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ANALYSIS OF THE LEGAL FRAMEWORKS OF AIR POLLUTION AND ITS IMPACT ON HUMAN HEALTH IN NIGERIA

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Abstract

Air pollution is one of the known types of pollution which has overwhelming effects and impacts on human health and the entire ecosystem. Although there are legal and regulatory frameworks, nationally, regionally and internationally put in place for the prevention and regulation of air pollution, air pollution is increasing on a daily basis with its resultant effects. The paper adopting the doctrinal method of legal research attempts to examine the legal frameworks of air pollution in Nigeria and its impacts on human health. The paper submits that there is an avalanche of relevant legal frameworks in the crusade against air pollution in Nigeria, but the problem is the enforcement of the existing legal frameworks. The paper, therefore, finds that the impacts of air pollution in Nigeria are grave in nature and overwhelming. The paper recommends full enforcement and implementation of the extant laws on the protection of the environment from air pollution.

Keywords: Air Pollution, legal, human health, Nigeria, Pollution

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1.0 INTRODUCTION

Environmental degradation has become one of the contemporary issues in recent times due to the overwhelming impacts it creates on human health through various anthropological activities that cause the known types of pollution, such as waste pollution, water pollution, land pollution, air pollution and noise pollution with their attendant effects and consequences on human health and the entire ecosystem.[1] This is possible due to the lack of enforcement and implementation of the existing legal and regulatory frameworks, thereby creating unending impacts on human health globally, and in Nigeria specifically. [2]

Although there are legal and regulatory frameworks, nationally, regionally and internationally put in place for the prevention and regulation of air pollution, air pollution is increasing on a daily basis with its resultant effects. Against the foregoing backdrop, this paper examines the legal frameworks of air pollution and its impact on human health in Nigeria. The paper advocates for the full implementation and enforcement of the existing extant legal & regulatory frameworks of air pollution in Nigeria with suggested workable recommendations. The question to be asked is: What is air pollution?

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[1]Marilena Kampa & Elias Castanas, 'Human health effects of air pollution' [2008] 151 (2) *Environmental Pollution*, 362-367 https://doi.org/10.1016/j.envpol.2007.06.012 accessed 24 February 2026

[2]Alternative Information & Development Centre, 'What are Illicit Financial Flows and Base Erosion and Profit Shifting: The Bermuda Connection' http://aidc.org.za/what-are-illicit-financial-flows-and-base-erosion-and-profit-shifting/ accessed 11 July, 2025; Global Financial Integrity, 'Illicit Financial Flows' https://gfintegrity.org/issue/illicit-financial-flows/ accessed 11 July, 2025

2.0 MEANING OF AIR POLLUTION

It is the presence of any substance in the atmosphere at a concentration high enough to produce an "objectionable effect on humans, animals, vegetation, or materials or to alter the natural balance of any ecosystem significantly".[3] The polluted air contains harmful substances such as particulate matter, nitrogen dioxide, sulphur dioxide, carbon monoxide, and ozone all of which tend to pose a risk to human health. Air pollution, which is the contamination of the indoor or outdoor environment by harmful substances, has major sources, which include household combustion, motor vehicles, industrial activities, and forest fires.

These substances can be solids, liquids, or gases and can be produced from both natural and anthropogenic sources. Air pollutants may be of natural origin (for example, wind-blown soil, forest fires, volcanoes) or of anthropogenic origin. For urban air pollution, anthropogenic sources are predominant.[4] Anthropogenic sources include industrial processes, power generation, waste disposal, mobile or stationary combustion processes and agricultural practices. The most common air pollutants are particle pollution (often referred to as particulate matter), ground-level ozone, common monoxide (CO), Sulphur dioxide (SOz), nitrogen oxides (NOx), and lead[5]. These pollutants are harmful to human health and the

[3] Robinson, Dorothy L, 'Air pollution in Australia: review of costs, sources and potential solutions' [2005] 16(3) *Health Promotion Journal of Australia*, 213220.

[4] Habre, Rima, Brent Coull, Erin Moshier, James Godbold, AviGrunin, Amit Nath, William Castro et al, 'Sources of indoor air pollution in New York City residences of asthmatic children' [2014] 24(3) *Journal of Exposure Science and Environmental Epidemiology*, 269

[5]Hussain, C, *Environmental Degradation- Radiation Remedies* (Feroze Sons (Pvt) Ltd, 2014) pp.26–95.

environment and can cause property damage. Of the six pollutants, particle pollution and ground-level ozone are the most widespread health threats.[6] Other anthropogenic pollutants are volatile organic compounds (VOC), toxic pollutants such as dioxins, benzene, polycyclic aromatic compounds, chlorinated phenols, persistent organic pollutants (POPs), carbon dioxide (CO2), and chlorofluorocarbons (CFCs). The combustion of all carboniferous fuels results in the exothermic oxidation of carbon, hydrogen, Sulphur and nitrogen. If complete combustion is achieved, carbon dioxide (CO2), water vapour, nitrogen oxides (NOx) and volatile and non-volatile trace metals such as arsenic (As), cadmium (Cd), lead (Pb) and mercury (Hg) would be the principal emissions.

In terms of cause and effects, air pollution has both acute and chronic effects on human health. Health effects range anywhere from minor irritation of the eyes and the upper respiratory system to chronic respiratory disease, heart disease, lung cancer, and death. Air pollution has been shown to cause acute respiratory infections in children and chronic bronchitis in adults. It has also been shown to worsen the condition of people with pre-existing heart or lung disease. Among asthmatics, air pollution has been shown to aggravate the frequency and severity of attacks.[7]

[6]Jonathan O. Anderson, Josef G. Thundiyil & Andrew Stolbach, 'Clearing the Air: A review of the effects of Particulate Matter air Pollution on Human Health' [2012] 8 *Journal of Medical Toxicology*, 166-175

[7]Rumana, Harcharan Singh, Ramesh Chandra Sharma, VikasBeniwal, and Anil Kumar Sharma, 'A retrospective approach to assess human health risks associated with growing air pollution in urbanized area of Thar Desert, western Rajasthan, India' [2014] 12(1) *Journal of Environmental Health Science and Engineering*, 23.

Many gaseous pollutants inhibit plant growth and development.[8]Pollutants may affect plants in several ways by inhibiting the functional groups of plant enzymes, by overloading metabolic pathways for transforming or detoxifying pollutants, and by damaging the integrity of the plasma and cellular membranes.[9] These processes may inhibit cellular productivity and also root growth and function, causing reduced translocation and biomass production. The dose, the mixture of pollutants and the effects of other stresses such as pest, frost, drought, disease and acidification determine the sensitivity of plants to atmospheric pollutants. Also, air pollution dims visibility, city skylines and scenic beauty. It also interferes with the safe operation of aircraft and automobiles and disrupts transportation schedules. The World Health Organisation (WHO) indicated that "approximately 2.4 billion people are exposed to hazardous household air pollution due to the use of polluting fuels such as kerosene, biomass, and coal for cooking".[10] Also, outdoor air pollution in both urban and rural areas generally contribute to fine particulate matter, which has been linked to strokes, heart disease, lung cancer, and chronic respiratory illnesses

3.0 LEGAL CONTROL OF AIR POLLUTION IN NIGERIA

1. National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations, 2011

[8] Yamamoto, S. S., 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' [2014] 217(2-3) *International journal of hygiene and environmental health*, 133-144

[9] Zhang, Wei, Chao-Nan Qian, and Yi-Xin Zeng, 'Air pollution: a smoking gun for cancer' [2014] 33(3) *Chinese Journal of Cancer*, 173.

[10]Fortune Eromonsele, '7 million people die from air pollution annually' Premium Times Newspapers https://www.premiumtimesng.com/news/top-news/783493-7-million-people-die-from-air-pollution-annually-who.html accessed 10 January 2026

i. Vehicular Emissions

Motor vehicles are also the source of a number of toxic air pollutants; emissions of these substances are largely related to fuel composition or fuel additives, and are mainly the result of incomplete combustion. The legal control of this is:

The statutory control of vehicular emissions from petrol and diesel engines, which negatively impact the ambient air quality and human health and safety, is contained in the National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations, 2011. Part 1 of the Regulation regulates emissions from petrol engines arising from new motor vehicles intended for use on the road after 28th April, 2011 and to motor vehicles which are already registered but "whose engine has been replaced", but excludes a motor vehicle used for racing purposes in designated racing circuits or in approved racing events. Under the new Regulation, manufacturers of petrol and diesel engines are compelled to produce new technologies that will reduce or minimise vehicular emissions, through the imposition of strict limit values and penalties for the pollution by SO2, NOx, CO and unburned hydrocarbons, including especially benzene.

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

Environmental Impact Assessment can be described as a systematic process to identify, predict and evaluate the environmental effect of a proposed action or project to aid decision-making concerning the significant environmental effect of such action or project. One of the positive impacts of conducting an environmental impact assessment is that it allows for the detection of activities and projects that are likely to be hazardous to the environment, including activities that will negatively impact air quality,

before they are executed. The Environmental Impact Assessment Act (EIA) was enacted in 1992 to assess the impact of proposed projects that could potentially have adverse effects on the environment, including projects that have the potential to cause air pollution. The Act provides guidelines for such assessment and requires developers to conduct an environmental impact assessment study as well as obtain an environmental permit from the appropriate government authorities before undertaking any project. In the case of *Helios Towers Nig. Ltd v. NESREA & Anor*,[11] the Nigerian Court of Appeal per Wambai, J.C.A., held that the Environmental Impact Assessment Act is the law that requires a prior consideration and assessment of any activity or development intended to be undertaken by any level of Government, its agency, any person or body before allowing such development to take place. It sets out the general principles, procedures and methods for attaining the same. Sections 2 and 3 of the EIA make it mandatory that an assessment be made of the likely environmental impact or effect an activity would have, the failure of which leads to appropriate penal measures under the Act.

Unfortunately, projects that are clearly detrimental to the environment still take place. Consequently, the effectiveness, availability, impact and process of environmental assessments in Nigeria have been called into question.

3. National Environmental (Control of Bush/Forest Fire and Open Burning) Regulations, 2011

The National Environmental (Control of Bush/Forest Fire and Open Burning) Regulations, 2011 is aimed at preventing and minimising the destruction of the ecosystem arising from indiscriminate burning of

[11] [2014] LPELR-24624 (CA)

materials, which may result in forest burning and emission of hazardous air pollutants. It regulates the indiscriminate burning and destruction of materials such as dead animals, seized goods and exhibits, electronic, automobile parts, agricultural and municipal waste, waste oil, and petroleum treated and related materials that create dense smoke or notorious odour.

4. The Harmful Waste (Special Criminal Provision, etc) Act, 2004

In response to the illegal dumping of toxic wastes in Koko town, Bendel State (now Delta State), the Nigerian Government promulgated the Harmful Wastes Decree 1988 (now the Harmful Wastes Special Criminal Provisions, etc) Act, 2004. It provides the legal framework for the effective control of the disposal of toxic and hazardous waste into any environment within Nigeria. Section 1 of this Act makes it an offence to transport, dispose of, or deposit harmful waste in Nigeria's air without a valid permit. Any person found guilty shall, on conviction, be liable to the criminal penalties imposed by the Act. Section 6 of the decree prescribes life imprisonment for any person who contravenes this provision. Section 7 provides that a body corporate found in contravention of this section is guilty of a crime and shall be punished accordingly.

5. The 1999 Constitution of the Federal Republic of Nigeria

The 1999 Constitution of Nigeria is a foundation for air pollution control in the country. It is the grundnorm that determines the validity or otherwise of any law or right in Nigeria. It states in section 20 that "the State shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria."

It must be noted however that notwithstanding that section 20 of the 1999 Constitution of the Federal Republic of Nigeria (as amended) provides that the states shall protect and improve the environment and safeguard the water, air, forest and wild life of Nigeria, the right is not justiciable nor enforceable under the constitution except under the relevant international instruments that Nigeria is signatory to such as the African Charter on Human and Peoples Rights. The non-justifiability of this right, therefore, renders the citizenry helpless in the realisation of this right, although the States have the mandate to ensure that the right is realised and enforced.

It must be noted, however, that the case of *Jonah Gbenre v. Shell BP*[12] is a landmark case on a Nigerian environmental and human rights case that addressed the legality of gas flaring in the Niger Delta. In the case, the applicant, Jonah Gbenre**,** brought the action on behalf of himself and the Iwherekan community in Delta State, Nigeria. The respondents included Shell Petroleum Development Company of Nigeria Ltd. (SPDC)**,** the Nigerian National Petroleum Corporation (NNPC)**,** and the Attorney General of the Federation. Shell, in joint venture with NNPC, had been engaging in continuous gas flaring in the community as part of its oil extraction operations. Gas flaring involves the burning of excess natural gas released during oil production.[13]In the Niger Delta, this practice had been ongoing for decades, causing serious environmental degradation, health problems, acid rain, and destruction of farmlands and water

[12] 2005
[13] Samson Adeniyi Aladejare, 'Natural resource rents, globalisation and environmental degradation: New insight from 5 richest African economies' [2022] 78 *Resources Policy*, https://doi.org/10.1016/j.resourpol.2022.102909 accessed 10 January 2026

sources.[14]Despite statutory provisions aimed at regulating or discouraging gas flaring, oil companies continued the practice with government approval. The applicant argued that gas flaring violated the community's constitutional rights to life and dignity of the human person**,** as guaranteed under sections 33 and 34 of the 1999 Constitution of Nigeria**.** He also relied on international human rights instruments, including the African Charter on Human and Peoples' Rights**,** which is domesticated in Nigerian law.

Air pollution control is also implied in the constitutional function assigned to a local government in section 1(h) of the Fourth Schedule of the Constitution. A local government is charged with the provision and maintenance of public conveniences, sewage, and refuse disposal. It is a reflection of Nigeria's positive orientation towards environmental protection since the toxic waste dump incident at Koko, Delta State (then Bendel State) in 1988. This constitutional objective and principle of environmental protection is further bolstered by the 2017 National Policy on Environment, which aims at getting major industrial air polluters to comply with laid down standards.

6. The National Environmental Standards and Regulations Enforcement Agency (Establishment) Act, 2007

The National Environmental Standards and Regulations Enforcement Agency (Establishment) Act of 2007 is one of the major laws on the protection against pollution in Nigeria. The Act creates an agency which sees to the enforcement of the provisions of the Act. The Act provides that:

[14] Etienne Piguet, 'Linking climate change, environmental degradation, and migration: An update after 10 years' [2022] 13 (1) *WIREs Climate Change*, January/February 2022, e746 https://doi.org/10.1002/wcc.746 accessed 10 January 2026

a) The Agency shall, on the commencement of this Act, and in consultation with appropriate authorities:

i) identify major noise sources, noise criteria and noise control technology; and

ii) make regulations on noise, emission control, and abatement, as may be necessary to preserve and maintain public health and welfare.

b) The Agency shall enforce compliance with existing regulations and recommend programs to control noise originating from industrial, commercial, domestic, sports, recreational, transportation or other similar activities.

4.0 AIR POLLUTION AND ITS IMPACTS ON HUMAN HEALTH

The impacts of air pollution on humans are overwhelming.[15] It affects both the young, old, and even children's health and their general best interests.[16] The World Health Organisation estimates that particulate matter (PM) air pollution contributes to approximately 7 million premature deaths each year.[17] However, many studies show that the relationship between PM and air pollution is deeper and far more complicated than originally thought. PM is a portion of air pollution that is made up of extremely small particles and liquid droplets containing acids, organic chemicals, metals, and soil or dust particles. PM is categorised by size and continues to be the fraction of air pollution that is most reliably associated with human disease. PM is

[15] Ezzati, Majid, 'Indoor air pollution and health in developing countries' [2005] 366 (9480) *The Lancet*, 104-106.

[16] B Oyaleke,'The Best Interest of the Child Principle in Child Custody Cases in Nigeria' [2025] 6(2) *The Obafemi Awolowo University Law Journal*, 32-47, Available online at https://**o**aulj.oauife.edu.ng/index.php/oaulj/article/view/56 accessed 10 January, 2026

[17] Jonathan O. Anderson, Josef G. Thundiyil & Andrew Stolbach, 'Clearing the Air: A review of the effects of Particulate Matter air Pollution on Human Health' [2012] 8 *Journal of Medical Toxicology*, 166-175

believed to contribute immensely to cardiovascular and cerebrovascular disease by the mechanisms of systemic inflammation, direct and indirect coagulation activation, and direct translocation into systemic circulation. Short-term acute exposures subtly increase the rate of cardiovascular events within days of a pollution spike; respiratory diseases are also exacerbated by exposure to PM.[18]

PM tends to cause respiratory morbidity and mortality by creating oxidative stress and inflammation that causes pulmonary anatomic and physiologic remodelling. The available research shows that PM causes health-related conditions such as worsening respiratory symptoms, decreased lung function, recurrent health care utilisation, more frequent medication use, and increased mortality.[19] PM exposure has been shown to have a small but significant adverse effect on cardiovascular, respiratory, and, to a lesser extent, cerebrovascular disease.[20]

Animal studies establish a nexus between chronic PM exposure and the development of atherosclerosis via systemic inflammation.[21] Human studies also prove that the effects appear to be mediated by the inflammatory cytokines IL-6, TNF-ά, and C-reactive protein (CRP).

[18] Marilena Kampa, Elias Castanas, 'Human health effects of air pollution' [2008] 151(2) *Environmental Pollution*, 362-367 https://doi.org/10.1016/j.envpol.2007.06.012 accessed 10 January, 2026
[19] Ibid (n. 13)
[20] Ibid
[21] Chen L, Nadziejko C, 'Effects of subchronic exposures to concentrated ambient particles (CAPs) in mice. V. CAPs exacerbate aortic plaque development in hyperlipidemic mice' [2005] 17(4–5) *Inhalation Toxicology*, 217–224; Sun Q, Wang A, Jin X, Natanzon A, Duquaine D et al, 'Long-term air pollution exposure and acceleration of atherosclerosis and vascular inflammation in an animal model' [2005] 294(23) JAMA, 3003–3010

Increases in both IL-6[22] and CRP have been associated with the development of acute myocardial infarction. Ruckerl et al[23] described transient IL-6 and TNF-ά elevations in diabetic patients for 2 days following PM10 exposure. Hoffman et al.,[24] on their part, associated exposure to PM2.5 with elevations in CRP. While other researchers demonstrated similar increases in CRP from PM10 exposure from both combustion[25] and organic matter.[26] In contrast, some studies have found only a weak or absent nexus between PM and markers of inflammation.[27] Discrepancies among studies appear related to differences in the composition of PM, variable exposure to anti-inflammatory medications, and differences in obtaining PM exposure data.[28]

[22] Ridker P, Rifai N, Stampfer M, Hennekens C, 'Plasma concentration of interleukin-6 and the risk of future myocardial infarction among apparently healthy men [2000] 101(15) *Circulation* 1767–1772

[23] Rückerl R, Ibald-Mulli A, Koenig W, Schneider A, Woelke G et al, 'Air pollution and markers of inflammation and coagulation in patients with coronary heart disease' [2006] 173(4) *American Journal of Respiratory and Critical Care Medicine,* 432–441

[24] Hoffmann B, Moebus S, Dragano N, Stang A, Möhlenkamp S et al, 'Chronic residential exposure to particulate matter air pollution and systemic inflammatory markers' [2009] 117(8) *Environ Health Perspect,* 1302–1308

[25] Chuang K, Chan C, Su T, Lee C, Tang C, 'The effect of urban air pollution on inflammation, oxidative stress, coagulation, and autonomic dysfunction in young adults' [2007]176(2) *American Journal of Respiratory and Critical Care Medicine,* 370–376

[26] Schicker B, Kuhn M, Fehr R, Asmis L, Karagiannidis C et al, 'Particulate matter inhalation during hay storing activity induces systemic inflammation and platelet aggregation' [2009] 105(5) *European Journal of Applied Physiology,* 771–778

[27] Sullivan J, Hubbard R, Liu S, Shepherd K, Trenga C et al, 'A community study of the effect of particulate matter on blood measures of inflammation and thrombosis in an elderly population' [2007] *Environmental Health,* 6:3; Steinvil A, Kordova-Biezuner L, Shapira I, Berliner S, Rogowski O, 'Short-term exposure to air pollution and inflammation-sensitive biomarkers' [2008] 106(1) *Environmental Research,* 51–61

[28] Jonathan O. Anderson, Josef G. Thundiyil & Andrew Stolbach (n 17) 166-175

Acute exposure to PM tends to cause changes in coagulation and platelet activation, providing a more proximal link between PM and coronary artery disease. It has been argued that fibrinogen forms an important risk factor for cardiovascular disease.[29] Ruckerl et al[30] submitted that cumulative exposure to PM_{10} leads to increased fibrinogen levels in survivors of myocardial infarction and plasminogen activator inhibitor-1 (PAI-1).[31] Intratracheal instillation of diesel exhaust particles led to increased platelet activation in hamsters and rapid thrombosis formation.[32] Further hamster studies also suggested that small particles translocate into the bloodstream and exert prothrombotic effects.[33] Schicker et al[34] showed that transient increases in PM10 exposure caused during hay-stacking increased platelet aggregation within 2 h of the activity. This activity also increased Von Willebrand factor and Factor VIII, markers of vascular endothelial activation.

Long-term impacts of air pollution are commonly acknowledged to include disorders, including respiratory infections and inflammations,

[29] Rückerl R, Ibald-Mulli A, Koenig W, Schneider A, Woelke G et al (n. 23), 432–441
[30] Jonathan O. Anderson, Josef G. Thundiyil & Andrew Stolbach (n 17) 166-175
[31] Chuang K, Chan C, Su T, Lee C, Tang C, 'The effect of urban air pollution on inflammation, oxidative stress, coagulation, and autonomic dysfunction in young adults' [2007]176(2) *American Journal of Respiratory and Critical Care Medicine,* 370–376
[32] Nemmar A, Hoet P, Dinsdale D, Vermylen J, Hoylaerts M et al, 'Diesel exhaust particles in lung acutely enhance experimental peripheral thrombosis' [2003] 107(8) *Circulation*, 1202–1208
[33] Nemmar A, Hoylaerts M, Hoet P, Dinsdale D, Smith T et al, 'Ultrafine particles affect experimental thrombosis in an in vivo hamster model' [2002] 166 *American Journal of Respiratory and Critical Care Medicine,* 998–1004
[34] Schicker B, Kuhn M, Fehr R, Asmis L, Karagiannidis C et al, 'Particulate matter inhalation during hay storing activity induces systemic inflammation and platelet aggregation' [2009] 105(5) *European Journal of Applied Physiology,* 771–77

cardiovascular dysfunctions, and some malignancies.[35] Every year, millions of people die as a result of air pollution.

Infertility, cardiovascular disease, brain stroke, cancer, respiratory disorders, poor pregnancy outcomes, cognitive decline, and other negative health issues have been connected to air pollution. The issue of pollution in the outdoors is not new. Nevertheless, the issue of air pollution and associated health costs became more apparent due to the rapid urbanisation, especially in developing countries. Bibliometric analysis is the use of statistical techniques on published literature to examine publication trends over time and provide insight into key scholars, nations, and organisations in the subject.[36] In general, air pollution is the presence of a wide variety of substances, chemical combinations, particulate matter, or biological components in ambient air that have the potential to endanger and disturb human existence as well as other living things. Emission distribution, air quality modelling, and the relationship between each activity's emission potential and the identification of possible emission reduction measures are assumed by researchers.

[35]Fullerton, Duncan G., Nigel Bruce, and Stephen B. Gordon, 'Indoor air pollution from biomass fuel smoke is a major health concern in the developing world' [2008] 102(9) *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 843-851; Zhang, Wei, Chao-Nan Qian, and Yi-Xin Zeng, 'Air pollution: a smoking gun for cancer'[2014]33(4) *Chinese Journal of Cancer*, 173; Brucker, Natália, Mariele F. Charão, Angela M. Moro, Pedro Ferrari, Guilherme Bubols, Elisa Sauer, Rafael Fracasso et al, 'Atherosclerotic process in taxi drivers occupationally exposed to air pollution and co-morbidities' [2014] 131 *Environmental Research*, 3138.
[36] Ibid

Air pollution is associated with immediate, intermediate, or long-term effects on human health and the environment.[37] Numerous studies have investigated the acute health consequences of exposure to air pollutants. Short-term effects can include irritation of the eyes and throat, along with respiratory infections like pneumonia and bronchitis, whereas chronic exposure to air pollution can lead to long-lasting respiratory diseases, cardiovascular issues, lung cancer, and potential harm to the brain, liver, kidneys, or nerves.[38] Furthermore, both short- and long-term exposure to air contaminants was linked to elevated blood pressure and an increased likelihood of developing hypertension.[39] Higher concentrations of gas and particulate matter in the air are strongly associated with early mortality and increased hospital admissions for respiratory and related illnesses in rural and urban areas.[40]

5.0 RECOMMENDATIONS

The following recommendations are suggested:

1. The existing legal frameworks on environmental governance in Nigeria should be enforced to ensure that environmental-related rights are protected in Nigeria.

[37] Kumbha Ram Mahala, 'The impact of air pollution on living things and Environment: A review of the current evidence' [2024] 24(3) *World Journal of Advanced Research and Reviews,* 3207-3217

[38] Ibid

[39] Manucci PM, Franchini M, 'Health effects of ambient air pollution in developing countries' [2017] 14 *International Journal of Environmental Research and Public Health*, 1048. doi: 10.3390/ijerph14091048

[40] Guo Y, Zeng H, Zheng R, Li S, Pereira G, Liu Q, et al, 'The burden of lung cancer mortality attributable to fine particles in China [2017] 579 *Total Environmental Science*, 1460–6. doi:10.1016/j.scitotenv.2016.11.147

2. More efforts should be made in terms of creating the necessary awareness and medico-legal training to improve the understanding of pollution-related diseases.
3. Community participation in environmental health education.
4. Introduction of mandatory health-centred environmental impact assessment.
5. Victims of pollution should be provided with ease of accessing remedies and compensation.

6.0 CONCLUSION

The following conclusions could be inferred from this paper:

1. Notwithstanding the existence of international, regional and national laws on the protection of the environment, environmental pollution is on the increase daily globally, including in Nigeria.
2. Long-term impacts of air pollution are commonly acknowledged to include disorders, including respiratory infections and inflammations, cardiovascular dysfunctions, and some malignancies. Every year, millions of people die as a result of air pollution.
3. Infertility, cardiovascular disease, brain stroke, cancer, respiratory disorders, poor pregnancy outcomes, cognitive decline, and other negative health issues have been connected to air pollution.
4. Higher concentrations of gas and particulate matter in the air are strongly associated with early mortality and increased hospital admissions for respiratory and related illnesses in rural and urban areas.