# CONTROLLING NIGERIA'S AIR RESOURCES: THE EFFECTIVENESS OF THE LEGAL REGIME

BY

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## Introduction

The development of environmental law in Nigeria span through three distinct eras: the pre-colonial era, the colonial era and the post-1988 era. The pre-colonial era was when the traditional people through their culture and customs preserved the environment. The colonial era witnessed the introduction of many regulations strictly targeted at protecting human health, forestry and other natural resources by the colonial administrators. The post- 1988 era saw the emergence of several stringent statutory environmental laws brought about by the discovery of five shiploads of toxic waste dumped at the small port town of Koko in present-day Delta State in June, 1988.

Despite the emergence of statutory environmental laws, Nigeria at present has no comprehensive legislation on air pollution. In other words, there is no single national legislation dealing with all aspects of air pollution in Nigeria as obtainable in other climes. The provisions dealing with air pollution are scattered and contained in several pieces of legislative instruments as we shall soon discover. They are a combination of statutes, regulations, guidelines and standards promulgated, developed and established with the aim of protecting the country's air resources. However, the question is whether or not the extant legal regimes have adequately addressed the air pollution problems in the country and whether developing a single comprehensive statute will more effectively control air pollution in Nigeria. These are questions this discourse attempts to answer. It is worthy of note that this work will be examining only the national statutory provisions. The state and local government laws relating to air pollution will be left for further research.

## National Environmental Standards and Regulations Enforcement (Establishment) Act[1]

The Act represents the most comprehensive focus on the protection of the environment for sustainable development. This is an Act to provide for the establishment of the National Environmental Standards and Regulations Enforcement Agency charged with responsibility for the protection and development of the environment in Nigeria and for related

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[1] Act No. 25, 2007

matters. The Federal Environmental Protection Agency (FEPA) was playing this role previously. However, in 1999, the President created the Federal Ministry of Environment which absorbed FEPA and its statutory functions.[2] This was done without an appropriate enabling law on enforcement issues; this created a vacuum in the effective enforcement of environmental laws, standards and regulations, hence the need for an enforcement Agency.[3] NESREA was consequently created as a parastatal of the Federal Ministry of Environment, Housing and Urban Development. The NESREA Act which established NESREA, subsequently repealed the Federal Environmental Protection Agency (FEPA) Act of 1988 which set up FEPA.[4] As the parent ministry to NESREA, the Federal Ministry of Environment is of the view that it is impossible for the parent Ministry to be non-existent while the subsidiary is functioning. The implication is that the Federal Ministry of Environment does not recognize section 36 of the NESREA Act which repealed the FEPA Act. This, we submit, is an anomaly because if an Act has been repealed, it is no longer in existence and is no longer recognized as law. The same fate applies to the Agency set up under it. The position of the Federal Ministry of Environment is therefore unnecessary and unhelpful to the environmental management efforts of government. It smacks of an unhealthy rivalry between bodies charged with environmental management.

The objectives of NESREA are:

> ... the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general and environmental technology, including coordination and liaison with relevant stakeholders within and outside Nigeria on matters of enforcement of environmental standards, regulation, rules, laws, policies and guidelines.[5]

However, it is worthy of note that the oil and gas subsector is exempted from the purview of the Agency.[6] Rather, the Department of Petroleum Resources (DPR) has been saddled with the responsibility of regulating the oil and gas subsector while the National Oil Spill Detection and Response Agency (NOSDRA) was established to monitor and co-ordinate response to oil spills in Nigeria.[7] Amidst other functions, NESREA shall enforce through compliance monitoring, standards on noise, air, land, seas, oceans and other water bodies.[8] In addition, the

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[2] Fagbohun, Olanrewaju., op.cit. P.314.
[3] NESREA'S Official website visited on 7th July, 2011
[4] S. 36 of the NESREA Act.
[5] S.2 of the Act.
[6] See s. 7(g), (h),( j), (k) & (l) , s. 8 and s.29 of the NESREA Act. The Department of Petroleum Resources (DPR) is charged with the oversight functions of the Oil and Gas sector.
[7] NOSDRA was established by the National Oil Spill Detection and Response Agency (Establishment) Act 15, 2006
[8] S. 7(h) of the Act.

Agency may make regulations setting specifications and standards to protect and enhance the quality of Nigeria's air resources, so as to promote the public health or welfare and the natural development and productive capacity of the nation's human, animal, marine or plant life.[9] The Agency has drawn up some regulations in this regard. Some of the regulations are as follows:

a) National Environmental (Mining and Processing of Coal, Ores and Industrial Minerals) Regulations 2009;

b) National Environmental (Food, Beverages and Tobacco Sector) Regulations, 2009;

c) National Environmental (Textile, Wearing Apparel, Leather and Footwear Industry) Regulations, 2009;

d) National Environmental (Chemical, Pharmaceutical, Soap and Detergent Manufacturing Industries) Regulations, 2009 and

e) National Environmental (Ozone Layer Protection) Regulations, 2009.

The new Regulations are improvements on the National Environmental Protection (Effluent Limitation) Regulations 1991and the National Environmental Protection (Pollution Abatement In Industries And Facilities Generating Wastes) Regulations 1991 formulated by FEPA because the emission standards and guidelines for the different industries have now been properly separated and clearly spelt out which should make enforcement and compliance easier. Furthermore, regulation setting forth emission standards for vehicular emissions has now been developed, though it is still in draft form and is in the process of being gazette. Below is an example of air emission guidelines for an industry.

**Table 1: Air Emission Guidelines For Textile, Wearing Apparel, Leather And Footwear Industry**

| *Parameter* | *Maximum Value* |
|---|---|
| | *(mg/m3)* |
| Particulate matter | 50 |
| VOCs | 150 |
| Ammonia | 30 |
| $H_2S$ | 5 |
| $CS_2$ | 150 |
| Chlorine | 5 |
| Formaldehyde | 20 |
| Cyanide | 10 |
| Phenol | 5 |

[9] S. 20(1) of the Act.

Source: Schedule V of the National Environmental (Textile, Wearing Apparel, Leather and Footwear Industry) Regulations, 2009.

In the above table, the column on the left shows the type of gaseous pollutants the textile industry emits in the course of production while the permissible level of such emissions is indicated on the right column of the table and measured in microgram per cubic meter. Regulation 21(1) of the National Environmental (Textile, Wearing Apparel, Leather and Footwear Industry) Regulations, 2009 stipulates that a facility that discharges gaseous emission shall treat it to the permissible level prescribed in the above table. It goes further to provide that such treatment can be achieved using appropriate treatment technologies for minimizing the release of significant pollutants to the air. The regulation proceeded to list some of the relevant technologies.[10] Any emission beyond what the regulation prescribes is deleterious to human health and the environment and a guilty industry is said to have committed an offence.[11]

The issue of whether the agency is enforcing the provisions in the new regulations through compliance monitoring as provided for by section 7 (h) of the NESREA Act is another issue. In an oral interview, the Zonal Director of NESREA in the Jos office said that the Regulations are not being enforced yet due to lack of the relevant equipment with which the Agency will verify the claims in the discharge monitoring reports submitted by the industries as required by the regulations.[12] Furthermore, the Zonal Director stated that even the ambient air quality, type and quantity of emission in Nigeria has not been measured by the Agency for the same reason of lack of equipment. In addition, he revealed that though two Mobile Air Monitoring Vans were acquired in 2009 for Abuja and Portharcourt cities for the measurement of air quality in those cities from time to time, they have not been put to use because the Agency lacks skilled scientists known as calibrators to operate them. Without the availability of such vital information, it becomes impossible to ascertain the level of hazardous pollutants in the air and the level of its impact on human health and the environment. It also becomes impossible to engage in air pollution control in Nigeria because the starting point for any air pollution control program is the measurement of the national air quality.[13] In addition, the continuous relevance and

[10] Regulation 21(2)

[11] Regulation 49

[12] The interview took place in the Nesrea Zonal office, Miango, Jos in May, 2011; For example, regulation 36 of the National Environmental (Textile, Wearing Apparel, Leather and Footwear Industry) Regulations, 2009and regulation 35 under the National Environmental (Food, Beverages and Tobacco Sector) Regulations, 2009 require industries to submit monthly emission data sheet but if such report is submitted, NESREA will have no way of verifying it.

[13] See Elsom, Derek. *Atmospheric Pollution*, Oxford: Blackwell, 1992. Print; Wark, Kenneth. and Warner, Cecil. *Air Pollution: Its Origin and Control* 3rd ed. (New York: Harper & Row, 1986). Print.

effectiveness of such a program requires a regular, thorough review of the set standards and guidelines; and the monitoring of the air quality.

For instance, the American Clean Air Act 1990 requires the Environmental Protection Agency (EPA) to review the available research findings and determine if the current air pollution and standards protect the public health. In 2004, the EPA published its review of the knowledge, at that time, of the health effects of particle pollution after several years of spending millions of dollars conducting such research.[14] Inevitably, the research enabled the Agency gain much insight into the mechanisms that wreck havoc on the body. Consequently, EPA began the process of determining what the new emission standard of particle pollution should be in order to provide the legally guaranteed protection.[15]

By virtue of section 20 (d) of NESREA Act, the Agency is required to set specifications and standards for the control of atmospheric pollution originating from energy sources, including that produced by aircraft and other self-propelled vehicles, industries, factories and power generating stations or facilities. It is common knowledge that generators have almost become the primary source of energy supply for both industrial and domestic uses in Nigeria as a result of the failure of the Power Holding Company of Nigeria to guarantee consistent power supply to consumers. In view of the danger generator emissions pose to man's health and the environment, regulating them cannot be overemphasized. However, the question that must be addressed for this provision to be enforceable is that: at what level should these emissions be regulated? Is it to be regulated at the point of their manufacture (in which case NESREA can do nothing at such points as they are not manufactured in Nigeria) or by the individual who purchases it or in relation to the type of fuel being used to power the generators? Presently, most generators are powered by petrol or diesel and the use of these fuels result usually in the emission of various gaseous substances. The other problem is how NESREA will enforce the control of these pollutants.

The NESREA Act makes provision for the prevention, abatement and control of pollution. Section 20(1)(f) provides for the use of appropriate means to reduce emission to permissible levels and it is geared towards controlling air pollution. However, the NESREA Act does not define what an 'appropriate means' is thereby making the provision vague. Furthermore, section 20(2) which is meant to control pollution indicates that the Agency 'may' establish monitoring stations or networks to locate sources of atmospheric pollution and determine their actual or potential danger. The word 'may' presupposes that the Agency need not necessarily establish monitoring stations and if this is truly the intent of the drafters of the statute, how will the actual or potential danger posed by air pollution be monitored?

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[14] The EPA has sponsored such research into the health effects of particle pollution since 1997;See State of the Air 2005, *The American Lung Association* http://www.lung.org/assets/documents/publications/state-of-the-air/state-of-the-air-report-2005.pdf visited on 5th September 2009. P. 71

[15] Ibid

Section 21(2) of the NESREA Act states that the Agency shall, in collaboration with other relevant agencies, embark on programmes for the control of any substance, practice, process or activity which may reasonably be anticipated to affect the stratosphere, especially ozone in the stratosphere, when such effects may reasonably be anticipated to endanger public health or welfare. It is apparently pursuant to this section that the National Environmental (Ozone Layer Protection) Regulation, 2009 was drawn up. However, the penalty for an offence under this sub-section and that of the violation of the Ozone Layer Protection regulation are different.

Section 21(3) of NESREA Act provides that an offence under section 21(2), if committed by a body corporate, shall on conviction, be liable to a fine not exceeding N2,000,000 and an additional fine of ?50,000 for everyday the offence subsists. However, under the Regulation, regulation 22 provides penalty not just for a body corporate but also for an individual.[16] In addition, the regulation provides for a fine of ?1,000,000 as against the ?2,000,000 to be paid by a body corporate in the Act. These provisions are confusing and it will lead to stakeholders finding it difficult to know which of the provisions should be followed. Therefore, there is need for these provisions to be harmonized. Since the penalty provision under the Regulation is more encompassing, that of the Act should be subsumed into it.

The NESREA Act also prohibits the discharge in such harmful quantities of any hazardous substance into the air of Nigeria except where such discharge is permitted or authorized under any law in force in Nigeria.[17] A person who violates this provision commits an offence and is liable on conviction, to a fine, not exceeding N1,000,000 or to imprisonment for a term not exceeding 5 years.[18] A body corporate that violates the section shall on conviction, be liable to a fine not exceeding N1,000,000 and an additional fine of N50,000 for every day the offence subsists.[19] One wonders what the rationale is for imposing such a high fine on an individual especially when compared with the penalty for the violation of section 20 which is N200,000 and or 1year imprisonment. In this writer's opinion, the act both sections prohibit is more or less the same preventing atmospheric pollution. There is therefore no justification for the highly punitive amount imposed on the polluter under section 27.

**Guidelines and Standards for Environmental Pollution Control in Nigeria**

This is the national guidelines and standards for industrial effluents, gaseous emissions and hazardous wastes. They were drawn

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[16] Regulation 22(1) & (2) of the National Environmental (Ozone Layer Protection) Regulation, 2009.

[17] S.27(1)

[18] S.27(2)

up by the then FEPA in 1991 and meant to be in use until Regulations were made to replace them. It was these guidelines that gave birth to the National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes) Regulations 1991 and National Environmental Protection (Effluent Limitation) Regulations 1991. Since the purpose of the guidelines is to serve as a working document for FEPA until relevant Regulations were made, it is not clear what the position of the guidelines are following the establishment of these two Regulations. The then Minister of Works and Housing, Major-general M.T. Kontagora, stated then that 'from time to time' he would utilize materials from the Guidelines to prepare Regulations which would put necessary sanctions on breaches that tend to derogate and damage the environment.[20] The phrase, 'from time to time' is open ended and it defeated the interim purpose these guidelines was to serve. Now that NESREA is the regulatory Agency, what then is the position of this document? This writer is of the view that since the document was meant to be a guide to prepare regulations, all the necessary regulations should be formulated so that this document can be done away with. Otherwise, the government will be encouraging a multiplication of guidelines and standards in Nigeria which may pose some confusion.

Furthermore, at the time the Guidelines were presented to stakeholders[21] for study and comments, the stakeholders made certain observations which to date have not been addressed by any Regulation.[22] The relevant observation for this discourse is that concerning mobile sources of emissions. It was observed that the Guidelines did not consider emissions from mobile sources, aviation and generating sets which FEPA acknowledged and promised to address subsequently.[23] The guidelines and standards given for emissions relate only to stationary sources which was eventually transposed to the National Environmental Protection (Effluent Limitation) Regulations, 1991 and the National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes) Regulations, 1991. These two regulations concern only emissions from industries. Of all the mobile sources complained about, only emissions from motor vehicles have been given attention by the Agency even though the regulation is still in draft form.[24] Till date, no standards have been set for emissions from aircrafts and generating sets. Without this being done, it is practically impossible to control their emissions.

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[19] S.27(3)

[20] Guidelines and Standards for Environmental Pollution Control in Nigeria, 1991p. Iii.

[21] Industries, Federal Ministries, State Governments, Universities and Individuals.

[22] "Industry and the Nigerian Environment", First National Environmental Seminar held between 21st 23rd May, 1990.

[23] Guidelines, op. cit, p. 21.

## National Environmental Protection (Effluent Limitation) Regulations 1991

This regulation was made pursuant to the repealed FEPA Act. It requires every industry to install anti-pollution equipment for the detoxification of effluent and chemical discharges emanating from the industry.[25] Such an installation is expected to be based on the Best Available Technology (BAT), the Best Practical Technology (BPT) or the Uniform Effluent Standards (UES).[26] A person who contravenes a provision of these Regulations is guilty of an offence and liable on conviction to the penalty specified in section 35 or 36 of the FEPA Act.[27] Although, the Regulation does not state so, we can imply that where a company or firm contravenes the provisions of the Regulation, the company shall be liable to the penalty specified in section 37 of FEPA Act accordingly.[28] It is unclear why the Regulation is silent on the penalty provisions for companies while focusing on individuals only. However, since the FEPA Act is repealed, section 4 (2) (b) of the Interpretation Act[29]

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[25] Regulation 1(1)

[26] Regulation 1(2)

[27] Regulation 5; Section 35(1) of FEPA states, 'If a person knowingly or recklessly makes any statement in purported compliance with a requirement to furnish information, which is false in a material particular, he commits an offence and shall on conviction be liable to a fine not exceeding N200 or imprisonment for a term not exceeding one year or to both such fine and imprisonment'. While s.35(2) states, 'Any person who falsely represents himself to be an authorised officer of the Agency and assumes to do any act or to attend in any place for the purpose of doing any act on behalf of the Agency, shall be guilty of an offence under this Act and on conviction shall be liable to imprisonment for a term not exceeding two years'. Section 36 of the FEPA Act on the other hand states that, 'Any person who contravenes any provision of this Act or any regulation made thereunder commits an offence and shall on conviction, where no specific penalty is prescribed therefore, be liable to a fine not exceeding N20,000 or to imprisonment for a term not exceeding two years or to both such fine and imprisonment'.

[28] Section 37 of the FEPA Act provides that, 'Where any offence against this Act or any regulations made thereunder has been committed by a body corporate or by a member or a partnership or other firm or business, every director or officer of that body corporate or any member of the partnership or other person concerned with the management of such firm or business shall, on conviction, be liable to a fine not exceeding N500,000 for such offence and, in addition, the body corporate, firm or partnership shall be directed to pay compensation for any damage resulting from such breach thereof or to repair and restore the polluted environmental area to an acceptable level as approved by the Agency'.

[29] Cap. 123, Vol. 8, Laws of the Federation of Nigeria, 2004. The entire provision of s. 4 (2) is as follows: 'Where an enactment is repealed and another enactment is substituted for it, then-

(a) the repealed enactment shall remain in force until the substituted enactment comes into force;
(b) any reference to the repealed enactment shall, after the substituted enactment comes into force, be construed as a reference to the substituted enactment;

(c) any subsidiary instrument in force by virtue of the repealed enactment shall, so far as the instrument is not inconsistent with the substituted enactment, continue in force as if made in pursuance of the substituted enactment.

provides that where an enactment is repealed, any reference to the repealed enactment shall, after the substituted enactment comes into force, be construed as a reference to the substituted enactment[30]. Consequently, the reference made to the penalty provisions in the FEPA Act is deemed to be reference made to the penalty provisions in section 20 (3) & (4) and section 24 (4) & (5) of the NESREA Act.[31] Thus, the applicable penalty provisions are those contained in the NESREA Act. Schedule 3 of the regulation contains the National effluent limitations and gaseous emissions guidelines in Nigeria for specific industries.

This regulation, by its title, was made to deal with effluent discharges by industries; but curiously enough, it included emission standards and guidelines not just for effluents but also for gaseous substances emitted by industries. This may create confusion for stakeholders as whoever picks up the regulation to use would be concerned with knowing the standards and guidelines for effluent discharges and would not expect to find one for gaseous emissions. By virtue of the title, only standards and guidelines for effluent discharges is expected to be reflected in the regulation for ease of reference. Quite apart from the emissions standards and guidelines in the regulation, no other provision deals with air pollution except regulation 1(1) which provides that industries should install anti-pollution equipment to detoxify chemical discharges. The inference here is that in order to control air pollution, industries are expected to install equipment manufactured for that purpose. To guide industries further on which equipment the regulation requires them to install, regulation 1(2) stipulates that it is the best available technology industries should purchase, not outdated equipment but the most recent in the market. The reality, however, is that most of these industries do not install the requisite equipment, yet, they keep are allowed to keep operating.

### National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes) Regulations 1991

This is one of the regulations made pursuant to the FEPA Act. Under this regulation, no industry shall release hazardous substances into the air, water or land beyond the limits approved by the Agency.[32] An industry is expected to have a pollution monitoring unit within its premises, an on site pollution control and assign the responsibility for pollution control to a person or body corporate accredited by the Agency.[33] An industry is expected to submit to FEPA, a list of the chemicals used in the production of its products and where they are bought.[34] Every industry

[30] The FEPA Act was repealed by s.36 of NESREA Act. Thus, NESREA Act is the substituted enactment.
[31] S. 20 (3) & (4) provides for offences and penalties where an individual or body corporate violates the provisions on the protection of Nigeria's air and atmosphere, while S. 24 (4) & (5) provides for offences and penalties where an individual or body corporate violates provisions on effluent limitations.
[32] Regulation 1
[33] Regulation 2(a)-(c).
[34] Regulation 5

is also expected to maintain pollution combating equipment[35] and no new industry is expected to commence production without compliance with the provisions of the Regulations.[36] Violation of any of the provisions of these regulations or guidelines and standards is punishable as an offence under section 35 or section 36 of the FEPA Act. The industries are also expected to analyse and report a gaseous discharge to the nearest office of the Agency every month through a Discharge Monitoring Report.[37]

Being a regulation made by FEPA Act, the same argument put forward under the National Environment Protection (Effluent Limitation) Regulations 1991 applies here.[38] It is a fact that most industries in Nigeria emit smoke and choking substances into the air. However, measuring their safe levels with requisite equipment is what may prove to be a herculean task for NESREA in the face of inadequate equipment[39] and lack of trained personnel to operate the few available. As earlier stated, NESREA does not seem to possess equipment needed to measure air quality except for the mobile van monitoring station present in two cities and which are not even in use yet. The Zonal Director of NESREA in Jos stated that the Agency just acquired some hand-held air monitoring device as at May, 2011. Meaning, the Agency has been unable to determine whether or not substances being released into the air by industries are beyond the limits approved by the regulation. Consequently, even when industries comply with the provision of the regulation that requires them to submit discharge monitoring report monthly, the Agency is unable to verify such reports (which normally states that industries are in compliance with required emission standards) for lack of requisite equipment to do so.[40] The implication is that, it becomes difficult for the Agency to monitor the compliance of

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[35] Regulation 8

[36] Regulation 14

[37] Regulation 3.

[38] See p. 12 for the researcher's comment on the same issue.

[39] This fact is buttressed by the 2011budget submitted to the National Assembly by the Federal Ministry of Environment wherein the Ministry requested for the procurement of six mobile air monitoring equipment for use by the six Zonal offices of NESREA and the procurement of monitoring equipment for industrial pollution prevention and control. This same request was made in the 2012 budget of the Federal Ministry of Environment with additional request for the procurement and installation of environmental enforcement data and information management equipment and purchase of personal protection equipment and portable field monitoring equipment for 17 NESREA state offices. The implication is that these items were not purchased in 2011 which necessitated their inclusion in the 2012 budget. The two budgets are available at http://www.budgetoffice.gov.ng/2011_budget and http://library.procurementmonitor.org respectively. Accessed on 8th August, 2012.

[40] Information given by NESREA Zonal director in Jos.

industries with these regulations, thereby making the law ineffective.

Regulation 8 (1) stipulates that an industry or a facility shall set up a machinery for combating pollution hazard and maintain equipment in the event of an emergency. This is a welcome provision but many of these industries do not have such pollution combating equipment to clean up or abate pollution.[41] Furthermore, one wonders if regulation 8(2) has not already been encompassed by regulation 8(1). Regulation 8(2) provides that industries should have a stock of pollution response equipment which shall be readily accessible and available to combat pollution hazards in the event of accidental discharges. Again, Regulation 17 expects industries to install appropriate abatement equipment in such manner as may be determined by the Agency. Is the equipment these three sections refer to not the same? Unfortunately, there is nothing in the Act to establish the difference, if any, in these provisions. The requirements look the same on the surface and if this is so, then these provisions amount to mere repetitions and they unnecessarily encumber the regulation. However, generally, most industries do not possess equipment either to prevent or abate air pollution; neither do most of them have equipment to measure the emissions from their factory. They depend mostly on environmental consultants who use their equipment to assess the discharges from the industries at a fee.[42]

**Criminal Code Act**[43]

The Criminal Code in section 247 stipulates that any person who vitiates the atmosphere in any place so as to make it noxious to the health of persons in general dwelling or carrying on business in the neighbourhood, or passing along a public way, is guilty of a misdemeanor, and is liable to imprisonment for 6 months. One of the objectives of the Nigerian Criminal Code is the preservation of the country's atmosphere. However, the fact that the Code treats the offence of impairing the atmosphere as a misdemeanor portrays otherwise. The battle against pollution globally definitely teaches otherwise. As a matter of fact, if this section is compared with the penalty provisons in NESREA for the same offence, we discover that air pollution is considered a serious offence. Moreover, one wonders the status of this provision in the light of penalty

[41] This was disclosed by an official of the Lagos State Environmental Protection Agency (LASEPA) in LASEPA office, Alausa, Ikeja, Lagos in February. 2011.

[42] This was the researcher's observation on a visit to some environmental consultants in Lagos in February, 2011. Requests by the researcher to gain access to some data of emissions measured by the consultants were turned down. These environmental consultants include Multiple Development Services Limited and StraDev, both situated in Lagos.

[43] Cap C38, Vol.4 Laws of the Federation of Nigeria, 2004. The Penal Code (Northern States) Federal Provisions Act, Cap P3, Vol.13 Laws of the Federation of Nigeria, 2004, a counterpart of the Criminal Code, has no provision for the control of air pollution. Hence, it was not examined in this work. This law is applicable only in the Northern States of Nigeria while the Criminal Code is applicable in the remaining states.

provisions in the NESREA Act for air pollution. This provision is hardly ever invoked and so appears to be redundant in the statute books.

**Petroleum Act**[44]

The Petroleum Act which is designed to ensure the conservation of the nation's petroleum resources contains a provision for the prevention of air and atmospheric pollution.[45] Though the Petroleum Act is a principal legislation on oil and gas, it cursorily acknowledges the need for the prevention of air pollution. The subsection empowers the minister to make regulations on the prevention of water and air pollution.[46] It is pursuant to this provision that the Petroleum Act, Mineral Oils (Safety) Regulations[47] were made. Among other things, it requires that the occurrence of hydrogen sulphide gas in any gas or oil well should be reported to the nearest inspector and to the Director of Petroleum Resources within 48 hours.[48] Further, it requires test to be made immediately to determine the concentration of hydrogen sulphide, and if found hazardous, steps should be taken immediately to protect all personnel working on the well and the danger of breathing hydrogen-sulphide bearing gas shall be made known.[49]

This provision addresses the pollution of air though narrowly by its restriction to atmospheric pollution by hydrogen sulphide. It seems to address primarily the safety of workers on the well while it is silent on what should happen to other inhabitants in the area who may be affected by the dispersal of the gas. Granted that hydrogen sulphide is not easily dispersed, yet the emission of the gas into the atmosphere over a long period of time has the potential of constituting danger to the health of living beings around the area of operation. It is therefore unclear why the regulation was not explicit with regard to the protection of inhabitants in the area. In addition, the requirement of the latter part of regulation 22(2) which states that the danger of breathing hydrogen-sulphide shall be made known after its occurrence in an oil well is a curious one. Conducting awareness on the danger of breathing hydrogen sulphide or any gas at that, is not an act to be carried out after a disaster has occurred but before it occurs. One is at a loss as to what the rationale is for leaving this important information till that stage. It is noteworthy that the Nigerian National Petroleum Corporation Act (NNPC Act)[50] similarly empowers the Minister of petroleum resources to make regulations for the prevention of air pollution.

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[44] Cap. P10, Vol. 13 LFN 2004
[45] Section 9 (1) (b) iii
[46] Ibid
[47] This is a subsidiary legislation of the Petroleum Act.
[48] Regulation 22(1)
[49] Regulation 22(2)
[50] Cap N123, Vol. 12, Laws of the Federation of Nigeria 2004.

**Understanding the gaps in the Legal Regimes**

Concerning the legal framework for air pollution in Nigeria, this work observed that the legislation and standards in place are inadequate to address the air pollution problem bedeviling the country. The interspersed nature of the provisions on air pollution in the statute books does not give room for air pollution to be comprehensively addressed in Nigeria. As seen in the course of this work, provisions only exist piecemeal in different legislation that are not related to the environment. Consequently, there is no comprehensive and detailed provision as to how to control air pollution from a multi-dimensional angle. In other climes, separate legislation to address air pollution is usually promulgated.[51] These legislation addresses the type and sources of air pollution, regulate energy being used not only in the industrial sector but also in the transport sector and in homes. However, all the Nigerian legislation and regulations examined in this work address only industrial sources of emission apart from the Criminal Code Act and the National Road Traffic Regulations. There is no provision regulating the types of energy being used to power vehicles, generators and machines generally including energy for cooking.

Even epidemiological studies that ought to be conducted from time to time in order to enable the regulatory authorities determine the effectiveness of the provisions of the law in protecting public health from air pollution is hardly conducted. This is the reason one can hardly come by data or statistics on the effect of air pollution on the health of Nigerian citizens. Despite the fact that it is well known that air pollution cause and aggravate quite a number of sicknesses and diseases, the epidemiological units and community health departments of hospitals in Nigeria rarely conduct studies to determine which of the diseases reported are caused by pollution of the environment.[52] This failure has been attributed to the absence of requisite equipment to conduct such tests. According to Dr. Ogbonna of the Community Health Department in the Jos University Teaching Hospital,[53] the equipment required to carry out such studies are not made available to their department by government and the equipment is so expensive that individuals are unable to procure them. Secondly, he said there are many compounding factors that cause ailments and there has to be painstaking tests conducted to enable health personnel narrow the cause down to a particular source like air pollution. He said further that for instance, asthma has many causes, which could range from an allergy to air pollution. What is needed to be able to determine the cause

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[51] The U.S. Clean Air Act, 2004; the South African Air Quality Act, 2004; the U.K. Clean Air Act, 1993 and the Air Quality Standards Regulations, 2010 to mention but a few.

[52] We acknowledge that this is not a Nigerian problem alone, most developing countries are confronted with this handicap as well. Cohen, J. and his co-authors observed that most epidemiological evidence and data on air quality come from developed countries. Cohen, Aaron; Anderson, Ross; Ostro, Bart., et. al. 'Urban Air Pollution'. Http://www.who.int/publications/cra/chapters/volume2/1353-1434.pdf visited on 6th October, 2011.

[53] During an interview on the 20th of June, 2011.

will require a doctor to conduct further tests, which involves possessing the right equipment. This makes it difficult for doctors to link any particular ailment to air pollution in Nigeria. He concluded that data of such studies is hardly available in Nigeria. Meanwhile, it is this data that will form the baseline for the regulation of air pollutants and the monitoring of the effectiveness of such regulation and legislation.

In America, every year, the Environmental Protection Agency publishes the outcome of its monitoring activities in relation to the environment.[54] The American Lung Association[55] also publishes reports every year known as 'The American Lung Association State of the Air' based on studies carried out on the impact of air pollution on the lungs of Americans. Similarly, in Britain, the Royal Commission on the Environment[56] also conducts studies and publishes its findings in form of reports from time to time.[56] All these reports contain scientific evidence and data linking certain ailments and diseases to pollution of the environment. The reports regarding air pollution provide information on the level of prevalence of air pollution related diseases on the populace generally and in the different cities of the country.[57] In the EPA report, for instance, studies revealed that exposure to naturally occurring randon gas are the second leading cause (after tobacco smoking) of lung cancer among Americans.[58] These studies also determine the presence of pollutants in the air and the extent of human exposure to them. It is from such information that national agencies and government derive environmental policies and strategy for air pollution control. This lack of baseline information on the impact of air pollution on health is also applicable to the environment. There is hardly any information on how air pollution affects plants, ecosystems, animals and organisms in Nigeria.

Additionally, measuring and monitoring air quality concentrations is pivotal to understanding the extent of air pollution and ensuring a proportionate and cost-effective response. As observed in this discourse, there are no co-ordinated and continuous assessments of local air quality undertaken by the governmental environmental agencies

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[54] "Cleaner Air" EPA's Draft Report on the Environment 2003. http://yosemite.epa.gov/sab/sabproduct.nsf visited on 5th September, 2009.

[55] It is said to be a leading organization working to save lives by improving lung health and preventing lung disease through Education, Advocacy and Research. Members are composed of physicians, researchers, nurses, respiratory therapists, and other health care professionals who work in academic institutions, private practices, hospitals and scientific research settings.

[56] It is an independent standing body established in 1970 to advise the Queen, the Government, Parliament and the public on environmental issues. The Commission members are appointed by the Queen on the advice of the Prime Minister. The members cut across different disciplines like medicine, mechanical engineering, geography science, law, environmental sciences, geologists, plant biologists, ecologists and so on.

[56] It could by annually or bi-annually.

[57] See EPA Report on the Environment, 2003, op. cit; "The Urban Environment." The Royal Commission on Environmental Pollution twenty-sixth Report of March, 2007.

[58] Ibid.

charged with this responsibility. The implication is that Nigerians living and working in major cities do so in an environment devoid of a standard against which the air they breathe can be assessed or managed. What the statutory provisions have done so far is to recognize air pollution as a problem without making comprehensive and adequate provisions to tackle it. In view of the lack of such necessary information in Nigeria, how possible is it for the legislature to develop effective laws to curb air pollution for the good of public health and the protection of the environment? It is obvious that no effective statutory framework on air pollution can be developed without the availability of scientific evidence and data on air quality, common air pollutants, health and environmental impact of air pollution in Nigeria.

**Conclusion**

We recommend the harmonization of the provisions interspersed in the different legislation and regulations in order to develop them into a comprehensive Air Act that will address air pollution complexities and engender clean air. Taking a cue from legislation in other climes, such Air Act should address all sources of air pollution and give details of institutional and planning matters and measures in air quality management. For instance, the government needs to harmonise the Guidelines and Standards for Environmental Pollution Control in Nigeria with the new regulations made by NESREA in 2009 in order to avoid duplication of regulations . The proposed Act should adopt the air quality management strategy; it should include Air Quality Index (AQI) which will provide simple information on local air quality, the health concerns for different levels of air pollution and how people can protect themselves when pollutants reach unhealthful levels. The Federal Ministry of Environment and NESREA will need to consult with academic and non-academic experts on the environment from other nations to enable exchange of ideas on air quality management.