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Economic Based Approach to Environmental Regulation as a Panacea to Effective Environmental Management in Nigeria

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Abstract
Nigeria has an array of environmental protection legislation and regulations. However, their provisions have not resulted in environmentally cleaner behaviour, technologies or products, nor have they resulted in green development or an environment that is free from abuse and dislocation. It is therefore our belief that current legal mechanism have failed to provide adequate economic incentives to limit activities, which are environmentally damaging and therefore unable to achieve their environmental objectives. This paper advocates for a paradigm shift to economic based regulation as a means of achieving optimum environmental protection in Nigeria. It traces the inherent provisions in Nigerian Environmental Laws that have contributed to their failure to elicit the required environmental protection compliance and recommends the needed shift in environmental regulation to elicit appropriate environmental protection compliance from players and participants alike to avoid continued environmental spoliation.
Keywords: economic approach, environment, environmental protection, legal regime, regulation

1.0. Introduction

Man in his quest for development had laid an unrelenting siege on the ecosystem creating various environmental problems. Industries and factories discharge thousands of poisonous chemicals, nuclear power plants produce radioactive waste, and corporate bodies using latest inventions of science and technology discard junk electrical/electronic gadgets that litter the dump sites. Environmental problems arising therefrom span through water pollution, land degradation, visual pollution, noise pollution and thermal pollution. These problems have been exacerbated by unbridled population growth that had increased dramatically over the past several decades. In any event, man who is the culprit in all these is also the victim. Efforts at combating these environmental problems had led to enactment of pieces of legislation at the national level and adoption of Multilateral Environmental Agreements (MEAs) at the international level. Inspite of the existence of a wide range of these legal instruments environmental stresses still continued. Part of the problems span through issue of multiplicity of environmental protection legislation scattered in various volumes of Laws of the Federation, paucity of sanctions imposed for environmental crimes, flaws in the defences available, ill-defined environmental terminologies with some meanings often times ambiguous to overlapping, and at times, conflicting functions of some the environmental protection Agencies. In sum, these environmental laws lack non-incentive for environmental pollution abatement compliance. To meet the realities of present times, we advocate a shift in focus of environmental regulation by incorporating economic principles. The following economic incentives that could be integrated in a new law and identified as capable of facilitating the attainment of green development in Nigeria include: adoption of environmental accounting in pollution control; imposition of environmental tax such as carbon tax or pollution tax; use of charges, taxes and tax relief incentives for environmentally cleaner behaviour; and the application of polluter-pays principle as an environmental protection policy.

2.0. Pitfalls in the Legal Regime for Environmental Protection in Nigeria

A number of flaws and pitfalls are found in some of our environmental laws. For instance, under section 4 of the Oil in Navigable Waters Act (ONWA) 1969, an offender may be exculpated from liability if he establishes that the oil was discharged for the purpose of saving life, preventing damage to any cargo or for the purpose of securing the safety of a vessel or that the discharge was accidental due to damage to the vessel or leakage and that he took reasonable care to contain and end the pollution.[14] In addition, it is also a defence if the polluter can establish that the discharge was due to willful act of third party or that the discharge was contained in an affluent produced during refining.[15] These defences are no longer tenable. Strict and absolute liability should be imposed, allowing only defence of intervention of outside forces.[16] Again, the responsible party must report the discharge, co-operate and assist with removal efforts and must comply with any official removal order from environmental

[14] Section 4 (1) and (2) Oil in Navigable Waters Act, 1969
[15] Section 4 (3) and (4), *ibid*
[16] Such as an act of God and an act of war

protection enforcers.[17]

Again, the legal regime governing environmental protection in Nigeria prescribes some sanctions against violators ranging from fines to imprisonment. The amount prescribed as fines is low and in some cases ridiculous. For instance, under O.N.W.A the amounts payable as fine for offences created under sections 7, 9 and 10 are ₦ 1, 000.00[18], ₦200[19] and ₦400[20] respectively. In addition, no amount is specified as fine in respect of offences under sections 1, 3 and 5[21] of the Act. Under the Petroleum Refining Regulations violation of any Regulation attracts a fine of ₦100.[22] The Association Gas Re-injection Act though provided for sanctions[23] for non-compliance with the provisions of the Act, had the sanctions washed away by subsequent Regulations which had ever since monetized gas flaring. [24]

The fine provided under the National Environmental Standards, Regulations and Enforcement Agency (NESREA) Act, ranging from ₦50, 000 to ₦200, 000, in the case of individuals and ₦200, 000 to ₦5, 000, 000, in the case of body corporate appear to be an improvement over other legislation, but this effort may not be a deterrent to would be offenders. To this end, amendment to the laws is advocated so as to bring them in line with modern trends. For instance, under the Clean Air Act, [25] fines for violation of any of its provisions increased to US$250,000 per day and US$500, 000 per day per violation for individuals and corporate bodies, respectively since the Exxon Valdez disaster in 1989.[26] A new dimension had been added to this position in the aftermath of the April 2010 BP Deepwater Horizon spill in the Gulf of Mexico.[27]

Furthermore, enforcement mechanism in environmental protection has been defined as "any mechanism which could be used to secure compliance with a legal obligation which afforded environmental protection." [28] Under the existing laws, enforcers of environmental protection such as NESREA and the Department of Petroleum Resources (DPR) have no prosecutorial powers. The salient provisions of these laws ought to be amended to empower them to prosecute offenders without recourse to, though under the supervision of the Office of the Attorney General of the Federation.[29] This is in line with current trends across the globe, for as the saying goes "one who is given responsibility should be given authority." [30]

For example, in the USA since 1990, it became imperative to amend the various environmental laws to be in line with existing situations, especially after the Exxon Valdez disaster in 1989. The amendments introduced in some of her laws dramatically enhanced the powers of civil and criminal enforcement authorities. For instance, the powers of Environmental Protection Authority (EPA) to bring actions against violators of environmental protection laws directly without going through the Department of Justice were enlarged. Again, the amendments authorize private citizens to seek civil penalties for violations of her environmental protection laws. USA Congress also authorized EPA to pay a bounty up to US$10,000 to anyone who provides information that leads to a criminal conviction, or civil penalty of a violator.

In area of marine pollution control and prevention we have unnecessary duplication of functions and overlapping of authority between National Oil Spill Detection and Response Agency (NOSDRA) and the Nigerian Maritime Administration and Safety Agency (NIMASA).[31] The ugly side of this situation between

[17] This is in line with the polluter-pays principle that is now the trend in other jurisdictions
[18] Section 7 (5) (a), Oil in Navigable Waters Act
[19] Section 9 (5), *ibid*
[20] Section 10 (2), *ibid*
[21] Section 6, *ibid*
[22] Regulation 45 (1), Petroleum Refining Regulations
[23] See Section 4 (1), Associated Gas Re-injection (Continuous flaring of gas) Regulations
[24] A Fine of ₦10 per 1000 cubic feet of gas flared is imposed since 1998
[25] Section 113, Clean Air Act of USA, 1990
[26] *Exxon Valdez*, American oil tanker that went aground on a reef in Prince William Sound, Alaska, at night on March 24, 1989. The tanker leaked a total of 260,000 barrels, in two days. The tanker's remaining 1 million barrels of oil were removed from the hold of the damaged vessel and transferred to other tankers operated by the Exxon Corporation. The oil slick eventually coated about 1770 km (1100 mi) of the Alaska shoreline, including numerous islands in the sound. Tens, possibly hundreds, of thousands of shore-nesting birds were killed by the slick, as were several thousand sea mammals, especially sea otters. The biggest economic concern was for Alaska's important salmon and herring fisheries. These were seriously affected in 1989. In 1991 the state of Alaska and the federal government came to an agreement with Exxon and the Alaska Pipeline Service Company regarding damages caused by the *Exxon Valdez* oil spill. The settlement covered civil and criminal claims as well as restitution. Fines and restitution payments totalling more than $1 billion were agreed upon, to be paid over a 10-year period.
[27] See footnote 22, post
[28] Stuart Bell and Donald Mc. Gillivary: *Ball and Bell on Environmental Law: The Law and Policy Relation to the Protection of the Environment*, 5th edn. (London: Blackstone Press Ltd, 2006) p. 239.
[29] The EFCC Act empowers the Agency to institute action and prosecute offenders in courts.
[30] The BP 2010 spill is a case in point, see foot note 22, post
[31] NIMASA is the sole Agency recognized both locally and internationally for marine pollution control and prevention deriving its powers from both the enabling statute and the International Convention for the Prevention of Pollution of Sea

NOSDRA and NIMASA became apparent in the December 2011 Bonga oil spill. Reports from NIMASA alleged that the spill was caused by Shell Petroleum Development Company (Shell) in which over 30,000 barrels of crude oil affecting an area of about 120 nautical miles of Nigerian coastline caused damages to the marine environment of Delta and Bayelsa states.[32] While the oil spill continued to cause havoc in the affected states, NOSDRA and NIMASA, two agencies charged with the protection of the marine environment, continued to trade accusations and counter accusations as to which Agency was right in its assertions as to what had happened and what had been done by the spiller (Shell).

While NOSDRA had claimed that the spill had been contained by Shell and praised it for a job well done, NIMASA on the other hand accused Shell of having behaved irresponsibly as its response to the spill was below international standard. Nothing was done to ameliorate the environmental damage caused by the spill to both the environment and the communities as the accusations and counter-accusations were going on. Moreso the spill had covered an area of 120 kilometres of the Nigerian coastline and was said to be spreading at one nautical mile per day.[33]

The functions of NOSDRA, it should be noted, revolve only around issues of oil spill detection and response. In this respect one is tempted to question the rational in setting up of NOSDRA alongside NIMASA whose functions should ordinarily include spill detection (as is carried out by NODSRA) as well as spill control and prevention, and determining issue of compensation for environmental damage as envisaged under the International Convention on Civil Liability Damage to which NIMASA derives part of its powers. In the face-off that followed rather than invoke the provisions of this Convention and make Shell to pay compensation, NIMASA was merely threatening to apply the provisions of the Convention even when both NIMASA and NOSDRA acknowledged the fact that spill was caused by Shell and was the worst spill in Nigeria since 1998, comparing it to the Gulf of Mexico oil spill by British Petroleum, in April 2010.[34] Till date nothing has been paid by way of compensation to the affected communities nor for the rehabilitation of the affected environment and no action been brought against Shell.[35]

To this end, it is suggested that the NOSDRA Act be repealed and its functions merged with that of NIMASA, [36] and its powers strengthen to include prosecution. This merger will serve two purposes:

First, NIMASA will be left with the sole responsibility in issues pertaining to, arising from or connected with marine pollution, detection, control, prevention and response generally in the event of marine pollution. The benefit of this is that the ugly scenario that was played out by the agencies in the Bonga oil spill

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by oil, 1954 as amended in 1962, 1969 and 1971, and the International Convention on Civil Liability for Oil Pollution Damage, 1965 as amended in 1992.

[32] David Ogah: "NIMASA Shell's face-off over Bonga oil spillage deepens," *The Guardian Newspaper*, Wed 11 January 2012, http://www.ngrguardiannews.com, accessed 12th January 2015

[33] David Ogah , *op cit*

[34] In the BP Gulf of Mexico oil spill in 2010 the USA made use of this Convention under which British Petroleum (BP) was made to deposit USD20Billion which was set aside for claims for cleanup and compensation of victims. The Convention, alongside US local legislation were also applied in subsequent claims in 2012 and 2013. An assessment group was set up and compensation was paid out of the fund to victims of the environmental damage, $10 billion to businesses, individuals and local governments impacted by the spill, $7.8 billion settlement to cover the bulk of the outstanding private claims for economic loss, property damage and medical problems. The company has also committed to pay $8.5 billion to plaintiffs in a separate settlement. In February 2013 the US proposed a $16 billion settlement to the company to cover fines BP owes under the Clean Water Act, and the Natural Resources Damage Assessment Act, a $2.4bn to be paid to the National Fish and Wildlife Foundation and $350m to be paid to the National Academy of Sciences, over a period of five years. BP was also given a criminal fine of $4.5bn as part of settlement related to the disaster. In addition to the charges filed against BP, a federal grand jury returned an indictment charging the two highest-ranking BP supervisors, who were on board the Deepwater Horizon on the day of the explosion, with 23 criminal counts - including 11 counts of seaman's manslaughter, 11 counts of involuntary manslaughter, and alleged violations of the Clean Water Act. The company had already spent more than $14 billion on the response and cleanup. See Chris Baltimore: "Gulf Oil Spill," http://www.reuters.com/article/2012/11/09/us-bp-spill-hearing-idUSBRE8A802O20121109, accessed 18th November 2012 and Michael Eboh: "US proposes $16bn settlement with BP over Gulf spill" http://www.vanguardngr.com/2013/02/us-proposes-16bn-settlement-with-bp-over-gulf-spill/#sthash.nZGVBs1L.dpuf , accessed, 24th February 2015

[35] The only effort was the visit of the affected areas by the then President, Goodluck Jonathan. Compare this to the robust action taken by President Obama of the USA in the wake of and after the Gulf of Mexico oil spill by British Petroleum (BP) in April 2010. See foot note 22, *ante*

[36] NIMASA's functions are more broad based having derived part of its functions from both local and international instrument to which Nigeria is not only a signatory but had also ratified by an Act of the National Assembly in 2007

saga will never repeat itself again. Second, merger will reduce cost of governance and unnecessary wastage of public funds as the functions of NOSDRA can easily be carried out by NIMASA.

We further recommend that the NESREA Act be amended to reflect the issue of Agency that should be in charge of implementation of the provisions of the EIA Act and the Harmful Waste Act, rather than the current situation where such functions are carried out by the Federal Ministry of Environment. Since functions of some environmental protection agencies overlap, we are of the view that these overlapping and duplication of functions of enforcement agencies be streamlined.

Compensation is meant to bring an injured party as far as possible to the position he was prior to the injury. To solve this anomaly, Nigerian environmental laws should expressly provide for *quantum* of compensation. This amendment could be in nature of compensation fund set up in line with the Fund Convention[1] where victims of environmental pollution are compensated after due determination of extent of damage suffered. Money for such fund should be from major players in the industries that generate a certain percentage of waste or whose activities have caused or is capable of causing environmental damage. A fixed percentage of the amount should be deducted from gross annual profit turnover of the companies after tax. To administer the fund a multi-disciplinary agency should be established, as is the case with the Education Trust Fund.[2] To facilitate these recommendations a law should be enacted by the National Assembly that will provide for the above recommendations and other things necessary for smooth running of the fund.

In addition where the law is silent on the issue as provided above, or where the legislator is reluctant to infuse such provisions in our law the environmental protection agency and lawyers for pollution victims, may apply the interaction matrices to determine *quantum* of compensation.

Interaction matrices range from simple consideration of project activities and their impacts on environmental factors to stepped approaches which display interrelationship between impacted factors. The most well known example of an interaction matrix is that developed by Leopold *et al*.[3] The Leopold matrix is a method for impact assessment designed in the USA to assess impacts on the environment caused by industrial or project activities, especially when baseline data is not available. The matrix is intended to reveal two-dimensional relationships between impacts and action and provides a systematic checking of each development activity against a listing of environmental factors.

One of the inherent problems of the matrix method is that of subjectivity in terms of values attached to the impacts. This can be overcome by objectifying the subjectivity of the matrix. To this end, independent persons can replicate the exercise described above and where there are up to 10 samples for each exercise the impacts are summed and an average obtained. This had been used and proven as a near accurate method of determining magnitude of impact and can aid quantification of damages.[4]

3.0. Enhancing the Effectiveness of the Legal Regime for Environmental Protection in Nigeria

In order to elicit appropriate environmental protection compliance from polluters, we advocate the adoption of economic principles as legal and fiscal instruments to elicit the required environmental compliance. The following economic principles are advocated:

i) Adopting environmental accounting in pollution control.
ii) Application of environmental or pollution tax.
iii) Using charges and taxes, and tax relief incentive for environmental pollution abatement and compliance.
iv) Enforcement of the polluter-pays principle as tool for environmental abatement and control.

(i) Adopting environmental accounting in pollution control.

Environmental accounting refers to the use of data about environmental costs and performance in business decisions and operations to enhance compliance to environmental regulations.[5] It has been claimed as a veritable veritable management tool for internal business decision,[6] and operated in recognizing that cost of doing business should include environmental cost. Environmental cost has two major dimensions viz., the private costs

[1] Convention on Civil Liability For Oil Pollution Damage and International Fund for Compensation for Oil Pollution Damage 1992. This approach was adopted by the United States of America against British Petroleum (BP) in the wake of the Gulf of Mexico.

[2] Especially the Tertiary Education Trust Fund (TETFUND)

[3] L. Leopold et al, A procedure for Evaluating Environmental Impact, Survey Circular 645, (Washington DC: U.S. Geological Survey, 1971).

[4] See E.U. Onyeabor: Management of Environmental Degradation from the Oil Industry: A Case of Umechem in Rivers State Nigeria (an unpublished M.Sc. Environmental Management Dissertation: Environmental Management Unit. Enugu State University of Science and Technology (ESUT), Enugu, 1995) pp. 67- 69

[5] United States Environmental Protection Agency (USEPA): "An Introduction to Environmental Accounting as a Business Business Management Tool," in Michael V Russo (ed.) *Environmental Management Readings and Cases* (Boston: Houghton Mifflin Coy, 1999) p. 228

[6] United States Environmental Protection Agency (USEPA) i*bid*

and the societal costs.

The private costs are the costs a business incurs or for which a business can be held legally responsible, and therefore accountable.[1] Private costs arise from payments for damages and other forms of compensation in relation to non-compliance to environmental protection mechanisms and are borne either through administrative settlement between the polluter and the victims or through court's decisions. [2] Societal costs on the other hand represent the costs of business impacts on the environment and the society for which business is not legally accountable. They are referred to as externalities or external costs.[3] Such societal costs include environmental degradation and also adverse impacts on human beings, their property and their welfare. These impacts arise from damage caused to river because of pollution or pollution of the ecosystem from solid waste disposal.[4] These social costs a business often does not pay. It is the social costs which are not internalized by business operations that is of interest to us and to which environmental accounting should seriously be applied.

The need for environmental accounting is to ensure that accounts reflect environmental costs so that stakeholders have information to enable them to make the best uses of resources, taking account of the rights and obligations of shareholders, customers and local communities affected by environmental degradation.[5] To this end, environmental accounting allows corporations to internalize full cost of production including environmental costs, contingent costs,[6] and potentially hidden costs,[7] and to calculate their 'sustainable' income. It also enables a corporation to reflect the extent to which its environmental protection measures affect its financial position and performance including actual and potential environmental liabilities.

Where this policy is adopted it may help to reduce the current environmental dislocation in the Niger Delta region of Nigeria as the oil producing companies may become more cautious in their operations. In addition, current accounting rules penalize, rather than encourage, the environmentally responsible corporation and the more a corporation spends on prevention and clean-up, the less per share it earns in the short run. It is on the basis of this observation that environmental accounting is being advocated. This is because environmental accounting is used as a vehicle for recording 'green assets' and monitoring their use and provides a corporation accounting incentives to improve environmental protection.

Thus, oil companies[8] operating in the Niger Delta of Nigeria that depend heavily on the extraction of natural resources as their main preoccupation should be made by the appropriate authorities to pursue the following environmentally related accounting policy:

i. recording liabilities and provisions,
ii. setting up catastrophe reserves,
iii. disclosing contingent liabilities (including liabilities provisions and reserves for the current period and amounts accumulated with an estimate of amount involved).

(ii) Application of environmental or pollution tax

Economic factors play a role in internationalizing efforts to safeguard the environment. A state that enacts environmental measures must count the increased costs that are borne by its economy. In the long term, "green" investments are advantageous. This is because it is more costly and in some cases impossible to repair environmental damage by, for example, cleaning up rivers or groundwater, rehabilitating the countryside, or reintroducing wildlife species than the green investment.

In economic theory, pollution is considered a negative externality because it has a negative effect on a party not directly involved in a transaction.[9] To confront parties with the issue, the economist Arthur Pigou proposed taxing the goods, which are the source of the negative externality so as to accurately reflect the cost of the goods' production to society. By this way the costs associated with the goods' production is internalized.[10] A

[1] *Op cit*
[2] *Op cit*
[3] *Op cit.*
[4] E.U Onyeabor: "Rural Development and Environmental Management: The Case of Agip Nigerian Ltd Green River Project in ONELGA LGA of Rivers State" (an unpublished M.Sc. Dissertation: Department of Geography, University of Port- Harcourt, October, 1995).
[5] Phillipe Sands *Principles of International Environmental Law,* 2nd edn. (Cambridge: Cambridge University Press, 2003) pp. 623-624.
[6] These costs include costs for natural resources damages, property damage, personal injury damage, legal expenses and remediation.
[7] Such as site studies, site preparation, permitting, installation, etc.
[8] Indeed all companies in the extractive industry
[9] Carbon Tax Centre: "Tax vs. Cap-and-Trade," http://www.carbontax.org/issues/carbon-taxes-vs-cap-and-trade/ accessed on 29th April 2015.
[10] Carbon Tax Centre: "Tax vs. Cap-and-Trade , *ibid*

tax on a negative externality is termed a Pigovian tax,[1] and should equal the marginal damage costs.[2] For example, a carbon tax, an environmental tax on emissions of carbon dioxide and other greenhouse gases is an example of a pollution tax. This type of tax is an indirect tax, that is, a tax on a transaction, as opposed to a direct tax, which taxes income. One advantage of this form of taxation is that it taxes at a fixed rate, independent of income.[3]

Accordingly, a carbon tax is effectively a tax on the use of fossil fuels.[4] As a result of its link with global warming, a carbon tax is sometimes assumed to require an internationally administered scheme.[5] For instance, the European Union (EU) considered a carbon tax covering its member states prior to starting its emissions trading scheme in 2005.[6] The United Kingdom (UK) has unilaterally introduced a range of carbon taxes and Climate Change levies to accompany the European Union Emission Trading Scheme (EU ETS) trading regime.[7]

The purpose of a carbon tax is to protect the natural environment by reducing emissions of carbon dioxide and thereby slow climate change, at global level and, the protection of the immediate environment from such adverse environmental impacts, arising thereto, such as acid rain.[8] Carbon tax can be implemented by taxing gas flaring[9] and the burning of fossil fuels, coal, petroleum products such as gasoline, aviation fuel and natural gas, in proportion to their carbon content.

How then can we calculate carbon tax, one may ask? Emissions of about 20 lb (pounds) of CO_2 per gallon of petroleum (2.4kilograms per litre, 2.4kg/L), and a tax of $100 per tonne of CO_2 ($110 per tonne of CO_2) would translate to a tax of about $1.00 per gallon ($0.26 per litre). To be precise: Emissions are 19.564 pounds of CO_2 per gallon of motor gasoline, 22.384 pounds of CO_2 per gallon of diesel fuel, and 21.095 pounds of CO_2 per gallon of jet fuel (2344.3 CO_2 per L of motor gasoline, 2682.2 CO_2 per L of diesel fuel, and 2527.7 CO_2 per L of jet fuel). So a tax of $100 per ton of CO_2 translates to a tax of $0.978 per gallon of motor gasoline, $1.119 per gallon of diesel fuel, and $1.055 per gallon of jet fuel ($0.258 per litre of motor gasoline, $0.296 per litre of diesel fuel, and $0.279 per litre of jet fuel). At a price between $2.50 and $5.00 per gallon, a tax of $100 per ton of CO_2 would raise fuel prices by 40–20%.[10]

Carbon tax is feasible and has been implemented in several countries.[11]

The benefit of carbon tax policy is succinctly captured in the opinion of Al Gore, Former Vice-President of the U.S.A, in these words:

> We should start using the tax code to reduce taxes on employment and production, and make up the difference with pollution taxes, principally on CO_2. Now I fully understand that this is considered politically impossible. But part of our challenge is to expand the limits of what's possible. Right now we are discouraging work and encouraging the destruction of the planet's habitability.[12]

Perceived advantages of a carbon tax are:

i) less complex, less expensive, and less time-consuming implementation. This advantage is especially great when applied to markets like petroleum products;
ii) reduced risk of certain types of cheating;
iii) reduced incentives for companies to delay efficiency improvements (when companies are given more carbon credits if they polluted less in the past;

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[1] After Arthur Pigou who proposed taxing goods, such as fuel.
[2] Carbon Tax Centre, *op cit*
[3] John. D. Dingell: "The Power in the Carbon Tax", *"Washington Post"*, 2 August, 2007, p.A21 http://www.washingtopost.com, accessed on 30th April 2015.
[4] Carbon atoms are present in every fossil fuel, coal, petroleum, and natural gas and are released as CO_2 when they are burnt.
[5] John. D. Dingell, *ibid*
[6] Debate is currently going on among airline operators on a proposed emissions tax from 2012 on all aircrafts using the air space of EU member countries.
[7] Note that emissions trading systems do not constitute a Pigovian tax, because they entail the creation of a property right.
[8] Government of British Columbia: "B.C's Revenue-neutral Carbon Tax," http://www.bcbudget.gov.bc.ca/2008/backgrounders/backgrounder_carbon_tax.htm, accessed on 30th April 2015.
[9] Nigeria presently taxes gas flaring as means of curbing it
[10] Paul Volcker: "Global Warming," http://www.iht.com/articles/ap/2007/02/06/news/FIN-GENEgypt-Volcker-Global- Warming.php (February 6, 2007), accessed on 29th April 2015.
[11] Finland, the Netherlands and Norway 1990, Sweden, January 1991, The United Kingdom Treasury imposed the Fuel Price Escalator, an incrementally-increasing pollution tax, on retail petroleum products from 1993, Italy 1998, United States, 2006, New Zealand 2007 and Canada, 2008. European Union (EU), as a regional group, in 2012 introduced carbon tax on airlines flying the EU air space.http://carbonfinance.org/docs/StateoftheCarbonMarket2012.pdf, accessed on 3rd April 2015
[12] John D. Dingell *op cit*

iv) does not disadvantage new or growing companies relative to more established companies; and
v) it has greater transparency as tax is based on pollution output.[1]

Thus, revenue from environmental or pollution tax may be used in addressing adverse environmental impacts. Alternatively, such revenue may be used to fund environmental projects to redress environmental damage.

(iii) Using charges and taxes, and tax relief incentive for environmental pollution abatement and compliance.

Charges and taxes form part of the economic instruments we recommend as part of Nigerian environmental protection law and policy. The rationale behind charges and taxes is that they create an incentive for polluters to limit activities which can be harmful to the environment such as emissions, generation of wastes and the excessive use of natural resources.

While taxes are commonly imposed on industries varying from production tax to income tax, charges on the other hand are not commonly imposed. Forms of charges advocated include: emission charges and user charges. Emission charges can be levied on discharges of effluents and gases and can be calculated on the basis of the quantity and/or quality of the pollution load. The user charges on the other hand, are charges paid by dischargers for services rendered by environmental protection agencies in managing polluted environment and are only payable by firms or corporations who receive or are associated with the services.[2] Such services in issue include collection and removal of solid wastes, wastewater, and hazardous wastes; clean up of spills and rehabilitation of contaminated soils.

It is suggested that the more a firm engages in activities that are inimical to healthy environment, the more the charges payable. In the same vein tax relief incentives and waiver of charges should be granted to firms that comply with environmental protection measures. The relief should also be granted to firms to cover cost of new investment expenditure in order to improve the efficient use of natural resources and reduction in emissions and effluent discharges. To this end, we advocate that the current NESREA's Green Mark [3] instituted annually to the best environmentally performing facility and organization be monetized or applied to such recipients as tax relief or waiver of charges instead of mere certificate being issued to such organization.

What is being advocated therefore is a shift towards using tax law to create incentives towards environmentally benign productions and activities, and disincentives against processes considered to be detrimental to the environmental. Thus, gas-guzzler taxes, recycling tax credits, taxes on use of virgin materials, taxes on hazardous waste generation and excise taxes on various products are approaches being advocated to produce 'green' products and development.

(iv) Enforcement of the polluter-pays principle as tool for environmental abatement and control.

The polluter-pays principle is the requirement that the costs of pollution should be borne by the person responsible for causing the pollution and consequential costs.[4] It means that the polluter should bear the expenses of carrying out the measures decided by appropriate environmental protection agencies. In other words, the cost of the measures taken by the agencies in this respect should be reflected in the cost of goods and services which caused pollution and this is to be borne by the polluter. The beauty of the polluter-pays principle lies in its allocation of economic obligations in relation to environmentally damaging activities, especially in relation to environmental liability and environmental damage.

The principle therefore implies that the operator of a hazardous installation should bear the cost of reasonable measures to prevent and control accidental pollution from such installation. Thus the Rio Declaration[5] provides that;

> national authorities should endeavour to promote the internalization of environmental cost and the use of economic instruments, taking into account the approach that polluter should, in principle, bear the costs of pollution, with due regard to the public interest….

Specific applications of the polluter-pays principle shall include:

(i) adjusting fees or taxes payable by hazardous installations to cover more fully the cost of certain exceptional measures taken by the environmental protection agencies to prevent and control accidental

[1] Government of British Columbia, *ibid*

[2] Currently in Enugu State the Enugu State Waste Management and Sanitation Authority Law 2004 has provisions for user charges paid by various waste generators to the Agency for refuse and waste collection. Same thing applies in Lagos State through LASEMA

[3] Pursuant to the provisions of regulation 55, National Environmental (Textile, Wearing Apparel, Leather and Footwear Industry) Regulations, 2009, regulation 53, National Environmental (Chemical, Pharmaceutical, Soap and Detergent Manufacturing Industries) Regulations, 2009 and regulation 53, National Environmental (Food, Beverages and Tobacco Sector) Regulations, 2009

[4] Phillipe Sands *op cit.* p. 213

[5] Principle 16, Rio Declaration on Development, 1992

pollution;

(ii) charges on the polluters to cover the cost of reasonable pollution control measures to avoid the spread of environmental damage and limit the release of hazardous substances,

(iii) charges on the polluter on rehabilitating the polluted environment, or to cover ecological effects of the pollution.[1]

It is therefore recommended that the polluter-pays principle, as entrenched in our law,[2] should be rigidly enforced. In this way, environmental spoliation and economic activities, though a twin but strange bedfellows can be made to accommodate each other. Since it is impossible to eliminate all traces of environmental pollution without at the same time shutting down all economic activities, it should be noted that in the world where money talks, the environment needs value to give it a voice. No longer could pollution and its social and economic costs be externalized and presumed to disappear. The environmental well-being is an important ingredient of our society.[3] It is under this premise that we advocate the need to adopt the economic approach to curb environmental problems and achieve sustainable development. We owe the next generation a clean environment and an undiminished stock of the earth's resources remembering that these resources we use today we did not inherit them from our fathers but we hold them on trust for the next generation.

4.0. Recommendations on ways to operationalize the economic principles

To internalize the suggestions above made, we are of the view that there should be an overhaul of our Environmental Laws, including the provisions, implementing and enforcement mechanism. This can be achieved through:

(i) Enacting a new environmental law

The existing environmental regulatory scheme is a complex and unyielding system of laws and regulations[4] scattered all over the Legal system, and in various volumes of Laws of the Federation, leading to increasing conflict and gridlock. The domestic environmental laws therefore lack incentive for environmental protection compliance. An environmental law should be a "one-shop-stop" that is applicable, relevant and appropriate to current realities in international approach to environmental protection, abatement and management. It is on this premise that we suggest the enactment of a new environmental law.

Such new law should adopt not only a command-and-control style model but also integrate the anticipate-and-prevent approach and the market-based model. The proposed law should set specific goals, have uniform standards, apply internationally accepted best practices, have firm deadlines, integrate economic principles, comprehensive, have narrow methods of compliance with heavy-handed enforcement provisions and should be a one-shop stop legislation. Again, such law should consistently target major polluting sources, mandate high standards of protection without regard for economic costs. Furthermore, such law should have built in substantive mechanism for public participation in regulatory and review stages of rulemaking process.

Since environmental problems are state specific in Nigeria, we further suggest that the proposed law should form a new base for Federal-State cooperation in environmental protection compliance. To this end, the law should create overarching federal rules, regulations and goals, and oversight but significantly delegate implementation responsibilities to States. What is envisaged here is a situation where the National Assembly maintains primary responsibility for enacting legislation, setting high environmental standards that are in consonance with acceptable international best practices, and leading the way forward, but putting much of the burdens on the States to develop detailed implementation strategies with the Federal parameters. In this way the impasse that arises, at times, between Federal Environmental Protection Agencies and State Agencies will be minimized.[5] This relationship will also help to minimize the practice where some States enact diluted or extremely high environment laws or setting unattainable environmental standards. Above all, the relationship will foster a new Federal and State partnership in environmental protection and management. The beauty of this is that our environment will be best for it.

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[1] Joseph. C. Nwafor: *Environmental Impact Assessment for Sustainable Development; the Nigerian Perspective* (Enugu: Environmental and Development Policy Centre for Africa, 2006) p.199

[2] Regulation 13(1) National Environmental (Mining and Processing of Coal, Ores and Industrial Minerals) Regulations, 2009. Regulation 13 (2), National Environmental (Mining and Processing of Coal, Ores and Industrial Minerals) Regulations, 2009, National Environmental (Sanitation and Wastes Control) Regulations, 2009. Similar provision is also found under Regulation 5, National Environmental (Chemical, Pharmaceutical, Soap and Detergent Manufacturing Industries) Regulations, 2009.

[3] US Supreme Court in *Sierra Club v. Morton,* US 727 3ERC 2039 (1972).

[4] For instance, at the count, NESREA has 24 regulations as at 2011

[5] For instance, the endemic frictions between NESREA, Federal Ministry of Environment, the Nigeria Mining Cadastre Office, Development Control Department and/or some State Ministries of Environment, Urban Development and Environmental Protection Agencies.

(ii) The new law should embody undiluted application of the principles of strict and absolute liability

In Tort law it is trite that strict liability imposes liability on a party without a finding of fault (such as negligence or tortuous intent). The law imputes strict liability to situations it considers to be inherently dangerous. It discourages reckless behaviour and needless loss by forcing potential defendants to take every possible precaution.[1] It also has the effect of simplifying and thereby expediting court decisions in these cases.

An offence is one of strict liability where it provides for people to be punished for doing something, or failing to do something, whether or not they have a guilty intent. In other words, someone is held to be legally liable for their conduct irrespective of their moral responsibility.[2] Here, the claimant need only prove that the tort occurred and that the defendant was responsible.

In extreme situations absolute liability should be imposed on the polluter. It is used for certain regulatory offences in which it is necessary for individuals engaged in potentially hazardous or harmful activity to exercise extreme, and not merely reasonable, care.[3] This is the reason why we advocate absolute liability in the case for environmental damage and in line with the concepts of environmental crime. Again, we advocate absolute liability based on the fact that environmental abuses arise from carrying out potentially or harmful activities in which extreme care is needed.

Such liability is not subject to any of the exceptions which operate *vis-à-vis* the tortuous principle of strict liability under the rule in *Rylands v Fletcher*.[4] In other words absolute liability is strict liability without any exception.[5]

We justify the inclusion of absolute liability or its application by our courts on the following stand points. Firstly, the protection of social interests requires a high standard of care and attention on the part of those who follow certain pursuits and such persons are more likely to be stimulated to maintain those standards if they know that ignorance or mistake will not excuse them. The removal of any possible loophole acts as an incentive to take precautionary measures beyond what would otherwise be taken, in order that mistakes and mishaps are avoided. Second, its adoption or application increases administrative efficiency. Having regard to both the difficulty of proving mental culpability and the scientific evidence involved in environmental matters, proof of fault is just too great a burden in time and money to be placed upon the prosecution or the pollution victim. To require proof of each person's individual intent would allow almost every violator to escape.

In the final analysis, for the principle of strict and absolute liability to apply the followings should be borne in mind by the court:

i) strict and absolute liability offences should be applied only where the penalty does not include imprisonment;
ii) strict and absolute liability offences should be of a regulatory nature (eg, public safety or protection of the environment), not serious criminal offences;
iii) as a general rule, strict and absolute liability should be provided by primary legislation, with regulations used only for genuine administrative detail;
iv) strict and absolute liability should depend as far as possible on the actions or lack of action of those who are actually liable for an offence, rather than be imposed on parties who must by necessity rely on information from third parties;
v) the intention to impose strict or absolute liability should be explicit;
vi) the size of monetary penalty should reflect the fact that liability is imposed regardless of any mistake of fact;
vii) absolute liability may be acceptable where an element is essentially a precondition of an offence and the state of mind of the offender is not relevant; such cases should be rare and carefully considered;
viii) absolute liability offences may be acceptable where inadvertent errors, including those based on mistake of fact, ought to be punished.[6]

(iii) Overhauling the enforcement machinery

This can be done by establishing an entirely new environmental protection agency that will be tasked with creating, implementing, enforcing and interpreting regulations to give meaning to environmental laws and policy, and fiscal policies. This agency when established should be a hybrid governmental organisation that does not fit

[1] *R. v. Sault Ste. Marie,* [1978] 2 S.C.R. 1299 at 1310, by the Supreme Court of Canada
[2] *Supra*
[3] *Union Carbide Corporation v. Union of India and Ors,* AIR (1990) SC 273
[4] *Supra*
[5] This is now in vogue in other Commonwealth jurisdictions such as India, Canada, Malaysia, Philippines. It has been applied in a number of cases. For example, in the case of *R. v. Sault Ste. Marie,* [1978] 2 S.C.R. 1299 at 1310, by the Supreme Court of Canada, in the case of *Union Carbide Corporation v. Union of India and Ors,* AIR (1990) SC 273, in the wake of the Bhopal Gas Tragedy of December, 1984, by the Supreme Court of India
[6] *Union Carbide Corporation v. Union of India and Ors (supra)*

clearly within the executive, legislative or judicial branches of government. In this way the agency takes on tasks inherent to all three branches of government. To avoid creating a leviathan, and to constrain and legitimize the agency, it shall be made to be accountable to each of the three branches of government. The reasons are as follows: first, the agency is created by legislative mandate; as the National Assembly enacts law that established the agency and defined its mission and jurisdiction, it also controls financial appropriation to the agency, which effectively influence the agency's programmes. Second, the agency is housed within the umbrella of the executive branch, and the President usually has the right to appoint agency head, giving the executive branch considerable control over the programmes and operations of the agency. Third, regulations and administrative decisions that may be made by the agency are reviewable by the judiciary.

The fallout of the above is that the agency will exercise a significant amount of power and influence environmental governance in Nigeria, especially within the context of her environmental laws. The agency will then, in the long-run, be able to create specific mechanisms for implementing environmental laws, utilize full range of investigative and enforcement tools to implement regulations and possess self-contained adjudicative systems that can conduct hearings, render decisions between public and private entities and issue administrative penalties.

5.0. Conclusion

In the final analysis, realizing that the environment supplies us with all our resources and that it forms the base for our developmental advancement, it becomes necessary that the plethora of problems inhibiting the achievement of an environmental end be addressed. We made bold to say that each generation is entitled to use nature to a large extent but it should not disrupt or upset the interests of future generations, noting that the Earth's resources we use today we did not inherit them from our fathers; we are holding them on trust for future generations coming after us. This cliché was recently re-echoed by Pope Francis when he said, "the Earth is not an inheritance that we receive from our parents, but a loan that our children give to us." [1] The future is valuable because the cost of avoiding a problem is often less than the cost of solving it later. It is our sacred duty to do this. Thus, environmental foresight can preserve the environment for future generations. This is because when one generation's behaviour necessitates environmental remediation in the future, an environmental debt is bequeathed to the future generations; just as surely as unbalanced government budgets bequeath a burden of financial debt. Therefore, any deliberate or intentional damage to the natural environment and its resources should be punished in line with modern trends. Our effort now is to turn today's impossibilities to tomorrow's realities. To achieve this we must think globally, but act locally in setting out legal mechanism for environmental pollution abatement and control.

On the whole we should note and observe the following Islamic injuction on environmental protection:

> God's wisdom has ordained to grant man inheritance on earth. Therefore, in addition to being part of the earth and part of the universe, man is also the executor of God's injunctions and commands. And as such he is a mere manager of the earth and not a proprietor; a beneficiary and not a disposer or ordainer. Man has been granted inheritance to manage and utilize the earth for his benefit, and for the fulfilment of his interests. He therefore has to keep, maintain and preserve it honestly, and has to act within the limits dictated by honesty.[2]

Akin to this, Pope Francis, speaking at one of his regular morning Masses in the Vatican in February, 2015, emphasized that the care of creation is part of our Christian identity, not merely an ideological or political option when he said, "A Christian who does not protect Creation, who does not let it grow, is a Christian who does not care about the work of God."[3]

Let us therefore not form the habit of "if it grows, cut it, if it is swampy, fill it; if it moves, kill it." It is a dangerous recipe for disaster as this will amount to "earth-and-people-movement. We should finally in this regard, note that laissez-faire may be good economics, but it is a prescription for disaster in ecology. We must therefore act now, time is running out, and we have no other abode than this Earth.

[1] Pope Francis: *Messenger of Saint Anthony* (International Edition), June 2015, back page.
[2] International Union for the Conservation of Nature (IUCN): *Islamic Principles for the Conservation of the Natural Environment*, IUCN Environmental Policy and Law Paper No. 20 (1983), p. 45.
[3] Philippa Hitchen: "Stewards of God's Creation," *Messenger of Saint Anthony* (International Edition), June 2015, p.36