GSJ: Volume 9, Issue 5, May 2021, Online: ISSN 2320-9186
www.globalscientificjournal.com

PROTECTION OF BIO-DIVERSITY UNDER ENVIRONMENTAL LAW: LEGAL TENACITY

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Abstract

Biodiversity refers to the variety of all forms of life on earth, including the different plants, animals, micro-organisms, the genes they contain and the ecosystem they form. It is considered at three main levels including species diversity, genetic diversity and ecosystem diversity. Relative to the variety of habitats, biotic communities and ecological processes in the biosphere, biodiversity is vital in a number of ways including promoting the aesthetic value of the natural environment, contribution to our material well-being through utilitarian values, maintaining the integrity of the environment through; maintaining CO2/O2 balance, regulation of biochemical cycles, absorption and breakdown of pollutants and waste materials through decomposition, determination and regulation of the natural world climate, protective services, e.g. by acting as wind breaks and acting as indicators of environmental changes. Despite the benefits from biodiversity, today's threats to species and ecosystems are the greatest recorded in recent history and virtually all of them are caused by human mismanagement of biological resources often stimulated by misguided economic policies, pollution and faulty institutions in-addition to climate change. To ensure intra and intergenerational equity, it is important to conserve biodiversity. Some of the existing measures of biodiversity conservation include; zoological gardens, botanical gardens/arboretums, seed banks and national parks and game Reserves.

Keywords include: Biodiversity, protection/conservation

INTRODUCTION

Biodiversity is the term used to describe the variety of all life on earth from the smallest and simplest micro-organism to the complex system that is a rainforest. It includes the habitats and ecosystems, which support this life and how life-forms interact with each other and the rest of the environment.[1]

Global biodiversity is under increasing threat from factors such as development, climate change, introduced invasive alien species and illegal trade. In 2004, it was estimated that worldwide, 15,589 species were threatened with extinction, including 12% of birds, 23% of mammals and 25% of coniferous trees.[2] The Convention on Biological Diversity (CBD) is an international treaty with 189 countries and the EU as Parties; it is focused on securing the conservation and sustainable use of global biodiversity. Ireland ratified the CBD in 1996 and as a Party we are obliged to develop and implement national strategies to meet the aims of the Convention.

Biodiversity is important because it provides a source of significant economic, environmental, health and cultural benefits. It provides us with a wide range amount of goods and services including food, raw materials, clothing and medicine that help us to sustain life on earth. To date plant-based medicines, such as aspirin and quinine have provided more than 3 billion people with their primary health care. Biodiversity also brings indirect economic benefits without the need to consume resources. Trees, for example perform vital ecosystem services by regulating water supply, purifying the atmosphere and recycling nutrients to provide fertile soil. This is in addition to providing habitats and food for wildlife and a source of timber for construction.[3]

The aim of this seminar work is to explain in a reasonable context the protection of bio-diversity under environmental law.

Conceptual Clarification

Biodiversity refers to the comprehensive umbrella term for the degree of natures variety or variation within the natural system; both in number and frequency.[4] In general, it refers to the variety of all forms of life on earth. The different plants, animals, micro-organisms, the genes they contain and the ecosystem they form.

The manifestation of biodiversity is the biological resources (genes, species, organisms, ecosystems) and ecological processes of which they are part. Biodiversity is therefore considered at 3 major levels:

• Genetic diversity.

[1] Spellerberg, I.F., and Hardes, S.R., 1992: *Biological conservation*. Cambridge University Press, 123 pp.
[2] ibid
[3] Ibid
[4] Tolba et al., 1992: *The world environment 1972 – 1992: two decades of challenge.* Chapman and Hall on behalf of the United Nations Environment Programme, 884 pp.

• Species diversity.

• Ecosystem diversity.

✓ **Genetic diversity**

This is the variety of genetic information contained in all of the individual plants, animals and microorganisms occurring within populations of species. Simply it is the variation of genes within species and populations.[5]

✓ **Species diversity**

This is the variety of species or the living organisms.

Species Richness - This refers to the total count/number of species in a defined area. Various indices are used including the Mangalet index and Menhink.

Species Abundance - This refers to the relative numbers among species. If all the species have the same equal abundance, this means that the variation is high hence *high diversity*, however if the one species is represented by 96 individuals, whilst the rest are represented by 1 species each, this is *low diversity*.

Taxonomic or phylogenetic diversity - This considers the genetic relationships between the different groups of species. The measures are based on analysis, resulting into a hierarchical classification representing the phylogenetic evolution of the taxa concerned.[6]

✓ **Ecosystem diversity**

This relates to the variety of habitats, biotic communities and ecological processes in the biosphere.[7]

Causes of the Loss of Biodiversity

The primary cause of loss of biodiversity is habitat destruction resulting from the expansion of human populations and activities. Among terrestrial ecosystems, the expansion of agriculture and commercial harvesting has led to the destruction of forests, while overgrazing and conversion to agricultural crop land has significantly altered natural habitat. In aquatic ecosystems, dams have destroyed large section of fresh water habitat, while coastal development is responsible for destroying reefs and near-shore marine habitat.[8] Other direct causes include:

Climate Change:

[5] Ibid
[6] ibid
[7] Tolba et al., 1992: *The world environment 1972 – 1992: two decades of challenge.* Chapman and Hall on behalf of the United Nations Environment Programme, 884 pp.
[8] Guruswany, L., & Hendricks, B. (2007). *International Environmental Law in a Nutshell* (3rd ed., p. 84). St Paul: West Group Publishers. P.88

According to the UNFCCC[9], climate change is "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which in addition to natural climate variability observed over a considerable time period.[10] A global changing climate threatens species and ecosystems. Many plant and animal species are unlikely to survive climate change; for some species there will no longer be anywhere to live, the Tiger Moth has declined by 44% in the last 30 years which scientists believe is linked to climate change.[11] The distribution of species (biogeography) is largely determined by climate, as is the distribution of ecosystems and plants vegetation zone (Biomas). Climate change may simple shift these distributions but, for a number of reasons, plants and animals may not be able to adjust. Many scientists fear that by the end of the 21st Century 25% of existing species will be lost, it has been observed that:

> "Climate change affects the warming and acidification of the global ocean; it influences the earth's surface temperature, the amount, timing and intensity of precipitation, including storms and droughts. On land, these changes affect fresh water availability and quality surface water run-off and ground water recharge and the spread of water borne diseases vectors and it is likely to play an increasing role in driving changes in biodiversity and species distribution and relative abundance.[12]

The Legal Regime for the Conservation of Biodiversity

The need to conserve nature and to further prevent it from its present roller course slide into the cold winter of oblivion is a categorical imperative. This need cannot be overemphasized if the survival of man and other species on earth is to be guaranteed; life on earth is supported by communities of plants, animals and microorganisms interacting with each other within the ecosystems with the physical environment.

Biodiversity functions in the purification of air and water, modernization of temperature extremes and the force of waves, support of diverse human cultures, detoxification and decomposition of waste, generation and renewal of soil and soil fertility, pollination of crops and natural vegetation, serve as food and medicine, partial stabilization of climate and providing aesthetic beauty and intellectual stimulation that lift the human spirit among others.[13]

[9] United Nations Framework Convention on Climate Change
[10] UNEP. (2002). *Handbook on Environmental Law* (p. 9). Heatfordshire, UK: UNEP Publication.
[11] (http//www.cause-of-loss-ofbiodiversity.html)
[12] UNEP. (2007). *Handbook on Environmental Law* (p. 9). Heatfordshire, UK: UNEP Publication.
[13] David Hunter *et al*. (2002). *International Environmental Law and Policy* (2nd ed., p. 912). New York: Foundation Press.

The most widespread acceptable definition of the concept of conservation of biodiversity is by the International Union for the Conservation of Nature and Natural Resources (IUCN) in its famous document called World Strategy for Conservation as:

> "The management of human use of the biosphere, so that it may yield the greatest sustainable benefits while maintaining its potential to meet the needs and aspirations of future generations.[14]

Conservation is the act of preventing something from being lost, wasted, damaged or destroyed.[15] It is the supervision, management, and maintenance of natural resources, the protection, improvement and use of natural resources in a way that ensures the highest social as well as economic benefits.[16]

The IUCN which is a collaboration organization of almost 200 government agencies and over 700 private conservation organizations published a Red list of species in danger of extinction around the world. The IUCN also advises governments on ways to manage their natural resources and works with groups like the World Wildlife Fund to sponsor conservation projects.

The Nigerian Conservation Foundation has also stated the quest for biodiversity conservation when it stated inter alia:

> "Nature conservation is the most important challenge to the present century. Nothing affects the quality of our lives quite like the welfare and state of nature and no future can be quite bleak as one in which the resources, such as plants and wildlife, which are very essential for human survival and development, are increasingly being destroyed or depleted by human carelessness. Put in another form, we all rely on nature for food, water, energy, clothing, shelter, minerals, drugs and more. And we rely on millions of animals and plants species to keep the system that provides those needs in running order. Yet despite this obvious fact, we are destroying the natural world, biting the hand that feeds us, so to speak."[17]

As a result of heavy hunting for bush meat and partly because of the widespread destruction of Nigeria's rain forest, a lot of her wildlife have abandoned Nigeria and fled to neighbouring Cameroon and the Republic of Benin for sanctuary.[18] The white-throated monkey, which is known to

[14] Encyclopedia Britannica, 1990, pp.663-667
[15] Oxford Advanced Learner's Dictionary (7th Ed.)
[16] Black, H.C. (2004). *Black's Law Dictionary* (8th ed.). U.S.A.: West Publishing Co..
[17] NEST (1991). Nigeria's Threatened Environment: A National Profile (p. 182), Lagos.
[18] Okorodudu-Fubara, M.T. (1998). *Law of Environmental Protection: Materials and Text* (pp. 252-254). Nigeria: Caltop Publication Ltd..

occur nowhere else in the world outside Nigeria and is therefore the only mammal unique to Nigeria, faces a precarious future.[19]

It is to protect this species that the Nigerian Conservation Foundation exists and has been raising money to promote better and widespread understanding of the concerns and relevance of conservation.[20]

International Regimes for the Protection of Biodiversity

As a result of massive extinction of biodiversity, legal protection is thus imperative both at the global and National levels to ensure continuous existence in this only life sustaining planet.

Convention on International Trade in Endangered Species of Wild Fauna and Flora

One of the productions of IUCN was the International Treaty commonly referred to as CITES that is Convention on International Trade in Endangered Species of Wild Fauna and Flora which is usually regarded by some as "perhaps the most successful of all international treaties concerned with the conservation of wild life." [21]

The Convention is designed to prohibit the international trafficking in wildlife species and products that are endangered. Species are listed in appendices I, II and III.[22] In the US, CITES is implemented through the Endangered Species Act which is regarded by many as the most stringent environment Statute in the World (Ibid).[23] Under the CITES a paper trail is established for all allowable trade in protected species, and any trade without proper documentation is considered illegal under this treaty.[24] This treaty still exhibits loopholes as species are still being traded as there is inability of parties to file reservations against the listing of species.

Convention on Biological Diversity (CBD) 1992

Another landmark treaty to tackle environmental issues and especially biodiversity was the United Nations Conference on Environment and Development (UNCED) wherein more than 100 world leaders and 30,000 other participants from about 150 countries met at Rio de Janeiro, Brazil in 1992. The World Summit produced a five-fold resultant effect including the Rio Declaration on Environment and Development (ILM., 1992) Agenda (UN Doc A/CONF. 1992), the Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests, the Ceremonial Signing of the

[19] Ibid
[20] NEST (1991). Nigeria's Threatened Environment: A National Profile (p. 182), Lagos.
[21] Heppes, J., & Eric, M.C. Fadden (1987). Re Convention on International Trade in Endangered Species of Wild Fauna and Flora: Improving the Prospects for Preserving Our Biological Heritage. *Boston University International Law Journal*, *5*, 22.
[22] Kwbasek, N.K., & Silverman, G.S. (2000). *Environmental Law* (3rd Ed., p. 315). New Jersey: Prentice Hall.
[23] Ibid
[24] Guruswany, L., & Hendricks, B. (2007). *International Environmental Law in a Nutshell* (3rd ed., p. 84). St Paul: West Group Publishers

United Nations Framework Convention on Climate Change (UNEP 1987) (UNFCCC) and the Biological Diversity Convention (CBD) (ILM 1992).

Thus, one of the resultant effects of UNCED central to this study was the Convention on Biological Diversity (CBD); the most ambitious of the nature conservation treaties signed in Rio de Janeiro by the representatives of 150 States on June 5, 1992 and it came into force December 29, 1993.

The UNEP Governing Council has since 1987 asked an ad hoc working group to "explore the desirability and possible form of an umbrella convention1 to rationalize current activities" to consolidate the existing treaties on biodiversity conservation and to eliminate jurisdictional overlap and filling perceived gaps. The CBD succeeded to do this as it is a framework treaty which possesses only the power to seek "appropriate forms of cooperation" with the executive bodies of other biodiversity conventions.[25]

The framework Convention (Rio Declaration, 1992) is rooted in two overriding principles of Equity and Resource Transfers and Sustainable Development (Conservation and Sustainable Use). The two principles are bound together by a third principle known as Common But Differentiated Responsibility (CBDR). CBDR links equity and sustainable development together by contemplating resource transfers such developed countries acknowledge the responsibility that they bear in international pursuit of SD in view of the pressures their societies place on the global environment and of the technologies and financial resources they command. CBD is a framework convention because it contains primarily aspirational provisions, with matters of substance left to future development by its own Conference of the Parties (COP).

The convention centers on the conservation of biodiversity and the sustainable use of species.

In implementing sustainable development under the CBD the focus is on national action. In line with the convention, all parties must develop "national strategies, plans or programmes for the conservation and sustainable use of biodiversity.[26] Equally each party whether developed or underdeveloped States must integrate these approaches into other relevant national programs such as forestry and agricultural planning.[27]

More specifically, with respect to the conservation of in situ biodiversity that biodiversity in its natural setting, the CBD in Article 8 make a number of important mandates. It calls on each contracting State to establish a system of protected areas where special measures need to be taken to conserve biodiversity. In situ conservation means the conservation of ecosystems and natural habitats and the maintenance and recovery of viable proportions of species in their natural surroundings,

[25] Fagbohun, O. (2002). Reappraising the Nigerian Constitution for Environmental Management. *Ambrose Ali University Law Journal, 1*(1), 25-26.
[26] Article 6(a) of the Convention on Biological Diversity 1992.
[27] Article 6(b) of the Convention on Biological Diversity 1992.

where they have developed their distinctive properties.[28] Responding to Articles 19(3) and 8(g) the parties at COP II also committed themselves to the development of a Protocol on Bio- Safety, recognizing that the advent of biotechnology may have adverse environmental impacts on the conservation and sustainable use of biodiversity.[29]

Though the CBD laid emphasis on in situ conservation as the primary means of protecting biodiversity, a number of ex situ provisions also exist. Article 9(d) enjoins each contracting party "as far as possible and appropriate and predominantly for the purpose of complementing in situ measures to "regulate and manage collection of Biological resources from the natural habitats for ex situ conservation purposes so as not to threaten ecosystems and in situ populations' species."[30] Ex situ conservation involve preserving living species or genetic materials in gene banks, zoological gardens, botanical gardens and sites other than their natural habitats.

In accordance with Article 10, parties must also incorporate a consideration of sustainable development into their national decision-making, protect traditional cultural uses of biological resources and encourage cooperation between the public and private sectors.

The United Nations Convention on the Law of the Sea (UNCLOS)

The 1982 UNCLOS III ratified at Montego Bay, Jamaica, on the 10th of December, 1982 which entered into force November 16, 1994, is the strongest comprehensive environmental treaty now in existence or likely to emerge for quite some time. In fact it is the constitution of the Oceans, and the character and reach of its 59 provisions obligating environmental protection and conservation. The UNCLOS III is an umbrella Convention and brings other international rules, regulations and implementation bodies on the conservation of marine biodiversity under its canop.[31] Thus we now in effect have 2 dominant environmental treaties dealing with Biodiversity: The CBD for terrestrial biodiversity and UNCLOS for marine biodiversity.[32] The UNCLOS III delineates 4 zones that is; the Territorial Sea, Exclusive Economic Zone (EEZ), the Continental Shelf and the High Seas with different regimes for the protection and conservation of marine living resources.

Other Legal Regimes on Biological Diversity Conservation

[28] Ibid
[29] Report of the Open Ended Ad Hoc Group on Bio-safety, UNEP/CBD/COP/2/7.
[30] Article 9(d) CBD.
[31] Birnie, P.W., & Boyle, A.E. (1992). *International Law and the Environment* (pp.14, 33, 336). London: Clarendon Press. pp.14, 33, 336
[32] Guruswany, L., & Hendricks, B. (2007). *International Environmental Law in a Nutshell* (3rd ed., p. 84). St Paul: West Group Publishers. P.106

The 1972 UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention) signed in Paris November 16, 1972 and entered into force December 17, 1975.

The 1971 Convention on Wetlands of International Importance especially as Waterfowls Habitat (Ramsar Convention) signed at Ramsar, Iran 1971 and entered into force December 21, 1975.

The 1979 Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) concluded at Bonn June 23, 1979 and came into force November 1, 1983.

The 1946 Whaling Convention signed in Washington December 2, 1946 and entered into force November 12, 1948.

The Brundtland Report of the WCED 1987 which epitomized the correlation between Poverty and the Environment. It is also the root of the United Nations Conference on Environment and Development that gave birth to the CBD 1992.

The Millennium Development Goals (MDGs) adopted in New York, USA in 2000.

The Nigerian Perspective of Biodiversity Conservation

Nigeria is an independent State of the British Commonwealth in West Africa bordering the Gulf of Guinea with a total land mass of 923,788 square kilometers and a total population of about 150 million. Nigeria is reputed of being the most populous country in Black Africa.[33] The Biodiversity status reveals a total of 5.081 plant species, 22,090 animal species, of which 20,000 are insects and 487 species of microorganisms.[34] Over the years Nigeria has not reaped the benefits of the rich resource endowment staying below its potential. In recent years there has been increasing deforestation, soil degradation and deterioration, and desertification in Nigeria which has greatly affected biodiversity conservation. There is need to secure development while at the same time sustaining the productivity of the natural vegetation, protecting wildlife, maintaining genetic diversity and avoiding forest and soil destruction.[35]

The legal framework for the conservation of Biodiversity and implementation of the various legislations – national and international with respect to biodiversity conservation in Nigeria as in other climes is hinged on Federal Enactments with subsidiary instruments as well as State laws since each State appears autonomous within the sphere of its legislative competence. Thus several regimes have been put in place domestically to cater for the peculiar nature of the Nigerian vast biodiversity. These include:

[33] Olong, M.A. (2008). Human Rights, the Environment and Sustainable Development in Nigeria. *Lead City University Law Journal, 1*(1), 83.
[34] Development in Nigerian Federal Protection Agency, 1992 at p. 5.
[35] Ibid

Endangered Species (Control of International Trade and Traffic) Decree, 1985

This is the decree put in place to implement the 1973 Convention on International Trade in Endangered species of Fauna and Flora[36] coupled with other commitments in the African Continent such as the African Convention on the Conservation of Nature and Natural resources, 1968 and the Agreement on the Joint Regulation of Fauna and Flora on the Lake Chad Basin.[37]

The purpose of the decree is to enact law as required under certain international treaties to which Nigeria is a signatory, to give municipal effect to these treaties and agreements. The decree provides for conservation and management of Nigeria's wildlife and the protection of her endangered species in danger of extinction as a result of over exploitation.[38] According to an erudite scholar Professor Okorodudu-Fubara, the decree is a significant statutory landmark in giving legislative effect to government's wildlife conservation policy by effectively prohibiting and regulating specific activities relating to wildlife in the country.[39]

Under the Decree Animals are classified or listed in Schedule I and II. The animals considered to be endangered are listed in Schedule I to the Decree and International Trade in these animals is absolutely prohibited. Such animals include: Cheetah, Wild Cat, Spotted Hyena, Gorilla, Dolphins, Whales, Nile crocodile, Chimpanzee, Short-nosed crocodile, Addax, Seals, etc.. While those listed under Schedule II can be traded with under license from the appropriate Management authorities. Such animals include: All Mongooses, Hippopotamus, Vultures, Galagos, All Monkeys, Fennec, All foxes, etc..

The hunting or capture of or trade in animal species which are threatened with extinction as specified in first schedule to the decree is subject to an approval license by the Minister. Equally S. 4(1) (a) and (b) of the Decree empower the Minister to alter by an order published in the Gazette, the list of animals listed in Schedule I and II by way of addition, substitution. The minister is to make different provisions in relation to different species or as respect importation, exportation or re-exportation of animals and plants from Nigeria and impose such conditions as he may deem necessary.[40] The decree equally in S. 5(5) prohibits certain fishing and hunting methods.

The Decree is highly criticized because it shies away from using the widely used terms "endangered species" and "threatened species" under its main provisions. It would seem merely described or referred to "endangered species" animal species threatened with extinction. Likewise its counterpart, the United States Statute15 which was enacted sequel to the CITES.

[36] Nigeria acceded to this treaty on July 1, 1975.
[37] Nigeria ratified this agreement in December, 1977.
[38] Okorodudu-Fubara, M.T. (1998). *Law of Environmental Protection: Materials and Text* (pp. 252-254). Nigeria: Caltop Publication Ltd..
[39] Section 4 of the Endangered Species (Control of International Trade and Traffic) Decree 1985.
[40] Section 4 of the Endangered Species (Control of International Trade and Traffic) Decree 1985.

The Decree has regrettably failed to address some salient issues necessary for the control of extinction and loss of biodiversity. According to Prof. Okorodudu Fubara, the Decree unlike CITES is the express failure to prohibit or control activities touching on the endangered or threatened plant species either their prohibition, importation or exportation.[41] The Minister embedded with authority under Section 4 cannot exercise it in respect of plants as the legislators failed to protect such species. An attempt to do that will be declared null and void by a court of law in Nigeria. The Minister trying to extend decree to cover plant species will be unconstitutional and a usurpation of the legislative power under Section 4 of the 1999 Constitution of the Federal Republic of Nigeria.

NEST has strongly criticized the Degree for its protection of Common Species (e.g. Kites) and the permission to trade under license in endangered species such as Cranes, Secretary Birds and Ostriches. Furthermore the decree does not offer any protection to any of the country's amphibians, although some rare ones are threatened by habitat destruction[42]

Reactions to the Convention on Biological Diversity, 1992

The Nigerian Government participated in the United Nations Conference on Environment and Development (the Earth Summit) in Rio de Janeiro (1992). One of the very significant outcomes of that global meeting was the signing of the Convention on Biological Diversity. Nigeria has ratified the convention, thus assuming obligations under the provisions of the treaty and in accordance with customary international law. Article 6A of the Convention requires each contracting State to "develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity, or adapt for this purpose existing strategic plans or programmes which shall reflect, *inter alia*, the measures set out in this convention relevant to the contracting parties concerned." Since the earth Summit Nigeria has taken a number of significant actions related to the Biodiversity Convention in response to the country's commitments at Rio. A country study on Biological Diversity in Nigeria was published in 1992.[43]

In accordance with Article 8(a) of the CBD each contracting party is to establish a system of protected areas where special measures need to be taken to conserve biodiversity, i.e. Protection in-situ. Some of legislative efforts to protect and conserve in-situ include Forestry laws, Forestry Regulations and National Park Decree 1991 which established 5 national parks — Kainji Lake, Lake Chad Basin, Cross River, Gashaka-Gumti and Old Oyo National Parks. The Yankari Game Reserve has been elevated to the level of a National Park by virtue of the Yankari National Park Order of 1993.

[41] Okorodudu-Fubara, M.T. (1998). *Law of Environmental Protection: Materials and Text* (pp. 252-254). Nigeria: Caltop Publication Ltd..
[42] NEST (1991). Nigeria's Threatened Environment: A National Profile, Lagos. P. 194
[43] The National Strategy and Action Plan for Biodiversity Conservation 1992.

The objectives of the creation of the park included inter alia to promote the preservation, enhancement, beauty, protection, conservation and maintenance of indigenous flora and fauna resources; to promote their sustained growth for zoological and botanical specimen. Protection Ex-situ: Article 9(d) of the CBD enjoins each contracting party "as far as possible and as appropriate and predominantly for the purpose of complementing in-situ measures', to regulate and manage collection of biological resources from natural habitats ex-situ conservation purposes so as not to threaten ecosystems and in-situ population species". Ex-situ conservation involves preserving living species or genetic materials in gene banks, zoological parks, botanical gardens and sites other than their natural habitats. The 1991-1992 country study on Biological Diversity in Nigeria identified not less than 51 existing ex-situ sites in the country made up of private wildlife sanctuaries, zoos/zoological gardens, botanical gardens/arboreta, museums, herbaria and aviaries.

Legal coverage of this area is still rather weak and is an area that needs to be addressed in keeping with Article 9(d) of the CBD.

Kainji Lake National Park Decree 1979 (Subsumed in National Parks Decree) 1991

The Government declared that the purpose of this decree was to establish the Kainji Lake National Park (KLNP)[44] to establish a Management Board for the Control and Management of the Park and also to make necessary legislative provisions for the protection of objects of aesthetic and historic interest and the conservation and protection of vegetation and wildlife within the Park. According to the Learned Professor, the Decree, in itself is a brief capsule of the government's policy to seek to conserve the nation's natural resources and especially the endangered species and threatened species.

The affected areas include pieces of land known as the "Doro River Forest Reserve"[45] "Central Borgu Forest River[46] and Zugurma Forest Reserves are described as Schedules 1, Schedule 2 and Schedule 3 of the Decree respectively. The Decree in S. 9(1) outlaws hunting, killing, injury, capturing or disturbing of any wild animal, reptile or fish or damage within the Park of any object of archaeological, geological, prehistoric, historic, aesthetic or scientific, etc. except with the lawful issuance of permit.[47]

Anyone liable under Section 9(1) or (2) of restriction, hunting shall on conviction shall pay a fine of not less than ₦1,000 or imprisonment for a term not exceeding 5 years or to both.

Other Laws in Nigeria with a bearing on Biodiversity Conservation:

Nigeria is a signatory to the 1982 UNCLOS III which bestow on her the right not only to exploit but also to manage and control the exploitation of the marine living resources in the marine environment.

[44] The KNLP is made up of land – mainly forest reserves – which cut across Kwara State and Niger State.
[45] Kainji Lake National Park Decree 1979 S. 1(a) (2).
[46] Ibid
[47] S. 9(3) and (4).

Decree no. 50 of 1989 that created the Natural Resources Conservation Council of Nigeria (NARESCON).[48]

CONCLUSION/RECOMMENDATIONS

The contemporary world recognized that natural resources must be used on a sustainable basis and not over exploited in such a way as to degrade the environment and deplete than in a manner against the interest of future generation. Biodiversity conservation must necessarily be premised on the recognition of the fact that biodiversity as stated in the preamble of the CBD affirms that "the conservation of biological diversity is a common concern of mankind" as biodiversity is deemed as a common heritage of human kind. The use and consumption of natural resources must not be permitted to reach unsustainable levels. Environmental conservation must include effective and efficient management to avoid its present roller coarse slide into the cold winter of oblivion.[49]

This seminal work proposed that biodiversity should be properly conserved and managed as it can reduce the impact of climate change. The link between biodiversity conservation and climate change is both ways as the Millennium Ecosystem Assessment ranks Climate Change among the main direct drivers affecting ecosystems. There should be education and awareness creation on climate change among governments, institutions and individuals should be viewed as a necessary step in promoting mitigation and adaptation to climate change. Vulnerability to climate change can be exacerbated by other stress such as loss of biodiversity, damage to ecosystems and land degradation. The protection, restoration of natural habitats and for establishment of biologically diverse ecosystems may constitute important measures to curb climate change.

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[48] With its subsidiary legislations as: (i) Sea Fisheries (Licensing) Regulation which revoked the Sea Fisheries (Licensing/Regulations 1971; (ii) Sea Fisheries (Fishing Regulation) which came to force 17/12/1992; (iii) Sea Fisheries (Fish Inspection and Quality Assurance) Regulation 13/11/1995.

[49] Nature (2004). *Feeling the Heat: Climate Change and Biodiversity Loss*. Natural Publishing Group.

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