

AIR POLLUTION CONTROL IN SOUTH-EAST ZONE OF NIGERIA AS A SINE-QUA-NON FOR SUSTAINABLE DEVELOPMENT IN THE ZONE: LEGAL EVALUATION¹

Abstract

This paper explores the challenge of air pollution to the sustainable development of the South-East zone of Nigeria. Air pollution is the emission into the atmosphere of particulate matter and gases which have deleterious effects on human health, the ecosystem and the environment on which humankind depends. Its effects include nasal, eyes and airway irritation, and even lung and heart problems. Studies show that air pollution is currently responsible for more deaths in Africa than malnutrition or dirty water. With a geographical area of 29,088 square kilometers (km²) and a population of about 40 million, South-East has a high population density of 1375 per km², which is a key factor for air pollution. Under this condition sustainable development of the zone would be difficult without an effective legal regime for air pollution control. This paper, thus, appraised the adequacy of the legal regime on air pollution control in South-East. The paper is divided into eight parts: (1) introduction, (2) theoretical framework of key concepts, (3) problems of air pollution, (4) air pollutants and sources, (5) legal framework for air pollution control in Nigeria, (6) legal framework for air pollution control in South-East, and (7) effectiveness of the legal framework for air pollution control in South-East. The last part is conclusion and recommendations. The finding is that the legislations on air pollution control in the zone are inadequate and so law review is recommended. The methodology of the paper is doctrinal.

Keywords: Air pollution, Legislations, Sustainable development, South-East zone, Nigeria

1. Introduction

The *Aku-ruo-ulo* philosophy of the Igbos of Nigeria is an invitation to Igbos in diaspora (understood here to refer to Igbos outside of the indigenous Igbo homeland in Nigeria) to be mindful of also developing their homeland with their resources. This is a noble cause the success of which, however, lies on many factors beyond sheer goodwill and optimism. One of these is arresting the suffocating air pollution in South-East zone of Nigeria, the Igbo heartland. This paper focuses on the problem of air pollution which if not adequately addressed developmental projects in the zone would be unsustainable as they would result to health, ecological and environmental hazards. Air pollution is the emission into the atmosphere of particulate matter and gases which have deleterious effects on human health, the ecosystem and the environment on which humankind depends. These deleterious effects include nasal, eyes and airway irritation, and even lung and heart problems. Studies show that air pollution is currently responsible for more deaths in Africa than malnutrition or dirty water. A key factor for air pollution is high population. South-East zone is heavily populated with a population density of 1375 per km² from a population of about 40 million² over a geographical area of 29,088 square kilometers (km²).³ Consequently, for the development of the zone to be sustainable, effective control of air pollution is a *sine qua non*. Thus, this paper reviews the effectiveness of the legal regime for the control of air pollution in the zone.

The paper is divided into eight parts. Following the first part, Introduction, are: (2) Theoretical Framework of Key Terms; (3) Problems of Air Pollution; (4) Air Pollutants and Sources; (5) Legal Framework for Air Pollution Control in Nigeria; (6) Legal Framework for Air Pollution Control in South-East; (7) Effectiveness of the Legal Framework for Air Pollution Control in South-East; and (8) Conclusion and Recommendations. The finding is that the legislations on air pollution control in the zone are inadequate and so law review is needed.

2. Description of Key Terms

Air pollution is a key idea in this paper and for Gundling it is ‘the introduction by man, directly or indirectly, of substances or energy into the air resulting in deleterious effects of such a nature as to endanger human health, harm living resources, ecosystems and material property, and impair or interfere with amenities and other legitimate uses of the environment.’⁴ For the Organization for Economic Cooperation and Development (OECD) it is ‘the presence of contaminant or pollutant substances in the air that do not disperse properly and interfere with human health or

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²‘Igboland’, <<https://en.wikipedia.org/wiki/Igboland>> accessed 23 November 2019.

³Chibuzor Aguwa, ‘Top 10 Smallest States in Nigeria By Population and Land Mass’, <<https://nigerianfact.com/smallest-states-in-nigeria/>> accessed 23 November 2019.

⁴ L Gundling, *International Environmental Law: Atmosphere, Freshwater and Soil*, (Switzerland: UNITAL, 1998), 6 1979 Convention on Long Range Transboundary Air Pollution, art. 1(a).

welfare, or produce other harmful environmental effects.’⁵ This definition says nothing about the sources of the contaminant substances unlike Gundling’s definition that points out that the pollutants come from man. It sees air pollution simply as the presence of contaminant or pollution substances in the air regardless of its source. Contaminant substances in the air broadly come from two sources, natural and human. Natural pollutants are those air pollutants that occur independent of human agency, but simply through the forces of nature. An example is sulphur dioxide pumped into the air by active volcanoes. Human sources, otherwise called anthropogenic sources of air pollution, refer to human activities which directly or indirectly emit air pollutants. Gundling’s definition represents a narrow conception of air pollution because it represents air pollution resulting only from human sources. Since human beings can only control anthropogenic air pollution and hardly ever control natural sources of air pollution, this paper adopts the narrow concept of air pollution.

Another key concept in this work is sustainable development. Many scholars have defined it in their own ways. However, a more broadly accepted definition is that given by the Brundtland Commission (previously known as the World Commission of Environment and Development –WCED), whose mission was to unite developing and developed countries to pursue sustainable development together, in its report in 1987 titled ‘Our Common Future’. According to the report, sustainable development is ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs.’ It derives from the consciousness that the earth resources do not belong to any one generation, but to both the present generation and generations yet unborn. Consequently, the present generation has the ethical duty of using the natural resources in a manner that does not extinguish the right of the generations unborn to exploit the same resources. Sustainable development implies therefore that economic development and environmental protection can go on at the same breath, none supplanting the other. Further remarkable development in the concept of sustainable development occurred at the World Summit on Sustainable Development (WSSD) in 2002 at Johannesburg, South Africa. The concept was expanded to include social development. Development is sustainable if it embraces at the same time not only economic advancement and environmental protection but also social welfare of the community in which the economic activities take place. Thus sustainable development today stands on the tripod of economic, environmental and social development, all going along at the same time. In effect economic development should not go ahead without at the same time embracing environmental and social protection and vice versa.

South-East zone is one of the six geo-political zones in Nigeria.⁶ It consists of five states, namely: Abia, Anambra, Ebonyi, Enugu and Imo. Under Nigerian federalism it is the states that are federating units and not the geo-political zones. One particularity of the South-East zone is that it is the heartland of the Igbo ethnic nation. It is not however coterminous with Igbo people because Igbo people are also found in States outside of the zone such as Rivers, Delta and Edo States.

3. Problems of Air Pollution

Problems of air pollution come in threefold: health, ecological and environmental problems.

Health Problems

Pollution makes the air toxic and harmful to health. Research has indicated a direct association between exposures to poor air quality and increasing rate of morbidity and mortality particularly on account of cardiovascular and respiratory diseases.⁷ Effects of air pollution also include nasal, eye and airway irritation, skin diseases and long-term chronic diseases like cancer.⁸ For instance, smog, caused by sulphur pollution of the air is dangerous for people with respiratory problems such as asthmatic people, people with heart conditions, aged people and children. It can cause sudden death. Gas flaring is one source of atmospheric sulphur dioxide. Abia and Imo States as parts of the

⁵ OECD, ‘Air Pollution’, (1997), <https://stats.oecd.org/glossary/detail.asp?ID=86>, accessed 23 November 2019.

⁶ The other zones are South-South, South-West, North-Central, North-East and North-West. With the exception of the North-West zone which has seven states, all the other four zones have each six states.

⁷ Adel Ghorani-Azam, Bamdad Riahi-Zanjani, and Mahdi Balali-Mood, ‘Effects of Air Pollution on Human Health and Practical Measures for Prevention in Iran’ in *J. Res Med Sci.* 21:65(2016). H.S. Rumana, R.C. Sharma, V. Beniwal, and A.K. Sharma, ‘A Retrospective Approach to Assess Human Health Risks Associated with Growing Air Pollution in Urbanized Area of Thar Desert, Western Rajasthan, India’, *J Environ Health Sci Eng.* 12:23(2014); S. S. Yamamoto, R. Phalkey and A. A. Malik, ‘A Systematic Review of Air Pollution as a Risk Factor for Cardiovascular Disease in South Asia: Limited Evidence from India and Pakistan’, *Int J Hyg Environ Health.* 217:133–44 (2014).

⁸ Adel Ghorani-Azam, et al., 65

EZEANOKWASA: Air Pollution Control In South-East Zone Of Nigeria As A Sine-Qua-Non For Sustainable Development In The Zone: Legal Evaluation

Niger Delta where gas is flared are witnessing this kind of air pollution.⁹ Studies have associated air pollution with male infertility.¹⁰ Animals are significant parts of human ecosystem. Like human beings animals live on oxygen and thus air pollution affects their lungs and their entire respiratory system.¹¹ Like animals plants are also significant parts of human ecosystem. Air pollution also affects plants and the effects differ according to the pollutants. For instance, smog, together with high concentration of particulate matter, reduces the amount of sun rays reaching plants and this retards plant growth. This type of air pollution destroys forests and crops, particularly vegetables like soybeans, wheat, tomatoes, peanuts and cotton.¹²

Ecological Problems

Ecology deals with the relationship between organisms amongst themselves and with their environment. Air pollution can result to changes in the ecosystems as it is a threat to biodiversity. Acid rain, for example, can result to the acidification of bodies of water which can lead to the death and even extinction of some aquatic lives.¹³ Ground water can also be acidified and it can lead to the extinction of some plant species.¹⁴

Environmental Problems

Environmental problems associated with air pollution include acid rain, temperature inversion, and global climate changes due to the emissions of greenhouse gasses into the atmosphere.¹⁵

4. Air Pollutants and Sources

Air pollution is classified into indoor and outdoor. Indoor air pollution occurs in enclosed areas like homes and offices while there is outdoor air pollution if the pollution occurs in open-air places, such as during gas flaring and bushfires. Air pollutants are classified into particulate matter and gases. Particulate pollutants include solid airborne particles such as dust, fly ash, smoke, fog, soot, and fumes. Industrial activities that throw dust into the air include mining and civil engineering works like road and house constructions. Gaseous pollutants include carbon monoxide, carbon dioxide, hydrocarbons, oxides of sulphur and oxides of nitrogen. Even though carbon dioxide is emitted by human beings during respiration, it is generally seen as a pollutant when it is emitted by cars, planes, power plants, and other human activities that involve burning of fossil fuels such as coal, gasoline and natural gas. It is considered that carbon dioxide exhaled by human beings and other animals cannot distort the natural atmospheric carbon dioxide equilibrium because they are taken by plants and vegetation. Nitrogen, ordinarily, is a significant part of the air. Under high temperature, it reacts with the atmospheric oxygen to form Nitrogen oxide, which reacts further with atmospheric oxygen to form Nitrogen dioxide. Nitrogen oxide is further emitted into the air by the burning of fossil fuels. Under humid conditions it forms nitric acid. Like Nitrogen oxide, sulphur dioxide pollution comes from the burning of fossil fuels. Nitrogen oxide and sulphur dioxide under humid conditions form nitric acid and sulphuric acid respectively, which are responsible for acid rain. Sulphur dioxide in the air also causes smog. Acid rain is responsible for high corrosivity of metal and structures in affected areas. It leads also to the acidity of both surface and ground water, and harms soil nutrients thereby leading to poor agricultural harvest. In Nigeria, rain in the Niger Delta area where gas flaring has been going on for decades has been found to be acidified.¹⁶ Carbon monoxide (CO) is a colorless, tasteless and odorless gas that is produced from the incomplete combustion of fossil fuels and wood. Carbon monoxide can be harmful to life when inhaled in large amounts by reducing the amount of oxygen in the

⁹ J.K.C. Nduka, O.E. Orisakwe, L.O. Ezenweke, T.E. Ezenwa, M.N. Chendo & N.G. Ezeabasili, 'Acid Rain Phenomenon in Niger Delta Region of Nigeria: Economic, Biodiversity, and Public Health Concern', [2008] 8 *The Scientific World Journal*, 811-818.

¹⁰ N. Zhou, Z. Cui, S. Yang, X. Han, G. Chen, Z. Zhou, et al., 'Air Pollution and Decreased Semen Quality: A Comparative Study of Chongqing Urban and Rural Areas', *Environ Pollut.* 187:145-52 (2014). Craig Hansen, Thomas J. Luben, Jason D. Sacks, Andrew Olshan, Susan Jeffay, Lillian Strader, and Sally D. Perreault, 'The Effect of Ambient Air Pollution on Sperm Quality', *Environ Health Perspect.* 118(2): 203-209(2010)

¹¹ Josep Orquin Carlos 'Effects of air pollution on the environment: animals, plants and ecosystems', <<https://www.airgo2.com/air-pollution/effects/environment-animals-plants-ecosystems/>> accessed 23 November 2019.

¹² Ibid.

¹³ JA Camargo and A. Alonso, 'Ecological and Toxicological Effects of Inorganic Nitrogen Pollution in Aquatic Ecosystems: A global Assessment', [2006] 32 *Environ Int.*, 831-49.

¹⁴ Ibid.

¹⁵ SH Schneider, 'The Greenhouse Effect: Science and Policy', [1989] 243 *Science*, 771-81. See also Ikenga K.E. Oraegbunam, MVC Ozioko & Chukwubuike J. Azoro, 'A Critical Review of the Legal Regime for the Maintenance of Environmental Standards in Nigeria: Bio and Hydro Energy Sectors in Focus', *International Journal of Innovative Development and Policy Studies*, 7(3):105-116, July-Sept., 2019.

¹⁶ JKC Nduka et al, op. cit.

blood stream to important organs like the heart and brain. If inhaled in a high level, carbon monoxide can lead to dizziness, unconsciousness and death. A significant source of outdoor anthropogenic carbon monoxide pollution is vehicular traffic. Economic development entails more vehicular movement of industrial materials, products and staff. Hydrocarbons are compounds of hydrogen (H) and Carbon (C). An example is methane (CH₄). Many industrial processes involve hydrocarbons and their compounds. Hydrocarbons are greenhouse gases (GHGs) which cause global warming. Halogenated hydrocarbons like Chlorofluorocarbons (CFCs) and Hydrochlorofluorocarbons (HCFCs) are also compounds of hydrocarbons and are ozone-depleting substances (ODS). They come from sources like refrigerants, fire extinguishers, solvents for cleaning and agricultural fumigants. Methane comes, for instance, from solid waste dumps and livestock.

5. Legal Framework for Air Pollution Control in Nigeria

We cannot thematically talk of air pollution control in South-East zone without first having an overview of the legal regime for air pollution control in Nigeria which also operates in the South-East. Legal regime on air pollution control in Nigeria embraces international instruments on the subject ratified by Nigeria. These include United Nations Framework Convention on Climate Change (UNFCCC), Vienna Convention for the Protection of the Ozone Layer, African (Banjul) Charter on Human and Peoples' Right, and Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Waste within Africa. Apart from these, Nigeria has municipal legal instruments on the subject, the principal ones amongst them are discussed below.

Constitution of the Federal Republic of Nigeria 1999 (as amended)

The 1999 Constitution of Nigeria is a foundation for air pollution control in the country. It states in section 20 that 'the State shall protect and improve the environment and safeguard the water, air and land, forest and wild life of Nigeria.' Section 1(h) of the Fourth Schedule of the Constitution specifies for each local government the duty of providing and maintaining public conveniences as well as sewage and refuse disposal. Refuse disposal saves the environment from methane emitted by decomposing solid wastes. . However, the provision of section 20 of the Constitution is not justiciable pursuant to section 6(6)(c) of the Constitution which bars any possibility of instituting a court action based solely on the infraction of a provision of the Chapter II of the Constitution which section 20 is a part of.

Factories Act, Cap F1 LFN¹⁷ 2004

This is an Act to provide *inter alia* for the safety of workers in factories to which the Act applies. It stresses amongst other things the air cleanliness of the factory environment. In this regard it provides that a factory shall not be overcrowded while in operation.¹⁸ It goes further in section 8(3) to specify the minimum dimension of a workroom in order to avoid overcrowding. A workroom must not be less than 9 feet in height.¹⁹ However, it does not specify the width of the room and the maximum number of people that can be in a specified room in order to avoid overcrowding. The Act states that there should be effective and suitable circulation of fresh air in each workroom.²⁰

Associated Gas Re-Injection (Amendment) Act, Cap A25 LFN 2004

This is an Act to compel every company producing oil and gas in Nigeria to submit preliminary programmes for gas re-injection and detailed plans for implementation of gas re-injection. The Act in section 3 prohibits with effect from 1st January 1984 all companies engaged in the production of oil or gas to flare gas produced in association of oil without the written permission of the Minister in charge of oil and gas. Gas flaring is a strong anthropogenic source of Nitrogen oxide which is a GHG. Stopping or minimizing gas flaring is a perennial problem in the oil industry in Nigeria. Pursuant to section 3(2) of the Act the Minister may issue a certificate permitting continued gas flaring after the prohibition date if he is satisfied that utilization or re-injection of the produced gas is not appropriate or feasible in a particular field or fields. Where the Minister decides to issue the gas flaring certificate, he can impose a condition on the company for the continued gas flaring [s. 3(2)(a)] or he can give the company a free hand on gas flaring on payment of specified fee [s. 3(2)(b)]. This is a weak and ineffective legislation considering that gas is still flared in Nigeria as if this Act does not exist. Entrusting the conditions for the issuance of permission for continued gas flaring to the discretion of the Minister is a grand recipe for corruption. At the exchange of cash or kindness the

¹⁷Laws of the Federation of Nigeria.

¹⁸Factories Act, Cap F1 LFN (Laws of the Federation of Nigeria) 2004, s. 8(1).

¹⁹Ibid., s. 8(3).

²⁰Ibid., s. 9(1).

EZEANOKWASA: Air Pollution Control In South-East Zone Of Nigeria As A Sine-Qua-Non For Sustainable Development In The Zone: Legal Evaluation

Minister could waive every condition for a compliant oil company to go on endangering human health and environment. Oluduro and Oluduro observed that close to the end of 1984, evidence revealed that no oil company had complied with the provisions of this Act and no evidence indicated that the Minister had insisted that the oil companies complied with it.²¹ As oil producing States Abia and Imo States suffer first-hand the ills of gas flaring.

Environmental Impact Assessment (EIA) Act, Cap E12, LFN 2004

The long title states that it is an Act to set out the general principles, procedure and methods to enable the prior consideration of environmental impact assessment (EIA) of certain public or private projects. The objective of environmental impact assessment is to establish, before a decision is taken for any qualified project to be undertaken, those matters that may likely or to a significant extent affect the environment. The matters so identified must first be taken care of before the project can be authorized to take off (s. 1(a)). EIA is not required on all projects, but only on certain public or private projects that may likely or to a significant extent affect the environment. Notwithstanding this general coverage, the Act in section 12(1) creates a list of projects for mandatory EIA. These are evidently projects with clear and certain adverse environmental effects. These projects are listed in the schedule. Amongst them are projects that have adverse effects on atmospheric air quality such as industries for chemicals, mining, thermal power generation and quarries. The EIA Act is administered by the Federal Ministry of Environment since 1999.

EIA practice in Nigeria has been described as inefficient. Yusuf noted that there is a legacy of environmental degradation and public health impairments arising from the projects whose approvals were supposedly obtained under the EIA Act.²² He observed further that on account of lack of technical resources by the government regulatory body (the Federal Ministry of Environment) on the one hand and the considerable leverage of the operators of projects over the regulator on the other hand, the EIA system stands actually abrogated.²³ He noted equally that the multinational oil and gas industry arrogates to itself the moral and legal authority to regulate its own activities and also dictates to the government agencies regarding the regulatory regime.²⁴ Even though this report is over ten years this author could not find any evidence to show that the situation has improved.²⁵

Minerals and Mining Act 2007

The Mineral and Mining Act 2007 regulates all aspects of the exploration and exploitation of solid minerals in Nigeria. Mining, particularly opencast mining, has high air pollution potential because it throws up particulate matter into the atmosphere with adverse impact on human health.²⁶ There is heightened emphasis for the development of the mining industry in Nigeria today in the bid to diversify the economy that is heavily dependent on oil. Ebonyi State is particularly noted for limestone mining. Chapter four of the Act (sections 97 to 130) deals with environmental considerations in mining activities. Section 118(a) commits every holder of a mineral title to, as far as is reasonably practicable, minimize, manage and mitigate any environmental impact resulting from activities carried out under this act. A major challenge to the effectiveness of the environmental protection provisions of the Act is the prevalence of illegal mining in the country. More often than not illegal miners pay little attention to environmental protection. Agbakwuru reported that between 2014 and 2015 Nigeria lost \$9 billion to the export of proceeds of illegal mining.²⁷

²¹ OF Oluduro and O Oluduro, 'Oil Exploitation and Compliance with International Environmental Standards: The Case of Double Standards in the Niger Delta of Nigeria', [2015] 37 *Journal of Law, Policy and Globalization*, 67-82 at 70.

²² Tayo Akeem Yusuf, 'The Environmental Impact Assessment Practice In Nigeria: The Journey So Far', <<https://www.inigerian.com/the-environmental-impact-assessment-practice-in-nigeria-the-journey-so-far-944/>> accessed 15 September 2019.

²³ Ibid.

²⁴ Ibid.

²⁵ See VE Agbazue and VC Ehiemobi, 'The Challenge of the Environmental Impact Assessment Practice in Nigeria', [2016] 5(6) *IJSRET*, 1-9; CO Nwoko, 'Evaluation of Environmental Impact Assessment System in Nigeria', [2013] 2(1) *Greener Journal of Environmental Management and Public Safety*, 22-31.

²⁶ MK Ghose and SR Majee, 'Air pollution caused by opencast mining and its abatement measures in India', [2001] 63(2) *J. of Env. Management*, 193-202.

²⁷ John Bosco Agbakwuru, 'Nigeria Loses \$9bn in 2-yrs on Illegal Mining – FG', *Vanguard*, 22 November 2017, <<https://www.vanguardngr.com/2017/11/nigeria-loses-9bn-2-yrs-illegal-mining-fg-2/>> accessed 15 August 2019. E. Amaefule, T. Youdewei, A. Olugbemi and S. Nkemakolem, 'Nigeria Loses N353bn to Illegal Gold Mining in Three Years, IYC, Bayelsa Kick', *Punch*, 17 April 2019, <<https://punchng.com/nigeria-loses-n353bn-to-illegal-gold-mining-in-three-years-iy-c-bayelsa-kick/>> accessed 15 August 2019.

National Environmental Standards and Regulations Enforcement Agency (NESREA) (Establishment) Act 2007

This is an Act to provide for the establishment of the National Environmental Standards and Regulations Enforcement Agency (NESREA) charged with the responsibility for the protection and development of the environment in Nigeria; and for related matters. Section 7 of the Act gives a long list of functions that runs from the letter *a* to *m*. Section 7(h) assigns the agency the particular duty of enforcing environmental regulations and standards on air pollution through compliance monitoring. Section 21(1) authorizes the agency to initiate actions towards protecting the ozone layer. Pursuant to the power given to the Minister in charge of the environment by section 34 of the Act to make regulations for the achievement of the purpose of the Act, and regulations have been made in relation to air pollution control. These include the: (a) National Environmental (Control of Bush/Forest Fire and Open Burning) Regulations, 2010, and (b) National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations, 2010. The establishment of the NESREA is a welcome development that indicates Nigeria's determination to take head on the duty of particularly securing a healthy air environment for Nigerians as well as the duty of discharging the obligations arising from international environmental conventions ratified by it. However, NESREA has been found to be bogged down by many incapacities and deficiencies that make its set functions a tall goal to achieve.²⁸

National Oil Spill Detection and Response Agency (Establishment) Act, 2006, (No 15 of 2006)

This Act established the National Oil Spill Detection and Response Agency (NOSDRA), which is another institution, apart from NESREA, charged with, amongst other things, the enforcement of environmental laws, standards and regulations. However, its scope is limited to the oil and gas sector. Section 6(1)(a) provides that the Agency shall be 'responsible for surveillance and ensure compliance with all existing environmental legislation in the petroleum sector including those relating to prevention, detection and general management of oil spills, oily wastes and gas flare'. As oil producing States, Abia and Imo States come under the radar of NOSDRA. Like the NESREA, the efficiency of NOSDRA has been found to be compromised. The continuous flaring of gas in the petroleum sector in the country is an eloquent evidence of the ineffectiveness of NOSDRA.

6. Legislations on Air Pollution Control in the South-East Zone

The weaknesses and inadequacies in the enforcement of the national legislations on air pollution control as evidenced in NESREA and NOSDRA create the necessity and urgency for federating units of the country to help themselves with local legislations for the protection of their environment. These legislations advance and complement the national policies and legislations on environmental protection. Moreover, air pollution control and air quality enhancement are not matters in the Exclusive Legislative List that are reserved to the sole legislative competence of the Federal government. So States can within their limits legislate on them for the good and benefit of their territories. Being that South-East zone is not a State but a geo-political entity comprising five States, it has no legislature and so does not have one common legislation on air quality and pollution control. Each State has its own legislation on the subject and they are as follow:

- 1) Abia State:
 - (i) Abia State Basic Environmental Law (ASBE), 2004, Cap 5 Laws of Abia State of Nigeria 2005.
 - (ii) Abia State Environmental Protection Agency Law, Cap 11, Laws of Abia State of Nigeria 2005.
- 2) Anambra State: Anambra State Waste Management Authority (ASWAMA) Law, 2015.
- 3) Ebonyi State: Ebonyi State Environmental Protection Agency (ESEPA) Law, 1999.
- 4) Enugu State: Enugu State Waste Management Authority (ESWAMA) Law, 2004 (as amended).
- 5) Imo State: Imo State Environmental Transformation Commission (ENTRACO) Law, Imo State of Nigeria Law, No. 3, 2008

The legislations can be reviewed along the lines of normative prescriptions, administrative regime and special enforcement mechanisms.

Normative Prescriptions

Under this heading the legislations can be grouped into two categories, namely: waste management legislations and environmental protection legislations

²⁸See Jude O. Ezeanokwasa and CQ Umeobika, 'Challenges to the Implementation of the National Environmental Standards and Regulations Enforcement Agency (NESREA) Act', [2015] 7 *Unizik JPPL*, 96-98.

EZEANOKWASA: Air Pollution Control In South-East Zone Of Nigeria As A Sine-Qua-Non For Sustainable Development In The Zone: Legal Evaluation

Waste Management Legislations

These are the legislations of Anambra, Enugu and Imo States. These are legislations that deal essentially with the physical cleanliness or sanitation of the environment and so do not essentially embrace air quality and pollution. Anambra and Enugu States legislations are clearly named waste management laws. This is not the case with the Imo legislation. This notwithstanding, the Imo legislations is essentially a waste management legislation. Waste management is generally defined as ‘the collection, keeping, treatment, disposal and recycling of wastes in such a way as to render it harmless to human and animal life, the ecology in particular and the environment in general.’²⁹ Air pollution could occur without the environment necessarily being physically dirty or littered with wastes bearing in mind that most air pollutants are gases. An industry could pollute the environment with carbon emissions while being physically clean. Even though the Imo State legislation is termed Environmental Transformation Commission Law, it is in essence waste management legislation because it talks principally of physical sanitation and so belongs in the same category with the Anambra and Enugu States legislations.

Of all the 26 functions prescribed for ASWAMA under the Anambra legislation, which run from section 6(1)(a-z), nothing is directly said about air quality or air pollution. The functions include: to collect, remove, process, treat and safely dispose domestic, hospital, commercial institutional and industrial waste; and to design blue prints for establishment of sewage disposal systems and clearing of sewage. The functions of the ESWAMA³⁰ are similar to those of the ASWAMA. In Imo State the nature of the functions of the ENTRACO is not any different from those of ASWAMA in terms of being centered on physical sanitation. The functions as specified in section 5 of the ENTRACO Law include to: provide sustainable sanitation services and environmental protection; and inspect refuse sites in Urban and Rural areas of the State.

All the same indirect references to air quality enhancement and air pollution control can be found in waste management legislations. Some sanitation obligations and offences imposed by the laws underscore air quality enhancement and air pollution control. For instance, under the ASWAMA Law, the prohibition of waste burning³¹ prevents emission of smoke, carbon dioxide and particulate matter into the atmosphere. Similar provisions on the prohibition of waste burning³² are contained in the ESWAMA Law. Under the Imo legislation functions that indirectly relate to air quality enhancement or air pollution control include the power to encourage planting of trees.³³ Obligations under the Law which indirectly relate to air quality include the obligation for any vehicle or container used in transporting or conveying refuse or waste within the State to be covered.³⁴ This protects refuse particles from flying into the air.

Environmental Protection Laws

Environmental protection legislations have more direct attention on air quality enhancement and pollution control and they are the legislations of Abia and Ebony States. By concept an environmental protection legislation is broader when contrasted with a waste management legislation. It embraces the protection of all spheres of the environment such as air, land and water from pollution. Waste management legislations, on the other hand, protect the spheres of the environment only in so far as wastes are concerned. It is for this that waste management legislations constitute a subset of environment protection legislations. Thus the legislations of Abia and Ebony States, apart from having direct provisions on air quality and air pollution control, have also provisions on waste management. The focus of this paper is only on provisions on air quality enhancement and air pollution control.

All the same the legal regime of Abia State is quite unique. Abia State has two legislations on environmental protection, viz, the Abia State Environmental Protection Agency (ASEPA) Law, which came into force on 27th July, 1994, and the Abia State Basic Environmental (ASBE) Law, which came into force on 10th February, 2004. One wonders the purpose of this duplication. The long title of the ASEPA Law states; ‘A Law to provide for the establishment, operation and functions of the Abia State Environmental Protection Agency and for matters connected therewith.’ The long title of the ASBE Law on its part provides: ‘A Law to make provision for the establishment, regulation and enforcement of basic environmental sanitation practice in Abia State and for purposes

²⁹ AT Adewole, ‘Waste Management Towards Sustainable Development in Nigeria: A Case Study of Lagos State’, [2009] (4)(4) *International NGO Journal*, 173-179, at 174.

³⁰ ESWAMA Law, s. 5(1).

³¹ ASWAMA Law, ss. 12, 21(1)(d).

³² ESWAMA Law, s. 18(1)(d)

³³ ENTRACO Law, s. 5(ii)

³⁴ ENTRACO Law, s. 20(1)

connected therewith.’ The ASBE Law does not define what it means by ‘basic environmental sanitation practice’ in order to possibly distinguish this legislation from the ASEPA Law. According to the Cambridge English dictionary, ‘basic’ means simple and not complicated.³⁵ In other words, the ASBE Law deals with simple and elementary matters of environmental protection whereas the ASEPA Law handles complicated environmental protection matters. Beyond this difference both legislations notionally cooperate because environmental protection is environmental protection regardless of the level at which the protection is done.

The ASBE Law provides in section 20 for the protection of the air from pollution and it states: ‘No person or organization shall discharge into the air inadequately filtered and purified gaseous waste, containing substances injurious to life and property.’ The obligation imposed here is general. A person in law could be either human, e.g. physical person or legal, i.e. a corporate body. The provision therefore prohibits both physical and legal persons from polluting the air. The ASBE Law provides further in section 27 that: ‘All industries operating in Abia State shall have Environmental Impact Assessment (EIA) certificate and/or Environmental Evaluation Assessment (EEA) certificate.’³⁶ EIA certificate or EEA certificate ensures that before an industry is established in the State its possible negative air quality impacts are addressed. The ASEPA law lays out prescriptions for the protection of the different spheres of the environment. On air quality enhancement and pollution control it provides that the Agency shall establish and enforce State ambient and effluent air standards for the major air pollutants.³⁷ It is empowered to impound polluting sources³⁸ and close such facilities.³⁹

The Ebonyi law, on its part, states in section 27 that the ESEPA shall adopt and enforce FEPA criteria, guidelines, specifications and standards to protect and enhance the quality of air resources as to promote the public health or welfare and normal development and productive capacity of the nation’s human, animal or plant life. FEPA (Federal Environmental Protection Agency) was replaced by NESREA in 2007. The duties of the ESEPA under the FEPA criteria and standards as specified under this section include adopting and enforcing minimum essential quality standards for human, animal or plant health. They also include controlling the concentration of substances in the air, which separately or in combination are likely to result in damage or deterioration of human, animal or plant health or property. The ESEPA is to discharge these functions in accordance with the criteria, guidelines, specifications and standards created by FEPA. The good sense in tying these functions to the FEPA standards is to see that the State follows the national standards for air quality enhancement and through them the State also meets international standards on the subject. The problem however is that the FEPA has long been repealed since 2007 by the NESREA Act which created in its stead the NESREA.

Administrative Regime

In the five States of the South-East zone there are agencies statutorily charged with the administration and enforcement of these legislations. In Anambra State the agency is the Anambra State Waste Management Authority (ASWAMA)⁴⁰ while in Enugu State it is the Enugu State Waste Management Authority (ESWAMA).⁴¹ It is Ebonyi State Environmental Protection Agency (ESEPA) in Ebonyi State⁴² and Environmental Transformation Commission (ENTRACO) in Imo State.⁴³ All these agencies are established as corporations.⁴⁴ They have varying enforcement powers which include the powers to make regulations and guidelines for the purpose of carrying out the provisions of the legislations.⁴⁵ In Abia State the administrative regime is quite unique given the fact that the State has two legislations on environmental protection. Each of the two legislations establishes an agency with the same name, viz, Abia State Environmental Protection Agency (ASEPA),⁴⁶ for its administration. In other words, Abia State has two ASEPAs, one for the enforcement of the ASEPA Law and the other for the enforcement of the ASBE Law. However, the status of each of these ASEPAs is different. The ASEPA under the ASBE Law is established as a

³⁵ Cambridge Dictionary, ‘basic’, <<https://dictionary.cambridge.org/dictionary/english/basic>> accessed 17 August 2019.

³⁶ ASBE Law, s. 27.

³⁷ ASEPA Law, s. 24(1).

³⁸ ASEPA Law, s. 24(2)(a).

³⁹ ASEPA Law, s. 24(2)(b).

⁴⁰ ASWAMA Law, s.3.

⁴¹ ESWAMA Law, s.3(1).

⁴² ESEPA Law, s.3(1).

⁴³ ENTRACO Law, s.3.

⁴⁴ ASWAMA Law, s.3(2); ESWAMA Law, s.3(1); ESEPA Law, s.3(1); and ENTRACO Law, s.3(2).

⁴⁵ See ESWAMA Law, s. 42.

⁴⁶ ASBE Law, s.6(1), ASEPA Law, s.3(1).

EZEANOKWASA: Air Pollution Control In South-East Zone Of Nigeria As A Sine-Qua-Non For Sustainable Development In The Zone: Legal Evaluation

parastatal under the Abia State Ministry of Environment and Solid Mineral Resources⁴⁷ while the ASEPA under the ASEPA Law is established as a body corporate under the Governor.⁴⁸ The task of enforcing the ASBE Law is further shared by the ASEPA with the Ministry of Environment and Solid Mineral Resources, and the Local Governments. In this regard section 4 of the ASBE Law provides: ‘The responsibility to ensure basic environmental practice in the state shall reside in: (1) The Ministry of Environmental and Solid Mineral Resources, (2) The Abia State Environmental Protection Agency, and (3) The Local Governments.’ Specific functions are assigned to each of these organs towards the basic environmental protection of the state. The functions of the Ministry are specified in section 5 of the ASBE Law and they include supervising the activities of ASEPA, formulating State environmental policies and implementing them, and coordinating the environmental cleanliness of all Local Government Areas in the State. The functions of ASEPA are shared by the three divisions into which the agency is subdivided. The divisions and some of their respective functions are:

- (a) The Environmental Monitoring Division (EMD) which, *inter alia*, shall: manage and control environmental reference laboratories, carry out analytical services, and environmental research and studies together with oil and gas contamination monitoring and evaluation.⁴⁹
- (b) The next is the Environmental Inspectorate Division (EID) which, amongst other things, does environmental air quality coordination, quality standard development, pollution control and standards enforcement.⁵⁰
- (c) The last is the Environmental Impact Assessment Division (EIAD) which *inter alia* sees to EIA processing/guidelines development and industrial compliance and hygiene.⁵¹

Section 29 of the ASBE Law provides nine duties or functions for a Local Government Council. They include ensuring that environmental cleanliness is maintained within its area of jurisdiction and carrying out inspection in all areas of its jurisdiction. It is also the duty/function of a Local Government Council to see that every building in the area and every vehicle passing within the Council’s area of jurisdiction has the approved waste bin.

It is humbly submitted that the state of the law on air pollution control in Abia State is confused and imprecise. The major area of the confusion is in the operation of two legislations – ASEPA Law and ASBE Law - on the same subject. One would imagine that the later legislation, the ASBE Law, would repeal the earlier one – the ASEPA Law - but this is not exactly so. The ASBE Law in section 3 repeals any law inconsistent with its provisions. It states that ‘any other Law in existence in Abia State that is inconsistent with the provisions of this Law (Law No.1 of 2004) shall, to the extent of its inconsistency with this Law, be, null and void.’ While this provision does not generally repeal the ASEPA Law, it repeals it only to the extent that any provisions of it are inconsistent with those of the ASBE Law. Consequently, consistent portions of it are retained and so operative alongside with the ASBE Law. This creates the problem of determining which parts of the ASEPA Law are consistent with it or not. The situation of two agencies regulated by two different legislations but going by the same name – ASEPA- is most confusing and problematic. It would be very difficult for people to know whether they are dealing with ASEPA under the ASEPA Law or the ASEPA under the ASBE Law. The ASEPA under the ASBE Law is a parastatal under the Abia State Ministry of Environment and Solid Mineral Resources⁵²but the ASEPA under the ASEPA Law is a body corporate under the Governor.⁵³

Special Enforcement Mechanisms

Besides the activities of the agencies and organs of governments entrusted with the enforcement of these legislations, the various laws of the States in the South-East created special courts for speedy judicial enforcement of the rules of the legislations. In Abia⁵⁴ and Imo⁵⁵ States the courts are established in each Local Government Council whereas in Anambra,⁵⁶ Ebonyi⁵⁷ and Enugu⁵⁸ States they are created in the State. This author believes that having

⁴⁷ ASBE Law, s.6(1 and 2).

⁴⁸ ASEPA Law, s.3(1 and 2).

⁴⁹ ASBE Law, s. 10(1).

⁵⁰ Ibid, s. 10(2).

⁵¹ ASBE Law, s. 10(3)

⁵² Ibid, s.6(1 and 2).

⁵³ ASEPA Law, s.3(1 and 2).

⁵⁴ ASBE Law, s. 53(1).

⁵⁵ ENTRACO Law, s. 34(a).

⁵⁶ ASWAMA Law, s.30(1)

⁵⁷ ESEPA Law, s.48.

⁵⁸ ESWAMA Law, s. 30(1).

the court in each Local Government Council makes for a speedier dispensation of justice in matters of air pollution control. It also brings the awareness of air pollution closer to the grassroots.

Having reviewed these legislations, the question then is, how effective are these legislations in protecting and enhancing air quality in the South-East zone.

7. Effectiveness of the Legislations on Air Pollution Control in South-East Zone

To the extent that the waste management legislations of Anambra, Enugu and Imo States indirectly prevent the emission of pollutant gases into the atmosphere they contribute to air quality enhancement and air pollution control in the zone. However, being that these legislations are not by design aimed at directly controlling air pollution and enhancing air quality, they cannot be considered on the overall to be effective legislations for air quality enhancement and air pollution control. A state like Anambra, prior to the enactment of the ASWAMA Law, had the Anambra State Environmental Protection Law which in scope was made to cater for the protection of the entire environment including the maintenance of air quality and air pollution control. The eventual repeal of this broad legislation and the enactment in its stead the narrow ASWAMA Law shows a conscious decision of the State to veer off the direct and purposeful protection of the air from pollution. On the other hand, the legislations of Abia and Ebonyi are better tuned for this goal being that, as environmental protection legislations, they were enacted for the purpose of protecting the different spheres of the environment including air, and they have particular provisions to this end. The Abia law provides, for instance, for the subjection of all automobiles in the State to annual pollution emission inspection which may be a requirement for renewal of automobile licences in the State.⁵⁹ This is a concrete positive step towards protecting the air environment.

There is however a problem with the Ebonyi State legislation. It is still tied to the standards created by FEPA twelve years after the FEPA was abolished with the repeal of the FEPA Act. So the ESEPA does not operate in consonance with the standards and guidelines created under the NESREA Act, which is the extant national legislation guiding air quality enhancement and air pollution control. Air pollution control like many aspects of environmental protection is science and technology based and thus information on it changes from time to time. Consequently, an effective legislation on the subject must be responsive to new knowledge and legislations on the matter and the NESREA is a symbol of this new knowledge. The fact that Ebonyi State still operates environmental protection system that is ignorant of the NESREA Act enacted since 2007 and amended in 2018 indicates strongly that the State is not seriously interested in air quality enhancement and air pollution control. The developments include the many Regulations that impinge on air quality enhancement and protection such as the National Environmental (Ozone Layer Protection) Regulations, 2009 and National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations, 2010. Consequently, the efforts of Ebonyi State in air pollution control can be likened to putting new wine in old wine skins, a situation that is completely retrogressive.

In all, the narrow focus of the Anambra, Enugu and Imo States to environmental sanitation, the fixation of Ebonyi States to the repealed FEPA Act, and the confused legislations of Abia State indicate a poor state of legal regime for air quality enhancement and air pollution control in the South-East zone. Statistics support this conclusion. In a recent World Health Organization (WHO) report published in 2016, 3000 cities in 103 countries were examined for pollution, 20 emerged as the most polluted in the world. Four Nigerian cities made the list of the 20 most polluted cities and two of them, Aba and Umuahia, are in Abia State.⁶⁰ In a report published in March 2018 of the 12 cities in Nigeria with the most polluted air, assessment was based on WHO standard, ten of them come from the South-East.⁶¹ Abia State tops the list with Aba (1st) and Umuahia (12th) while Ebonyi State has Abakiliki (2nd) and Afikpo (3rd). Enugu State has Enugu (4th) and Nsukka (8th) while Anambra State has Nnewi (7th) and Onitsha (9th). And Imo State has Orlu (10th) and Owerri (11th). The other two cities that do not belong to the South-East are Ile-Ife (5th – Osun State) and Kaduna (6th – Kaduna State).

⁵⁹ ASEPA Law, s.25(1).

⁶⁰ Chuku Akamadu, 'Tackling Pollution in Abia', <<https://www.sunnewsonline.com/tackling-pollution-in-abia/>> accessed 30 September 2019.

⁶¹ Gbenga Bada, 'The 12 cities in Nigeria with the most polluted air', <<https://www.pulse.ng/bi/lifestyle/lifestyle-the-12-cities-in-nigeria-with-the-most-polluted-air/g4xn5yx>> accessed 30 October 2019.

8. Conclusion and Recommendations

In spite of the waste management and environmental legislations in South-East zone, there is a poor state of legal regime on the subject of air quality development and air pollution control. With the situation on the ground, there is no legal regime to effectively tackle the deleterious effects of air pollution in the bid of achieving sustainable development in the zone. Unless an effective legal regime is put in place in the States in the zone developmental efforts in the zone would yield to health, ecological and environmental hazards. The waste management legislations of Anambra and Enugu States are essentially sanitation legislations, which do not cover much in terms of air quality enhancement and air pollution control. The Imo legislation is also essentially sanitation legislation even though its name connotes environmental protection. The environmental protection legislations of Abia and Ebonyi State like new wines in old wineskins. They are still run on the outmoded template created by the FEPA Act which was repealed in 2007 by the NESREA Act, which Act was amended in 2018. So these legislations are not in tune with the current standards on air quality enhancement and air pollution control in the country. To turn around the situation there is the need for Anambra, Enugu and Imo States to put in place legislations that directly aim at air quality enhancement and air pollution control. Abia and Ebonyi States need to reform their legislations in order to get them in tune with the NESREA Act. The States in the zone need to get their priorities right by aggressively pursuing air quality enhancement and air pollution control as a critical factor for sustainable development given the fact that the zone has high population density. There must be proper mechanisms for enforcement of environmental standards in the zone.⁶²

⁶²Ikenga K.E.Oraegbunam, MVC Ozioko & Chukwubiokem J. Azoro, 'Mechanisms for Enforcement of Environmental Standards in Nigeria,' *International Journal of Innovative Development and Policy Studies*, 7(2):129-134, April-June, 2019