About seven and half per cent of the surface of the ocean lies over waters no deeper than 200 metres. This is where most of the plant and animal life of the ocean is found, and the seabed is formed of sedimentary rocks and mud that are geomorphically a part of the continental land mass.²³ Nature has endowed the oceans with enormous riches. The chemical and mineral content of the oceans water mass, which encompasses approximately 71 per cent of the earth's surface and is some 300 times greater in volume than the living space on and over land is staggering.²⁴ The seabed and ocean floor is now a recognized source of oil and gas, sand and gravel, tin ores, and a variety of mineral wealth.²⁵ The output of the oceans in terms of food is indeed immense.²⁶ Above all, the contribution of the oceans to the oxygen content of the earth is crucially significant.²⁷

Concept of Pollution

The fact is that "pollution" is a word whose precise meaning in law, particularly international law is not easily discerned. It has been used in a wide variety of contexts from international conventions to permissible speeches about the state of the environment to describe different levels and kinds of man-induced changes in the natural world.²⁸ Within a particular context, pollution assumes a meaning, either explicitly stated or implicitly developed, which may bear little semblance to its usage elsewhere. Springer²⁹ however opined that while any definition may appear satisfactory for the purpose to which it is applied, the proliferation of usages has led some publicists to believe that the term has lost any legal value it might once have had and should be discarded. The assertion of Springer cannot be taken seriously because the concept "pollution" is an extremely important concept in the contemporary discussion of international environmental law and an integral part of many international agreements, including the Stockholm Declaration on the Human Environment of 1972³⁰.

²⁰ Harrison P. (1993) *The Third Revolution; Population, Environment and a Sustainable World*, Penguin Books, London, p.199.

²¹ Maltby (1986) "Wetlands extent and Global Loss in *Waterlogged Wealth*; Edward (ed.), Earth Scan, London pp. 10, 90, see also Meckinnon (1986), Asian Losses in *Review of Protected Areas System in the Afrotropical Realm*, IUCN (Gland) Document.

²² Myers N. (ed.) (1993) *GAIA: An Atlas of Planet Management* pp. 64-93

²³ See Magone, G.J. *supra* p.4.

²⁴ For example, it is estimated that a cubic mile of sea-water contains in solution up to 25 tons of gold and 45 tons of silver; 10-30 tons of copper, manganese, zinc and lead; 7 tons of uranium; 50 to 350 tons of arsenic; 4 million tons of potassium sulphate; 18 million tons of manganese chloride; 120 million tons of sodium chloride (salt) and a host of minerals. If one multiplies this with the 329 million cubic miles of sea water found in the world's oceans, the results would indeed stagger the imagination. For a full account see Spangler M.B (1970) *New Technology and marine Resource Development* New York, P.109. See also Khan R. (1971) "Marine Pollution and International Legal Controls" Vol.13 *Indian Journal of International Law*, P.389 footnote 1.

²⁵ According to US Geological Survey, the potential recoverable reserves on the US Continental Margin are an estimated 200 billion barrels of oil and 900 trillion cubic feet of gas. See Ketchum B.H (1972) *The Water's Edge-Critical Problem of the Coastal Zone* Cambridge, p.12.

²⁶ As estimated in 1969 the world output in fisheries is about 59 million tons per year. See Iselin C.O.D (1969). *The Encyclopaedia of Marine Resources* (New York) p.454. The US fishermen were reported to have harvested nearly 5 billion pounds of fish in 1971. See Ketchum *op. cit.* p.11.

²⁷ It was confirmed that the microscopic plankton in the ocean are responsible for regenerating three-fourths (3/4) of the total oxygen supply from carbon dioxide in the atmosphere. See D'Amato. A and Hargrove J.L 'An Overview of the Problem' *op. cit.* p.10.

²⁸ If there is any clear consensus on any aspect of what pollution is, it is the general belief that pollution in the legal sense of it is necessarily caused by man, either directly or indirectly. See Article 1(4) of 1982 UNCLOS III.

²⁹ Springer A.L. (1977) "Towards a meaningful Concept of Pollution in International Law" Vol. 26, ICLQ, p.531

³⁰ Stockholm Declaration on the Human Environment, Report of the United Nations Stockholm Conference on the Human Environment, Stockholm, June 5 – 16, 1972, A/Conf.48/14.

In fact, instead of defining the word “pollution”, Springer³¹ preferred to examine the approach from which the subject was discerned. He premised his argument on the ground that for a definition of pollution to be useful, it should have or develop a meaning which transcends and can be detached from particular usages. The approaches are:

- Pollution as any Alteration of Existing Environment.³²
- Pollution as a Right of Territorial Sovereign.³³
- Pollution as Damage.³⁴
- Pollution as interference with Other Uses of Environment.³⁵
- Pollution as Exceeding Assimilative Capacity of Environment.³⁶

In the final analysis, he never proffers a definition of pollution but instead; prefer the amalgamation of the approaches as used in some multilateral conventions.³⁷ Turton and Beckswith³⁸, says that the term pollution is not directly defined in any of the major environmental statutes. This position is not correct as it was shown³⁹ that some statutes in actual fact contain the definition of pollution. To Holdgate⁴⁰ pollution is defined as follows:

The introduction by man into the environment of substances or energy, liable to cause hazards to human health, harm to living resources and ecological systems, damage to structures or amenity, or interference with legitimate use of the environment.

This definition accords with that adopted by the Economic Community in the Directive on Integrated Pollution Prevention and Control which defines “pollution of the environment” as:

... the direct or indirect introduction as a result of human activity, of substances, vibrations, heat or noise into the air, water or land which may be harmful to human health or the quality of the environment, result in

³¹ *ibid*

³² In its purest form, this approach would allow little room for man in the natural world. By reference to it, a single drop of refined oil in the Pacific Ocean would become pollution under International Law as indeed would the most minimal change anywhere within man’s reach. For example, see Agreement concerning the Frontier Between Germany and Belgium, Aix-La-Chapelle, Nov. 7, 1929, LNTS, Vol. 121 No. 795, Art 6092) p.361.

³³ This approach allows no international purview over any type or degree of environmental change which arises within the geographical borders of a sovereign state regardless of the extra-territorial effects of the change. See Lester A.P. (1963) “River Pollution in International Law” 57 *AJIL* p.832; McChesney B. (1959) “*Lake Lanoux Case*” 53 *AJIL* 165-167.

³⁴ The approach sees pollution as occurring where there is damage to man and his property and damage to the environment. See *Trail Smelter Arbitral Tribunal* (1938) 3 UNRIAA p. 1918. See also Rubin A.P. (1971) “Pollution by Analogy: The Trail Smelter Arbitration” 50 *Oregon Law Review* P 272; *Georgia v. Tennessee Copper Co.* [1906] 206 US 238; Kirgis L.K. “Technological Challenge to the Shared Environment: United States Practice” [1972] 66 *AJIL* 309 – 310.

³⁵ This approach focuses on pollution as that which interferes with the various uses to which a particular environment is or can be put. This approach believe that the environment is important only to the degree that it is useful to man’s immediate interests and environmental alteration is something to be halted only if the benefits of so doing, increased efficiency or expansion of usage, outweigh the costs. See Economic Commission for Europe (1958) “A Study on water Pollution Control Problems in Europe” Feb 28; Whitemann, M M (1965) *Digest of International Law* Vol. 3 p. 1049.

³⁶ This approach asserts that human beings pollute the environment because their activities have broken out of the closed cyclical network in which all other living things are held. One of these activities has been the development of synthetic chemicals which were created and their use made widespread before their effects on the environment were known. See Jackson C.I. (1971) “Dimensions of International pollution” 50 *Oregon Law Review* 242

³⁷ See for example International Conference on Marine Pollution; International Convention for the Prevention of Pollution from Ships, London, November 2 1973 (1973) 12 ILM p.1320.

³⁸ Thurton J. and Beckswith S. (1997) *Environmental Law* 1st edn., Sweet and Maxwell, London, p.3.

³⁹ See for example Article 1(4) of the 1982 UNCLOS III.

⁴⁰ Holgate M.W (1979) *A Perspective of Environmental Pollution*, cited in Thurton J and Beckwith S *supra* at p 3.

damage to material, property, or impair or interfere with amenities and other legitimate uses of the environment.⁴¹

Marine Pollution

The ecological balance of the oceans can be upset in many ways. Some pollutants simply poison the animals and plants with who they come into contact. Other pollutants make such a demand on the oxygen dissolved in sea water – oxygen which is essential to the life of marine mammals – that the living competitors suffocate. Some pollutants encourage the growth of a single species which either consumes or poisons other species. Still, other pollutants accumulate in marine food chains and webs because they are not readily metabolized. Pollutants concentrated by food chains can reach levels which upset physiological functions.⁴² As Malcolm points out,⁴³ pure water contains two atoms of hydrogen and one of oxygen and can only be obtained under laboratory conditions. Natural water is said to be contaminated by minerals, nutrients, chemicals and bacteria but it is only where such contaminants pose a threat to human health or aquatic life that it can be described as polluted.⁴⁴ In short, the presence of a substance or contaminant is not indicative of pollution; it is the effect of the substance upon the environment which is relevant in the current context.⁴⁵ A widely accepted definition of marine pollution was proposed by the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP) in 1969. It was approved with some amendments by the Intergovernmental Oceanographic Commission of UNESCO (IOC) and later became the adopted definition approved by the 1982 United Nations Convention on the Law of the Sea,⁴⁶ Marine Pollution was defined as follows;

*'Pollution of the marine environment' means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality use of sea water and reduction of amenities.*⁴⁷

According to Hiller,⁴⁸ this definition has two main implications. First, the term is confined to the introduction of substances or energy by man into the environment, and thus, overuse of resources (however harmful it might be) will not constitute, in itself pollution. Secondly, the issue is raised of how harmful pollution needs to be before it will give rise to liability. Apart from the above, almost all the definition concerns itself with pollution that is man induced. In fact, some pollution occurs naturally; and independent from man induced activities. There are natural sources of water contamination, such as poison springs, oil seeps, and sedimentation from erosion.⁴⁹ In fact, research⁵⁰ have confirmed that many natural processes, including dust storms, floods, and volcanic processes, can introduce materials harmful to humans and other living things into the soil, water and air. For example, a tragic incident occurred on the night of August 21 1986,⁵¹ when there

⁴¹ E.C. Council Directive 96/91, September 24, 1996; Art. 2(2) 1976 O.J.L. 257/26.

⁴² See Schachter and Sewer, *op cit* pp 88

⁴³ Malcom (1994).

⁴⁴ Sunkin M. *et al* (1998) *Sourcebook on Environmental Law* 1st edn., Cavendish Publisher, London, p.159.

⁴⁵ *ibid*

⁴⁶ December 10, 1982; UN DOC.A/CONF.62/122.

⁴⁷ Article 1(4) of the 1982 Convention. See also Blocker, P.C., Maranowski, M.H. (1971) "Survey on Quality of Refinery Effluents in Western Europe" 25 *Petroleum Review*, p.30.

⁴⁸ Hiller T. (1999) *Principles of Public International Law*, 2nd edn., Cavendish Publishing Ltd., London, p.329.

⁴⁹ Cunningham, W.P. *et. al*, *op. cit.* p.379

⁵⁰ Botkin, D.B. and Keller, E.A. *op. cit.* p.288.

⁵¹ Incidentally, this occurred barely three days before the visit of the Israeli Prime Minister, Shimon Peres, to Cameroun, the first by an Israeli leader to black African Country in twenty years. The Israelis were the first to rush aid to the victim of Lake Nyos disaster. The Israeli Prime Minister had six doctors and ten paramedics in his entourage. See Edokpayi (1986) "Nature's own Neutron Bomb: Death Toll Rises to 1800 in Cameroun's Worst Natural Disaster" *Newswatch Magazine* (Nigeria) September 15 pp 31-34

was a massive natural release of carbon dioxide from Lake Nyos in Cameroon, Africa. The carbon dioxide was probably initially released from volcanic vents at the bottom of the lake and accumulated there with time as carbon dioxide saturated bottom water. Pressure of the overlying lake water normally keeps the dissolved gas at the bottom of the lake. The bottom water evidently became unstable and moved upward, and the gas was quickly released from the water to the atmosphere. The disturbance that caused the release was probably a subaqueous landslide or small earthquake that brought water from the bottom of the lake to the surface.⁵² It was reported that the gas was heavier than air and settled in nearby villages, killing many animals and more than 1700 people by asphyxiation.⁵³ Assuming that carbon dioxide is still being released at the bottom of the lake from volcanic vents, the surface release is likely to occur again in future, probably within about 20 years.⁵⁴ Effort will be concentrated on pollution of the marine environment caused by the action of man⁵⁵ either deliberately or out of careless action or inaction or as a result of acts beyond his own control.

III. CAUSES OF POLLUTION

Some major causes of pollution have been identified by researchers as poverty⁵⁶ urbanization⁵⁷ and population explosion⁵⁸ and a cursory look would reveal that they are interrelated. Pollution is the most ominous threat to our species, and it is inextricably linked to overpopulation. More people on the earth lead inevitably to a greater incidence of pollution, this is because, people cause pollution.⁵⁹ The industrial revolution maximized the power relationship of man-made systems over ecosystems, because between them were now interrelated the technological systems by means of which the destructive powers of the former to the cost of the latter was increased. Ecosystems were significantly restricted. Road and major technical projects were constructed, large cities multiplied and the population increased dramatically.⁶⁰ Developing countries considerable environmental problems are the result of rapid industrialization and urbanization. At the same time, one can observe increasing destruction of the environment as a result of poverty, which leads to the over-utilization and destruction of ecosystems⁶¹ which is due to the economic and social problems faced by them.

Much of the environmental impact of water pollution is due to growing populations: the direct effect of the search for protein and livelihoods, and the indirect side effects of agriculture and urbanization. The output of liquid wastes depends on population size, levels of consumption per person, and pollution per unit of consumption. All these factors are inseparably part of the equation but their relative contributions vary from one field to another.⁶² Other factor that usually is responsible for pollution is poverty. It was observed by a learned writer⁶³ that poverty is the biggest cause of pollution in that many people live in dire poverty, which has exacerbated environmental degradation, as poor people resort to unsustainable practices in order to eke out a

⁵² *ibid*

⁵³ Although the incident was “officially” ascribed to the natural eruption of toxic gases from Lake Nyos, there is a suggestion in certain quarters that the incident might be connected with nighttime covert military testing of some unconventional military weapons. It has however not been possible to confirm this suggestion. See Okorodudu-Fubara, M.T (1991) “Oil in the Persian Gulf..” *supra*

⁵⁴ See Evans W. (1996) “Lake Nyos Knowledge of the fount and the cause of Disaster” in *Science*, 379: 21.

⁵⁵ See Magone, G.J. (*op. cit.*) p.255.

⁵⁶ See Robert D. Bullard (2002) “Poverty Pollution and Environmental Racism: Strategies for Building Healty and Sustainable Communities.” Available at <http://www.ejrc.cau.edu/PovpolEj.html> Accessed on 12/7/2013

⁵⁷ Kuhn, M. (1998) “Development Cooperation in the light of Recent Trends in International Environmental Protection” Vol. 57, *Law and State*, Germany p.49.

⁵⁸ See Oberndorfer D. (1986) “The Problem of Development Today” Vol. 34 *Law and State*, Germany p.32.

⁵⁹ See Caroll, J.M. “Population and Pollution” in *Mixturism; the book* Available at <http://www.internetfreepress.com/mixture/popula.htm> accessed on 12th July, 2013.

⁶⁰ Declaris M. (2000) *The Law of Sustainable Development: General Principles* A Report produced for the European Commission available at <http://europa.eu.int> Assessed 5th January 2014

⁶¹ Kuhn M. (1998) *supra* p.49.

⁶² See Harrison P. (*supra*) at p.201.

⁶³ See Segger C.M. *et. al.* (2002) *Weaving the Rules for Our Common Future: Principles, Practices and Prospects for International Sustainable Development Law* Available at www.cisd.org assessed 12/06/2013

meager living. An example of this situation usually happen in the rural communities where the common method used by fish farmers in search for fish either for local consumption or commercial purpose is to pour Gammalin 20 into a flowing (shallow) river and wait on the seaward side to pick up the dead fishes that float by. Through this method the river is being polluted and the river might be the only source of water for drinking and other purposes among the villages through which the river flows through, any person that drink from the water might die of water poison if the percentage of the pollutant is in a high concentration. From the foregoing, it clearly shows that poverty has the ability to cut across a wide spectrum of issues – social, economic and environmental – and as a result requires an integrated approach.⁶⁴

IV. EFFECT OF POLLUTION

The effect of pollution on the organic composition of the marine ecosystem has short and long-term impact. In an age when man is turning from agri-to aqua-culture for food, it could mean a serious blow to man's expectations to greater harvests from the sea. The effect of marine pollution is always cataclystic for the plant and animal within the marine ecosystem. Marine pollution has already been found to affect the ocean's sources of food. Shellfish have been found to contain hepatitis, polio virus, and other pathogens.⁶⁵ There have been heavy kills of fish and other organisms. DOT was found in Antarctic fish and penguins. Radio-activity was detected in organisms far from the sites of radioactive waste disposal. The abuse has been so widespread that, reportedly one fifth of the American commercial Shellfish beds have been closed down. Likewise, parts of the Oslo fjord and some areas around Scandinavia have been closed for fisheries.⁶⁶

Rationale For The Protection of The Marine Environment.

Environmental protection entails protection of the whole basis of life on earth. In actual fact, it extends beyond the mere protection of the basis of life on earth and should be viewed as a policy designed to provide the conditions required for the continuation of life and survival of species.⁶⁷ According to Popoola,⁶⁸ environmental protection comprises the protection of the air, waters (including internal waters, groundurats, ocean sand and soil) against pollution. Also included are the protection of nature against destructive and unreasonable use, the protection of cultural monuments against destruction, the protection of people and animals against noise, the protection of plants and animals against radiation and the protection of natural resources, both living and non-living, against uncontrolled use and depletion.

International Legal Instruments Put in Place For the Protection of The Marine Environment

In almost every case, we let environmental problems reach the stage of crisis before doing anything about them. Blue and humpback whales were hunted close to extinction before whaling was banned. Forests had to start dying before acid rain was taken seriously. An ozone hole of 14 million square kilometers had to appear to galvanize international action on chlorofluorocarbons.⁶⁹ The lessons of our past are not encouraging. They seem to suggest that catastrophic damage must occur, or obviously impend, before we are shaken into taking decisive action.⁷⁰

⁶⁴ Oloka-Onyago (2000) "Human Rights and Sustainable Development in Contemporary Africa: A New Dawn or Retreating Horizons" 6. *Buff Human Rights L. Rev.* 39.

⁶⁵ See *Ocean Dumping – A National Policy*, A Report of the US President prepared by the Council on Environmental Quality, October 1970, p.12. See also West A. (2004). "Marine Pollution from Vessel Sewage in Queensland." 18 *MLAANZ, Journal*, p.126.

⁶⁶ Royal Commission on Environmental Pollution, Chairman: Sir Eric Ashby, *First Report*, February 1971, Cmnd, 4585, p.25.

⁶⁷ See Gundling L. *op. cit.*

⁶⁸ Popoola A. O. (1998) "International Law and the Protection of the Marine Environment: Problems and Challenges for Africa in the 21st Century" *op cit* p.413.

⁶⁹ *Ibid.*

⁷⁰ Almost every major environmental catastrophe –the *Torrey Canyon*, *Chernobyl*, *the Exxon Valdez*, *Koko toxic waste dump in Nigeria*- has been followed by attempts whether at hastily convened international conferences or within the framework of international organizations, to find remedies in the form of binding treaties. For example, the international convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (1969); the International Convention on Civil Liability for Oil Pollution damage and its Protocol (1976); the MARPOL Convention (1973) and regional treaties to protect the North Sea, Baltic, Mediterranean, Caribbean and Persian Gulf. What is common to all these sets of rules, however, is that they were adopted after an accident had happened and had confirmed the presence of a permanent danger which scientists had diagnosed long before. See Reidel E. (1998) "Change of Paradigm in International Environmental Law" Vol. 57 *Law and*

International Convention for the Prevention of Pollution of the Sea by Oil, 1954 (as amended in 1962 to 1969)⁷¹

Oil pollution of the seas was recognized as a problem in the first half of the 20th century and various countries introduced national regulations to control discharges of oil within their territorial waters. In 1954, the United Kingdom organized a conference on oil pollution that resulted in the adoption of the international Convention for the prevention of the sea by Oil (OILPOL), 1954.⁷² Following entry into force of the IMO Convention in 1958, the depository and Secretariat functions in relation to the convention were transferred from the United Kingdom Government to IMO.⁷³ The 1954 Convention was not particularly successful. Two reasons were however discerned by Birnie and Boyle⁷⁴ for its failure. First, the enforcement record of flag States was not strong; many had insufficient interest in pursuing enforcement vigorously in areas beyond their territorial jurisdiction and they were in any case confronted with practical problems of collecting evidence and bringing proceedings against ships which rarely entered their ports. Secondly, not all flag States were parties to the Convention, with its requirement only to “take account” of existing treaty provisions, compel States to apply the London Convention. Some flags of convenience were thus able to avoid the more regulations, which coastal States could do little to enforce.

The International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties Convention (intervention) 1969

The Convention was adopted soon after the 1967 *Torrey Canyon* incident.⁷⁵ The elimination or mitigation of oil pollution arising from an accident which has already occurred is the object of the 1969 Brussels Convention Relating to Intervention on the High Seas in cases of oil Pollution Casualties.⁷⁶ It specifically dealt with the legal questions which arose from the incident and the ability of a Coastal State to take action on the High Seas in order to protect the marine environment within its national jurisdiction,⁷⁷ where a casualty threatened that State with oil pollution, especially if the measures necessary were likely to affect the interests of a foreign ship owners, cargo owners and even flag States.⁷⁸ The treaty was adopted on 29th November, 1969 and entered into force on 6th May, 1975. As at April 31 2007, 80 countries were signatories to the Convention.⁷⁹ This Convention, though described as providing a complete legal framework to control oil pollution,⁸⁰ it however has some shortcomings. First the Convention is remedial in nature. Secondly, as with all treaties, they are enforceable only as between contracting parties and against their own nationals in many important respects.⁸¹

State p.22; Juda L. (1977) “IMCO and the Regulation of Ocean Pollution from Ships” Vol. 26, *ICLQ*, p.558; Khan R. (1973) “Marine Pollution and International Legal Control” 13 *Indian Journal of International Law*, pp.389 at 390; Tunkin G.I. (ed.) (1986) *International Law*, 1st ed., Praeger Publishers, Moscow, p.482.

⁷¹ Nigeria acceded to this treaty on 22nd April 1968.

⁷² London, 12 May 1954, in force 26 July 1958, 327 UNTS 3, as amended in 1962, 1969 and 1971, available at <http://www.admiraltylawguide.com/conven/oilpoll954.html>. Accessed 6/2/2014.

⁷³ Raj, M.S.S. (2007): “Protection of Marine Environment and Conventions on Pollution”. Available at http://shippinglawtimes.blogspot.com/2007/12/protection-of-marine-environment-and_03.ht Accessed on 4/9/2013.

⁷⁴ *Op. cit.*, p.266

⁷⁵ See Khan R. (1973) *supra* at p.401. See also the *Amoco Cadiz* incident of 1978; Plant G. (1995) “Safer Ships, Cleaner Seas: Lord Donaldson’s Inquiry, UK Governments Response and International Law” 44 *ICLQ*, pp.939 – 948. Available at <http://www.jstor.org/stable/760627>. Accessed 07/09/2013.

⁷⁶ (1970) 64 *AJIL*, 471; (1970) 9 *ILM* 25. See also Schachter O. and Sewer, D. (1971) “Marine Pollution: Problems and Remedies” Vol. 65, No. 1 *AJIL* p.84-111; obtained at <http://www.jstor.org/stable/2199296>; Accessed 7/9/2013.

⁷⁷ Amokaye G.O. (2004): *Environmental Law and Practice in Nigeria*; 1st edn., University of Lagos Press, Lagos, p.463.

⁷⁸ See Raj, M.S.S. (*supra*) at p.8.

⁷⁹ *ibid*

⁸⁰ See Petaccio V. (1972) “Water Pollution and the Future of the Law of the Sea” Vol. 21 *ICLQ*, p.19.

⁸¹ See Legault, L.H.J. *supra* at p.216.

Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter, 1972

International action to control the dumping of wastes began in the early 1970s. So far, the action has resulted in one Convention that is world-wide in scope and several regional agreements. The global convention is the Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter, 1972 (hereafter referred to as the London Convention).⁸² The existence and widespread ratification of the London Dumping Convention applicable to all maritime areas outside internal waters means that dumping is the subject of a global regime, not primarily a regional one; regional agreements are of significance only in imposing higher standards in enclosed or semi-enclosed seas.⁸³ The Convention which cover all seas,⁸⁴ did not initially prohibit dumping, rather the object was to control it. However, the dumping of particular substances, such as high level radioactive waste,⁸⁵ was prohibited only if hazardous on grounds of toxicity, persistence, bioaccumulation and the likelihood of significant environmental exposure.⁸⁶ This convention is generally regarded as one of the most successful regulatory treaties in the 1970s. Trends in the disposal of industrial waste by dumping at sea showed a decrease from 17 million tons in 1979 to 6 million in 1987.⁸⁷ The Convention was however criticized in that too much reliance was placed on enforcement by national administrations and the absence of adequate international supervision.⁸⁸

International Convention on the Prevention of Pollution from Ships 1973 as modified by the Protocol 1978 (MARPOL 73/78)

In 1973, after a number of preliminary studies and conferences, seventy-one States gathered in London to fashion a new Convention for the prevention of pollution from ship – the easily remembered as MARPOL 1973.⁸⁹ Following a series of tanker spills in 1976⁹⁰ and 1977⁹¹, a separate protocol was negotiated in 1978. The protocol provided that it and the 1973 Convention could be read as a single document known as MARPOL 73/78 (Short for **MARine POLLution**).⁹² MARPOL has been substantially more effective than the 1954 London Convention in ensuring that ships operating meet the appropriate technical requirements for pollution control and maritime safety.⁹³ The 1990 GESAMP report⁹⁴ noted a decline in oil spillages at sea up to 1986, due in part to a large reduction in the volume of transported oil, but concludes that the entry into force of MARPOL has also contributed to a major reduction in operational pollution from all types of vessel.⁹⁵ Notwithstanding the

⁸² London, 29 December, 1972; in force on 30 August 1975; (1972) ILM, Vol. 11 p.1294; 1046 UNTS 120; See further Churchill R.R. and Lowe, A.V. *supra* at p.237. As at April 31, 2007, 81 countries have so far ratified this Convention. See Raj M.S.S. *supra* at p.9.

⁸³ See Birnie, P.W. and Boyle A.E. *supra* at p.320.

⁸⁴ Art 3(1)(a)(b) and (c); See further Okorodudu-Fubara M.T. (1998) *Law of Environmental Protection, supra* at p.710. The Convention is equally applicable in Arctic waters. See Rothwell D.R. (1995) "International Law and the Protection of the Arctic Environment" Vol. 44 No. 2 *ICLQ*, pp. 280-312 at p.285. Available at <http://www.jstor.org/stable/760752>. Accessed on 4/9/2013.

⁸⁵ For a detailed discussion on radioactive waste, See Sands P. (2004) *Principles of International Law*, Cambridge. See further Linsley G. and Tomhouses W. (2000) "An Expanding International Legal Regime: Environmental Protection and Radioactive Waste Management" *IAEA Bulletin*, 42/3/2000; p.24 at p.25.

⁸⁶ See Birnie and Boyle, *supra* at 321. See also Boyle A.E. (2000) "Globalization and Regionalism in the Protection of the Marine Environment" in Vidas D. (ed.) *Protecting the Polar Marine Environment: Law and Policy for Pollution*, Cambridge University Press, p.23-26.

⁸⁷ Birnie and Boyle *supra* at p.330.

⁸⁸ *Ibid.* at p.331

⁸⁹ See Mangone, G.J. (*supra*) at p.268.

⁹⁰ This spill involved the *Urquiola*, in Spain spilling 100,000 tonnes of oil. See Raj, *supra* at p.4.

⁹¹ The spill involve the *Hawaiian Patriot*, about 300 nautical miles of Honolulu spilling 95,000 tonnes of oil. See Raj; *Ibid.*

⁹² (1978) 17, ILM 546. See further Hunter D. *et al* (2002) *International Environmental Law and Policy, supra* at p.708. See also West A. (2004) "Marine Pollution from Vessel Sewage in Queensland" Vol. 18 *MLAANZ Journal*, pp. 126, Jackson H. (2005) "Who is Liable for Marine Pollution? Personal Liability for Ship-sourced Oil Spills in Four Australian Jurisdictions" 19 *MZLAAN Journal*, pp. 75-95.

⁹³ See Birnie P. and Boyle A.E. *supra* at p.272.

⁹⁴ GESAMP (1990) *The State of the Marine Environment*, Nairobi, Kenya.

⁹⁵ This conclusion is shared by a report prepared for IMO by the US National Academy for Sciences in 1990. See IMO News, (1990) Vol. 4 p.16.

success recorded for MARPOL, the Convention is weak in its monitoring provisions, due to a Scandinavian compromise proposal which allows flag States to waive compliance with the regulations about monitoring.⁹⁶

International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990

In July 1989, a Conference leading to industrial nations in Paris called upon IMO to develop further measures to prevent pollution from ships. The Convention was adopted on 30 November 1990 and entered into force on 13 May 1995⁹⁷. The Convention seeks to adopt both the precautionary principle and the need for cooperation to prevent pollution.⁹⁸ Under the Convention, parties are enjoined to individually and jointly take all appropriate measures in accordance with the Convention's terms to prepare for and respond to an oil pollution incident.⁹⁹

International Convention on Civil Liability for Oil Pollution Damage 1969

The Convention was necessitated by the increasing dangers of pollution posed by the worldwide maritime carriage of oil and therefore the need to ensure that adequate compensation is available to persons who suffer damage caused by pollution resulting from the escape or discharge of oil from ships.¹⁰⁰ It can be seen at once that the rule is tortious in nature and is one of strict liability within its spheres of operation.¹⁰¹ The Convention however does not provide for adequate compensation for the innocent victims of oil pollution incidents and does not cover damage suffered to important interests beyond the territorial sea.¹⁰² In addition, the Convention is remedial and liability oriented in nature and it is enforceable only as between contracting parties alone.¹⁰³

Nigerian Legal Response to the Protection of the Marine Environment¹⁰⁴

The problem associated with the implementation of the Conventions dealing with the protection of the marine environment is that all Conventions that Nigeria has signed and ratified has not been domesticated in Nigeria with the exception of MARPOL 73/78 Convention.¹⁰⁵ The effect of this non domestication is that the provisions of the Conventions are unenforceable in Nigeria Courts. Notwithstanding the above, there are some municipal legislation within Nigeria that deal with the protection of the marine environment. Some of them are: Oil in Navigable Waters Act, Harmful Waste (Special Criminal Provisions) Act, National Environmental Standard and Regulations Enforcement and Petroleum (Drilling and Productions). These are examined below.

⁹⁶ O'Connell *supra*.

⁹⁷ (1991) 30 ILM 735; See also Raj M.W.S. *supra* at p.13

⁹⁸ See Amokaye G.O. (*supra*) at p.466

⁹⁹ Art 3.

¹⁰⁰ Okorodudu-Fubara, M.T. (1998) *Law of Environmental Protection, supra* at p.704.

¹⁰¹ Abecassis D.W. (1978) *op. cit.*, p.173.

¹⁰² See Legault, L.H.J. *supra*, page 216.

¹⁰³ *Ibid*.

¹⁰⁴ See Adedeji A.A. (2007): "Legal Response to the Control and Management of Oil Pollution in Nigeria" in Onibokun A. and Popoola (eds.) *Current Perspectives in Law, Justice and Development in Honour of the Honourable Justice Salihu Modibbo Alfa Belgore*, Dem-Ditt Publishers p. 915, Adedeji A.A. and Ako R.T. (2005): "Hindrances to Effective Legal Response to the Problem of Environmental Degradation in the Niger Delta" *Unizik Law Journal* Vol. 5 No. 1 pp. 415-439. Ako R.T. and Oyelade O.S. (2007): "Human Rights, the Environment and Conflict: The Case of Nigeria's Niger Delta Region" *Proceedings of Fifth International Conference on International Environmental Law*, New Delhi, India, p.900.

¹⁰⁵ In 2007, the International Convention on the Prevention of Pollution from Ships 1973 as modified by the protocol 1978 (MARPOL 73/78) was domesticated in Nigeria as the International Convention for the Prevention of Pollution from Ships 1973 and 1978 Protocol (Ratification and Enforcement) Act No 15, Laws of the Federation of Nigeria, 2007.

Oil in Navigable Waters Act¹⁰⁶

This Act was enacted in 1968 to make provisions for the prevention of pollution in the navigable waters of Nigeria to give effect to the International Convention for the Prevention of Pollution of the Sea by Oil. The Act represents the most significant and comprehensive legislative response of Nigeria to the environmental damage caused by pollutants escaping from ships.¹⁰⁷ It prohibits the discharge of all forms of oil and their mixtures into the prohibited Seas of Nigeria which include the seaward limits of Nigerian territorial waters within 50 kilometres and all navigable inland waters and seven seas.¹⁰⁸ The penalty imposed for this offence is too low to deter marine pollution.¹⁰⁹

Harmful Waste (Special Criminal Provisions) Act¹¹⁰

The objective of this Act is to prohibit the carrying, depositing, dumping, transporting, selling, etc of harmful wastes on land¹¹¹, or any territorial waters or Contiguous Zone or the Exclusive Economic zone of Nigeria or inland water ways.¹¹² The offence committed under the Act attracts both criminal¹¹³ and civil responsibility.¹¹⁴

National Environmental Standard and Regulations Enforcement.¹¹⁵

The National Environmental Standard and Regulations Enforcement Agency (Establishment) Act which repealed and replaced the Federal Environmental Protection Agency is designed to cover all aspects of environmental protection in Nigeria. The Agency's statutory responsibilities have been taken over by the newly created Ministry of Environment. Notwithstanding this development, the Act remains in force and its provisions remain the basic framework for the approach to environmental protection¹¹⁶.

Petroleum (Drilling and Productions) Regulations.

Regulation 25 of this enactment demand the use of up to date equipment approved by the Director of Petroleum Resources to prevent the pollution of waters, rivers courses, the territorial waters of Nigeria, or the High seas by oil, mud, or other fields or substances which might contaminate the water, banks or shoreline or which might cause harm or destruction to fresh water or marine life.

V. CONCLUSION

The total number of environmental agreements in existence may exceed 500.¹¹⁷ Because of the widening spread of non-local environmental concerns, and the accumulating evidence of systemic

¹⁰⁶ Cap O 6 Laws of the Federation Of Nigeria 2004. For further discussion on this enactment, see Ilegbune T.O (1998) "Environmental Regulation and Enforcement." In Simpson S and Fagbohun O (eds) *Environmental Law and Policy*, LASU Law Centre, Lagos p 205; Adedeji A.A. and Ako R.T (2007) "Legal Response to Control and Management of Water Pollution." in Olatunbosun I.A. (ed) *Legal issues for Contemporary Justice in Nigeria; Essays in Honour of Justice M.O.Onalaja*. Cedar Productions, Ile-Ife, p 130.

¹⁰⁷ See Amokaye G.O *Supra* at p 441.

¹⁰⁸ See S 3(2) and Schedules 1 and 2.

¹⁰⁹ Section 6 of the Act imposes the maximum fine of N2,000 for contravention of any part of the Act.

¹¹⁰ Cap H 1 Laws of the Federation of Nigeria, 2004.

¹¹¹ See section 15(2) of the Act for the meaning of harmful wastes.

¹¹² See section 1(2)(a) of the Act.

¹¹³ The offence is punishable with life imprisonment if an offender is found liable under the Act. See sections 6 and 7 of the Act.

¹¹⁴ See section 12 (1) (1) and (b) of the Act. For further reading, see Olanipekun Wole SAN (2007) "Adequacy of Environmental Laws and the Challenges of Social and Economic Pressures" in Olatunbosun I.A. (ed) *Legal issues for Contemporary Justice in Nigeria; Essays in Honour of Justice M.O.Onalaja*. Cedar Productions, Ile-Ife, p 130.

¹¹⁵ See National Environmental Standard and Regulations Enforcement Agency (Establishment) Act No 25 of 2007

¹¹⁶ See Adedeji A.A and Ako R.T (2007) *supra*.

¹¹⁷ See Johnston, D.M. (1990) "Marine Pollution Agreements: Successes and Problems" in Carroll J.E. (ed.) *International Environmental Diplomacy: The Management and Resolution of Transfrontier Environmental Problems*, Cambridge University Press, New York, p.199.

environmental change,¹¹⁸ most environmental arrangements today are multilateral. Since 1954, marine pollution has attracted a remarkable quantum of diplomatic energy, and the treaty-making output has been fairly prodigious. The most listing of marine pollution arrangements includes over 70 multilateral instruments of one kind or another, organized into 40 “clusters” of related treaty arrangements.¹¹⁹ These 40 “clusters” are divided into global marine pollution conventions of general application, regional marine pollution arrangements and so on.¹²⁰ The Third United Nations Convention on the Law of the Sea 1982 which came into force in 1994 devoted a whole Chapter (Part XII), and part of part XI (on the International Seabed) to the protection of the marine environment. The Convention identified six sources of pollution and addressed how these sources could be protected legally and further enjoined States at Regional level to adopt and or enact laws to protect the marine environment.¹²¹ A closer look at the treaties and their respective objects reveals that by no means all contain preventive rules, i.e. rules aiming at the prevention of pollution or the uncontrolled use of natural resources.¹²² Despite numerous international conventions aimed at improving safety of vessel operations and containing transport-related marine pollution and their coming into force, the record has deteriorated.

Ship casualties have been on the increase, and the incidence of vessel generated oil spills and other forms of marine pollution has not abated.¹²³ If this is so, what then is the effect of this plethora of laws on the protection of the marine environment? Is it that these laws (at customary international law and under treaty) and Conventions are inadequate or are the implementation and enforcement the problems?

Ipsa facto, it is apparent that the problem is not associated with the dearth of legislation on the subject, rather the problem lies with the implementation and enforcement of these legal instruments in domestic jurisdictions. In addition to this, most of the countries that participated in the making of the treaties are yet to domesticate same in their respective countries as we all know that in most of the domestic jurisdictions, international treaties do not automatically become part of the law of the land. In fact they have to be domesticated before they can be applicable in municipal courts.¹²⁴

¹¹⁸See Johnston, D.M. (1985): “Systemic Environmental Damage: The Challenge to International Law and Organization” 12 *Syracuse Journal of International Law and Commerce* p.255.

¹¹⁹ Johnston, D.M. (1990) *supra*, p.199.

¹²⁰ *Ibid*

¹²¹ The phrase “global and regional rules” is found in Arts 207(4), 208(5), 210(4) and 212(3). S.2 of Part XII bears the heading “Global and regional Cooperation” while the headnote of art 197 is “Cooperation on a Global or Regional Basis”. See Lotilla, R.P.M. (1992) *supra*; p.137 at 141.

¹²² Gunding L. (1996) *supra* at p.101.

¹²³ See Peters, H.J. (1995): “Strengthening Marine Pollution Control: The International Move Towards Statutory Requirements”. Available at <file:///o1/PUBLIC/twu-xweb/transpor/publicat/td-ps9.htm>. Accessed on 17/07/20013

¹²⁴ See for example, S 12 of the 1999 Nigerian Constitution which prescribes transformation of treaties for them to be applicable in Nigeria