

*Abating Air Pollution for a Healthy Environment*

# **Abating Air Pollution for a Healthy Environment**

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**Kariuki Muigua**

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**Abating Air Pollution for a Healthy Environment**

# *Abating Air Pollution for a Healthy Environment*

**Kariuki Muigua\***

## **Abstract**

*Environmental pollution is one of the major global challenges facing humanity and a key cause of morbidity and mortality. It is one of the triple planetary crisis alongside climate change and biodiversity loss. Environmental pollution occurs in various forms including water pollution; land pollution; noise pollution; and air pollution. It has been identified as a key threat to not only the Sustainable Development agenda but also to the very existence of the humankind. Addressing this problem is therefore necessary for Sustainable Development and the good health and well-being of humanity. This paper critically discusses the problem of air pollution. It defines air pollution and examines its causes and effects. The paper argues that air pollution is a key threat to Sustainable Development and good health and well-being of humanity. It further posits that abating air pollution is necessary for the sustainability of both nature and humankind.. The paper critically examines some of the measures adopted towards addressing air pollution noting to highlight their strength and weaknesses. It also suggests approaches towards abating air pollution for a healthy environment.*

## **1.0 Introduction**

Pollution has been defined as the indirect or direct alteration of the biological, thermal, physical, or radioactive properties of any medium in such a way as to create a hazard or potential hazard to human health or to the health, safety or welfare of any living species<sup>1</sup>. In addition, the *Environmental Management and Co-ordination Act (EMCA)*<sup>2</sup> of Kenya defines pollution as any direct or indirect alteration of the physical, thermal, chemical, biological, or radio-active properties of any part of the environment by discharging,

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\* PhD in Law (Nrb), FCI Arb (Chartered Arbitrator), OGW, LL. B (Hons) Nrb, LL.M (Environmental Law) Nrb; Dip. In Law (KSL); FCPS (K); Dip. in Arbitration (UK); MKIM; Mediator; Consultant: Lead expert EIA/EA NEMA; BSI ISO/IEC 27001:2005 ISMS Lead Auditor/ Implementer; ESG Consultant; Advocate of the High Court of Kenya; Professor at the University of Nairobi, Faculty of Law; Member of the Permanent Court of Arbitration (PCA) [March, 2024].

<sup>1</sup> United Nations Environment Programme., 'Pollution' Available at <https://leap.unep.org/en/knowledge/glossary/pollution#:~:text=The%20indirect%20or%20direct%20alteration,welfare%20of%20any%20living%20species.%20> (Accessed on 11/03/2024)

<sup>2</sup> Environmental Management and Co-Ordination Act, No. 8 of 1999, Government Printer, Nairobi

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emitting, or depositing wastes so as to affect any beneficial use adversely, to cause a condition which is hazardous or potentially hazardous to public health, safety or welfare, or to animals, birds, wildlife, fish or aquatic life, or to plants<sup>3</sup>. Further, environmental pollution has been defined as 'the contamination of the physical and biological components of the earth/atmosphere system to such an extent that normal environmental processes are adversely affected<sup>4</sup>. It can also refer to any discharge of material or energy into water, land, or air that causes or may cause acute (short-term) or chronic (long-term) detriment to the Earth's ecological balance or that lowers the quality of life<sup>5</sup>. It has been noted that a substance that causes pollution is known as a pollutant<sup>6</sup>. These substances can exist in solid, liquid, or gaseous form<sup>7</sup>. Pollution occurs in various forms including water pollution; land pollution; noise pollution; and air pollution<sup>8</sup>.

Environmental pollution has been identified as one of the major global challenges facing humanity and a key cause of morbidity and mortality<sup>9</sup>. Alongside climate change and biodiversity loss, pollution is among the triple planetary crisis which is a term that refers to the three main interlinked issues that humanity currently faces<sup>10</sup>. According to the World Bank, pollution is the largest environmental cause of disease and premature death<sup>11</sup>. It points out that pollution causes more than nine million premature deaths, the

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<sup>3</sup> Ibid, S 2

<sup>4</sup> Ullah, S., "A sociological study of environmental pollution and its effects on the public health Faisalabad city," *International Journal of Education and Research*, Vol. 1 No. 6 June 2013, p.2.

<sup>5</sup> Coker, A.O. "Environmental Pollution: Types, Causes, Impacts and Management for the Health and SocioEconomic Well-Being of Nigeria," p.1. Available at <https://pdfs.semanticscholar.org/8e7b/a9595bab30d7ea87715533353c53f7452811.pdf> (Accessed on 11/03/2024)

<sup>6</sup> Khasanova. S., & Alieva. E., 'Environmental Pollution: Types, Causes and Consequences' Available at <http://dx.doi.org/10.1051/bioconf/20236307014> (Accessed on 11/03/2024)

<sup>7</sup> Ibid

<sup>8</sup> Coker, A.O. "Environmental Pollution: Types, Causes, Impacts and Management for the Health and SocioEconomic Well-Being of Nigeria," Op Cit

<sup>9</sup> Khasanova. S., & Alieva. E., 'Environmental Pollution: Types, Causes and Consequences' Op Cit

<sup>10</sup> United Nations Climate Change., 'What is the Triple Planetary Crisis?' Available at <https://unfccc.int/news/what-is-the-triple-planetary-crisis#:~:text=The%20triple%20planetary%20crisis%20refers,change%2C%20pollution%20and%20biodiversity%20loss>. (Accessed on 11/03/2024)

<sup>11</sup> World Bank Group., 'Pollution' Available at <https://www.worldbank.org/en/topic/pollution> (Accessed on 11/03/2024)

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majority of them as a result of air pollution<sup>12</sup>. The World Bank further notes that pollution of all types hinder development outcomes<sup>13</sup>. For example, air pollution, exposure to lead and other chemicals, and hazardous waste including exposure to improper e-waste disposal, causes debilitating and fatal illnesses, create harmful living conditions, and destroys ecosystems<sup>14</sup>. In addition, pollution stunts economic growth, exacerbates poverty and inequality in both urban and rural areas, and significantly contributes to climate change<sup>15</sup>. It has also been pointed out that poor people, who cannot afford to protect themselves from the negative impacts of pollution, end up suffering the most<sup>16</sup>.

According to the United Nations Environment Programme (UNEP), environmental contamination significantly contributes to non-infectious diseases like cancer and respiratory illnesses, causing approximately nine million deaths annually<sup>17</sup>. UNEP further notes that air pollution alone is responsible for nearly seven million deaths<sup>18</sup>. In addition, pollution, through air, freshwater and ocean contamination, accumulates toxic chemicals in the food chain, harming humans and animals<sup>19</sup>. Environmental pollution is therefore a threat to not only the Sustainable Development agenda but also to the very existence of the humankind<sup>20</sup>. Addressing this problem is therefore necessary for Sustainable Development and the good health and well-being of humanity.

This paper critically discusses the problem of air pollution. It defines air pollution and examines its causes and effects. The paper argues that air pollution is a key threat to Sustainable Development and good health and well-being of humanity. It further posits

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<sup>12</sup> Ibid

<sup>13</sup> Ibid

<sup>14</sup> Ibid

<sup>15</sup> Ibid

<sup>16</sup> Ibid

<sup>17</sup> United Nations Environment Programme., 'Pollution and Health' Available at <https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health> (Accessed on 11/03/2024)

<sup>18</sup> Ibid

<sup>19</sup> Ibid

<sup>20</sup> Muigua. K., 'Safeguarding the Environment through Effective Pollution Control in Kenya' Available at <https://kmco.co.ke/wp-content/uploads/2019/09/Safeguarding-the-Environment-through-Effective-Pollution-Control-in-Kenya-Kariuki-Muigua-28th-SEPT-2019.pdf> (Accessed on 11/03/2024)

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that abating air pollution is necessary for the sustainability of both nature and human kind. The paper critically examines some of the measures adopted towards addressing air pollution noting to highlight their strength and weaknesses. It also suggests approaches towards abating air pollution for a healthy environment.

### **2.0 Air Pollution: Causes and Effects**

Air pollution refers to the introduction of chemicals, particulate matter, or biological materials that cause harm or discomfort to humans or other living organisms, or cause damage to the natural environment or built environment, into the atmosphere<sup>21</sup>. The World Health Organization (WHO) defines air pollution as the contamination of the indoor or outdoor environment by any chemical, physical or biological agent that modifies the natural characteristics of the atmosphere<sup>22</sup>. It has been noted that household combustion devices, motor vehicles, industrial facilities and forest fires are some of the common sources of air pollution<sup>23</sup>. Further, according to UNEP, air pollution comes from many sources – from cookstoves and kerosene lamps to coal-fired power plants, vehicle emissions, industrial furnaces, wildfires, and sand and dust storms among others<sup>24</sup>.

It has been asserted that air pollution is the greatest environmental threat to public health globally and accounts for an estimated seven million premature deaths every year<sup>25</sup>. UNEP notes that air pollution is the most-pressing environmental health crisis of our time, responsible for an estimated seven million premature deaths every year<sup>26</sup>. It

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<sup>21</sup> Sharma, S. B., Jain, S., Khirwadkar, P., & Kulkarni, S., 'The Effects of Air Pollution on the Environment and Human Health,' *Indian Journal of Research in Pharmacy and Biotechnology*, Volume 1, No. 3 (2013)

<sup>22</sup> World Health Organization., 'Air Pollution' Available at [https://www.who.int/health-topics/air-pollution#tab=tab\\_1](https://www.who.int/health-topics/air-pollution#tab=tab_1) (Accessed on 12/03/2024)

<sup>23</sup> Ibid

<sup>24</sup> United Nations Environment Programme., 'About Air' Available at <https://www.unep.org/explore-topics/air/about-air> (Accessed on 12/03/2024)

<sup>25</sup> United Nations Environment Programme., 'Pollution Action Note – Data you Need to Know' Available at <https://www.unep.org/interactives/air-pollution-note/> (Accessed on 12/03/2024)

<sup>26</sup> United Nations Environment Programme., 'Five Cities Tackling Air Pollution' Available at <https://www.unep.org/news-and-stories/story/five-cities-tackling-air-pollution> (Accessed on 12/03/2024)

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further notes that approximately nine in ten people around the world breathe unclean air, which increases the risk of asthma, heart disease and lung cancer<sup>27</sup>.

WHO notes that outdoor and indoor air pollution cause respiratory and other diseases and are important sources of morbidity and mortality<sup>28</sup>. It further points out that the burden of disease attributable to air pollution is now estimated to be on a par with other major global health risks such as unhealthy diets and tobacco smoking<sup>29</sup>. Air pollution has also been identified as a risk factor for some noncommunicable diseases such as ischemic heart disease, stroke, chronic obstructive pulmonary disease, asthma and cancer<sup>30</sup>. It is estimated that almost all of the global population (approximately ninety nine per cent) breathe air that exceeds WHO guideline limits and contains high levels of pollutants, with low- and middle-income countries suffering from the highest exposures<sup>31</sup>. Further, according to UNEP, most recorded air pollution-linked deaths occur in developing countries, where laws are weak or not applied, vehicle emission standards are less stringent and coal power stations more prevalent<sup>32</sup>. Air pollution is therefore a major global concern especially in developing countries.

Air pollution is also linked to climate change<sup>33</sup>. UNEP notes that air pollution is also fundamentally altering the climate, with profound impacts on the health of the planet<sup>34</sup>. It has been correctly asserted that many of the drivers of air pollution (such as combustion of fossil fuels) are also sources of greenhouse gas emissions<sup>35</sup>. As a result, policies to reduce air pollution, therefore, offer a win-win strategy for both climate and health,

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<sup>27</sup> Ibid

<sup>28</sup> World Health Organization., 'Air Pollution' Op Cit

<sup>29</sup> Ibid

<sup>30</sup> Ibid

<sup>31</sup> Ibid

<sup>32</sup> United Nations Environment Programme., 'Air Pollution Hurts the Poorest Most' Available at <https://www.unep.org/news-and-stories/story/air-pollution-hurts-poorest-most> (Accessed on 12/03/2024)

<sup>33</sup> United Nations Environment Programme., 'About Air' Op Cit

<sup>34</sup> Ibid

<sup>35</sup> World Health Organization., 'Air Pollution' Op Cit

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lowering the burden of disease attributable to air pollution, as well as contributing to the near- and long-term mitigation of climate change<sup>36</sup>. Abating air pollution is thus a vital tool in climate change mitigation<sup>37</sup>.

Air pollution is thus an undesirable phenomenon that does not only damage human health, but also hampers the planet and the economy in many ways<sup>38</sup>. Abating air pollution is therefore of utmost importance for the health of humanity and nature. WHO correctly takes the position that clean air is fundamental to health<sup>39</sup>. Further, it has been argued that clean air is a human right, and a necessary pre-condition for addressing climate change as well as achieving many Sustainable Development Goals (SDGs)<sup>40</sup>. Improving our air quality will bring health, development, and environmental benefits<sup>41</sup>. The global nature of the challenge of air pollution calls for an enhanced global response in order to effectively abate the problem<sup>42</sup>.

### **3.0 Abating Air Pollution: Progress and Challenges**

The need to abate pollution is recognized under the *International Covenant on Economic, Social and Cultural Rights (ICESCR)*<sup>43</sup> which enshrines the right of every person to the enjoyment of the highest attainable standard of physical and mental health<sup>44</sup>. In order to realize this right, the Covenant urges states to take relevant measures including those necessary for the improvement of all aspects of environmental and industrial hygiene<sup>45</sup>. It has been argued that these provisions of the ICESCR recognise the right of every person to be free from all forms of pollution including air pollution<sup>46</sup>.

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<sup>36</sup> Ibid

<sup>37</sup> Ibid

<sup>38</sup> United Nations Environment Programme., 'Air Pollution Hurts the Poorest Most' Op Cit

<sup>39</sup> World Health Organization., 'Air Pollution' Op Cit

<sup>40</sup> United Nations Environment Programme., 'Air Pollution Hurts the Poorest Most' Op Cit

<sup>41</sup> United Nations Environment Programme., 'Pollution Action Note - Data you Need to Know' Op Cit

<sup>42</sup> World Health Organization., 'Air Pollution' Op Cit

<sup>43</sup> United Nations, *International Covenant on Economic, Social and Cultural Rights*, Adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966, entry into force 3 January 1976, in accordance with article 27

<sup>44</sup> Ibid, article 12 (1)

<sup>45</sup> Ibid, article 12 (2) (b)

<sup>46</sup> Muigua. K., 'Safeguarding the Environment through Effective Pollution Control in Kenya' Op Cit

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In addition, the *United Nations Framework Convention on Climate Change (UNFCCC)*<sup>47</sup> is an international legal instrument that seeks to confront climate change by stabilizing greenhouse gas concentrations at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system<sup>48</sup>. Achieving the objectives of the UNFCCC is also vital in abating air pollution<sup>49</sup>. It has been correctly argued that air quality and climate change are interconnected because the chemical substances that lead to a degradation in air quality are normally co-emitted with greenhouse gases<sup>50</sup>. Therefore, changes in one inevitably cause changes in the other<sup>51</sup>. As a result, efforts to combat climate change by avoiding or limiting greenhouse gas emissions are also important in tackling air pollution<sup>52</sup>. It is therefore necessary to achieve the objectives of the UNFCCC by combating climate change in order to simultaneously abate air pollution.

*WHO Global Air Quality Guidelines*<sup>53</sup> seek to enhance the global response to air pollution. According to the Guidelines, clean air is fundamental to health<sup>54</sup>. The Guidelines offer quantitative health-based recommendations for air quality management, expressed as long- or short-term concentrations for a number of key air pollutants<sup>55</sup>. According to WHO, exceedance of the air quality guideline levels is associated with major risks to public health<sup>56</sup>. Though the Guidelines are not legally binding standards; they do provide WHO Member States with an evidence-informed tool that can shape legislation and

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<sup>47</sup> United Nations General Assembly, 'United Nations Framework Convention on Climate Change' Resolution / Adopted by the General Assembly, 20 January 1994, A/RES/48/189.

<sup>48</sup> Ibid, article 2

<sup>49</sup> United Nations Climate Change., 'Air Quality Sinks as Climate Change Accelerates' Available at <https://unfccc.int/news/air-quality-sinks-as-climate-change-accelerates#:~:text=%E2%80%9CAs%20the%20globe%20warms%2C%20wildfires,says%20WMO%20Secretary%2DGeneral%20Prof.> (Accessed on 12/03/2024)

<sup>50</sup> Ibid

<sup>51</sup> Ibid

<sup>52</sup> Ibid

<sup>53</sup> World Health Organization., 'Global Air Quality Guidelines' Available at <https://iris.who.int/bitstream/handle/10665/345329/9789240034228-eng.pdf?sequence=1> (Accessed on 12/03/2024)

<sup>54</sup> Ibid

<sup>55</sup> Ibid

<sup>56</sup> Ibid

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policy on air pollution<sup>57</sup>. Ultimately, the goal of the WHO Guidelines is to provide guidance to help reduce levels of air pollutants in order to decrease the enormous health burden resulting from exposure to air pollution worldwide<sup>58</sup>. WHO sets out several measures that are necessary for implementation of the Guidelines including the existence and operation of air pollution monitoring systems; public access to air quality data; legally binding, globally harmonized air quality standards; and air quality management systems<sup>59</sup>. Implementing the WHO Guidelines is therefore necessary to abate air pollution. According to the Guidelines, abatement refers to the reduction or elimination of pollution, which involves either legislative measures or technological procedures, or both<sup>60</sup>.

Further, the United Nations General Assembly (UNGA) has recognized the human right to a clean, healthy and sustainable environment<sup>61</sup>. According to the United Nations, this right includes the right to clean air<sup>62</sup>. According to the United Nations, the impact of climate change, the unsustainable management and use of natural resources, the *pollution of air*, land and water, the unsound management of chemicals and waste, the resulting loss of biodiversity and the decline in services provided by ecosystems interfere with the enjoyment of a clean, healthy and sustainable environment and that environmental damage has negative implications, both direct and indirect, for the effective enjoyment of all human rights(Emphasis added)<sup>63</sup>. It has been argued that the UNGA Resolution is a watershed moment in the fight against the triple planetary crises of climate change, biodiversity loss and pollution<sup>64</sup>. It has also been pointed out that upholding the right to

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<sup>57</sup> Ibid

<sup>58</sup> Ibid

<sup>59</sup> Ibid

<sup>60</sup> Ibid

<sup>61</sup> United Nations General Assembly (UNGA), 'The Human Right to a Clean, Healthy and Sustainable Environment.' UNGA Resolution 'A/76/L.75.'

<sup>62</sup> Ibid

<sup>63</sup> Ibid

<sup>64</sup> United Nations Environment Programme., 'Advancing the Right to a Healthy Environment' Available at <https://www.unep.org/explore-topics/environmental-rights-and-governance/what-we-do/advancing-right->

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a clean, healthy, and sustainable environment is vital in protecting the planet and its people from air pollution among other environmental problems<sup>65</sup>. It is thus imperative to safeguard the human right to a clean, healthy, and sustainable environment as part of the measures towards abating air pollution.

At a national level, the *Constitution of Kenya*<sup>66</sup> enshrines the right of all Kenyans to a clean and healthy environment<sup>67</sup>. It has been noted that this right includes the right to clean air<sup>68</sup>. Realizing the right to a clean and healthy environment in Kenya as envisioned under the Constitution is therefore necessary in abating air pollution. In addition, the Constitution of Kenya gives powers to county governments to control of air pollution and noise pollution among other public nuisances<sup>69</sup>. County governments therefore have a key role to play in abating air pollution in Kenya.

In addition, EMCA requires the Cabinet Secretary in charge of matters relating to environment and natural resources on the recommendation of the National Environment Management Authority (NEMA) to establish Air Quality Standards<sup>70</sup>. According to EMCA, the Air Quality Standards should provide for the criteria and guidelines for air pollution control for both mobile and stationary sources<sup>71</sup>. Further, EMCA requires the Cabinet Secretary to issue Guidelines to minimize emissions of greenhouse gases and identify suitable technologies to minimize air pollution; and do all such things as appear necessary for the monitoring and controlling of air pollution<sup>72</sup>. Pursuant to these

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[healthyenvironment#:~:text=Over%20150%20countries%20have%20binding,change%2C%20biodiversity%20loss%20and%20pollution](#) (Accessed on 12/03/2024)

<sup>65</sup> Climate & Clean Air Coalition., 'UN Declares Healthy Environment - Including Clean Air - A Human Right' Available at <https://www.ccacoalition.org/news/un-declares-healthy-environment-including-clean-air-human-right> (Accessed on 12/03/2024)

<sup>66</sup> Constitution of Kenya, 2010., Government Printer, Nairobi

<sup>67</sup> Ibid, article 42

<sup>68</sup> United Nations General Assembly (UNGA)., 'The Human Right to a Clean, Healthy and Sustainable Environment.' Op Cit

<sup>69</sup> Constitution of Kenya, 2010., Fourth Schedule, Part 2

<sup>70</sup> Environmental Management and Co-ordination Act, No. 8 of 1999, S 78, Government Printer, Nairobi

<sup>71</sup> Ibid, S 78 (1) (b) (iii)

<sup>72</sup> Ibid, S 78 (1) (d) & (e)

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provisions, the *Air Quality Regulations, 2014*<sup>73</sup> were enacted. The objective of these Regulations is to provide for the prevention, control and abatement of air pollution to ensure clean and healthy ambient air<sup>74</sup>. The Regulations further seek to ensure that there is establishment of emission standards for various sources such as mobile sources like motor vehicles and stationary sources such as industries as outlined under EMCA<sup>75</sup>. The Regulations prohibit any person from acting in a way that directly or indirectly causes, or is likely to cause immediate or subsequent air pollution<sup>76</sup>. They also set out several mechanisms for ensuring air quality including inspection and monitoring<sup>77</sup>. Further, in order to ensure clean and healthy ambient air, the Regulations makes it an offence to commit acts of air pollution in Kenya<sup>78</sup>. Under the Regulations, a person who contravenes their provisions commits an offence and is liable on conviction to a fine of five hundred thousand shillings or imprisonment for a term not exceeding six months<sup>79</sup>.

Despite the existence of laws, policies and regulations aimed at preventing air pollution, the problem continues to persist at all levels with developing countries being the most affected<sup>80</sup>. It has been posited that developing nations have limited air quality management systems due to inadequate legislation and lack of political will, among other challenges<sup>81</sup>. In addition it has been contended that maintaining a balance between economic development and environmental management is usually a challenge in developing countries with there being no adequate investments in pollution prevention technologies<sup>82</sup>. Air pollution is a major threat to human health, environmental sustainability, and economic development<sup>83</sup>. Improving our air quality will bring health,

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<sup>73</sup> Environmental Management and Co-ordination Act., The Environmental Management and Co-ordination (Air Quality) Regulations, 2014, Legal Notice No. 34

<sup>74</sup> Ibid, Regulation 4

<sup>75</sup> Ibid

<sup>76</sup> Ibid, Regulation 5 (1) (a)

<sup>77</sup> Ibid, Part XI

<sup>78</sup> Ibid, Regulation 76

<sup>79</sup> Ibid

<sup>80</sup> Muigua. K., 'Safeguarding the Environment through Effective Pollution Control in Kenya' Op Cit

<sup>81</sup> Ibid

<sup>82</sup> Ibid

<sup>83</sup> United Nations Environment Programme., 'Air Pollution Hurts the Poorest Most' Op Cit

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development, and environmental benefits<sup>84</sup>. It is therefore necessary to abate air pollution in order to realize a healthy environment.

### **4.0 Way Forward**

In order to abate air pollution, it is necessary to realize the right to a Clean, Healthy, and Sustainable environment<sup>85</sup>. This right encompasses various elements including clean and balanced ecosystems, *clean air*, rich biodiversity and a stable climate (Emphasis added)<sup>86</sup>. A safe, clean, healthy and sustainable environment is considered to be integral to the full enjoyment of a wide range of human rights, including the rights to life, health, food, water and sanitation<sup>87</sup>. The right to a Clean, Healthy and Sustainable Environment is an essential human right that has been equated to the right to life<sup>88</sup>. The importance of this right has been upheld by UNGA which recognized the human right to a clean, healthy and sustainable environment<sup>89</sup>. It has been argued that realization of the right to a Clean, Healthy, and Sustainable environment can aid in tackling environmental challenges such as pollution, climate change, and unsustainable management of natural resources<sup>90</sup>. It is therefore necessary to realize the right to a Clean, Healthy, and Sustainable Environment in order to abate air pollution alongside other environmental problems.

In addition, there is need to strengthen air quality laws and regulations including through monitoring<sup>91</sup>. Air quality across the globe continues to deteriorate due to air pollution

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<sup>84</sup> United Nations Environment Programme., 'Pollution Action Note - Data you Need to Know' Op Cit

<sup>85</sup> Muigua. K., 'Realizing the Right to a Clean, Healthy and Sustainable Environment' Available at <https://kmco.co.ke/wp-content/uploads/2023/06/Realizing-the-Right-to-a-Clean-Healthy-and-Sustainable-Environment.pdf> (Accessed on 13/03/2024)

<sup>86</sup> Zimmer K, 'The Human Right That Benefits Nature' Available at <https://www.bbc.com/future/article/20210316-how-the-human-right-to-a-healthy-environment-helps-nature> (Accessed on 13/03/2024)

<sup>87</sup> Muigua. K., 'Recognising a Human Right to Safe, Healthy and Sustainable Environment.' Available at <http://kmco.co.ke/wp-content/uploads/2021/04/Recognising-a-Human-Right-to-Safe-Healthy-and-Sustainable-Environment-Kariuki-Muigua-1st-April-2021.pdf> (Accessed on 13/03/2024)

<sup>88</sup> Peter K. Waweru v Republic, Misc. Civil Application No. 118 of 2004, (2006) eKLR

<sup>89</sup> United Nations General Assembly (UNGA)., 'The Human Right to a Clean, Healthy and Sustainable Environment.' UNGA Resolution 'A/76/L.75.' Op Cit

<sup>90</sup> Muigua. K., 'Realizing the Right to a Clean, Healthy and Sustainable Environment' Op Cit

<sup>91</sup> Muigua. K., 'Safeguarding the Environment through Effective Pollution Control in Kenya' Op Cit

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threatening human health and contributing to climate change and biodiversity loss<sup>92</sup>. In addition, it has been argued that air quality monitoring and transparent access to data is critical for humanity since it helps us understand how air pollution impacts people, places and planet<sup>93</sup>. Through monitoring, it is possible to identify air pollution hotspots and take targeted action to protect and improve human and environmental well-being<sup>94</sup>. However, it has been noted that air quality monitoring is yet to be fully embraced in developing countries meaning that people may be disproportionately impacted by air pollution in such countries<sup>95</sup>. It is therefore necessary to enhance air quality monitoring by implementing air quality laws and investing in technology and infrastructure to improve data reliability<sup>96</sup>. Investing in technology will enable government agencies to achieve real time air pollution monitoring which can go a long way in ensuring that pollutants are kept within acceptable levels as defined by the WHO standards<sup>97</sup>.

Further, it is imperative to fully operationalize and enhance the enforcement of laws and regulations on air pollution<sup>98</sup>. For example, in Kenya, it has been argued that it is vital to fully operationalize the Air Quality Regulations in order to ensure clean and healthy ambient air<sup>99</sup>. In addition, there is need for strict enforcement of compliance with the emission standards for various sources such as mobile sources including motor vehicles and stationary sources such industries as stipulated in the Air Quality Regulations and EMCA<sup>100</sup>. One of the key ways that can be used to achieve this goal is effective enforcement of the polluter pays principle<sup>101</sup>. According to this principle, the costs of

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<sup>92</sup> United Nations Environment Programme., 'How is Air Quality Measured?' Available at <https://www.unep.org/news-and-stories/story/how-air-quality-measured#:~:text=Some%20use%20lasers%20to%20scan,nitrogen%20dioxide%20and%20sulfur%20dioxide>. (Accessed on 13/03/2024)

<sup>93</sup> Ibid

<sup>94</sup> Ibid

<sup>95</sup> Ibid

<sup>96</sup> Ibid

<sup>97</sup> Muigua. K., 'Safeguarding the Environment through Effective Pollution Control in Kenya' Op Cit

<sup>98</sup> Ibid

<sup>99</sup> Ibid

<sup>100</sup> Ibid

<sup>101</sup> Muigua. K., 'Enforcing the Right to Clean and Healthy Environment in Kenya through the Polluter Pays principle' Available at <https://kmco.co.ke/wp-content/uploads/2023/02/Enforcing-the-Right-to-Clean->

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pollution should be borne by the polluter<sup>102</sup>. The aim of this principle is to distribute the costs of pollution from governments to organisations and people that engage in acts of pollution<sup>103</sup>. Under the *Rio Declaration on Environment and Development*<sup>104</sup>, national authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the *polluter should, in principle, bear the cost of pollution*, with due regard to the public interest and without distorting international trade and investment(Emphasis added)<sup>105</sup>. Further, under EMCA, the cost of cleaning up any element of the environment damaged by pollution, compensating victims of pollution, cost of beneficial uses lost as a result of an act of pollution and other costs that are connected with or incidental to the foregoing, is to be paid or borne by the person convicted of pollution under this Act or any other applicable law<sup>106</sup>. It is therefore necessary to implement this principle in order to ensure that organizations and persons found liable of air pollution alongside other forms of pollution bear the costs of such pollution<sup>107</sup>. It has been argued that making violators bear the cost of environmental restoration will go a long way in not only guaranteeing the right to clean environment but also in achieving Sustainable Development<sup>108</sup>.

Courts also have a role to play in abating air pollution at all levels<sup>109</sup>. It has been pointed out that courts provide a platform for realizing access to justice which is key in enforcing human rights including the right to a Clean, Healthy, and Sustainable environment<sup>110</sup>.

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[and-Healthy-Environment-in-Kenya-Through-the-Polluter-Pays-principle-Kariuki-Muigua-February-2023.pdf](#) (Accessed on 13/03/2024)

<sup>102</sup> Ibid

<sup>103</sup> Ibid

<sup>104</sup> United Nations General Assembly., 'Report of the United Nations Conference on Environment and Development: Rio Declaration on Environment and Development.' A/CONF. 151/26 (Vol.1)

<sup>105</sup> Ibid, Principle 16

<sup>106</sup> Environmental Management and Co-ordination Act., No. 8 of 1999, S 2, Government Printer, Nairobi

<sup>107</sup> Muigua. K., 'Enforcing the Right to Clean and Healthy Environment in Kenya through the Polluter Pays principle'

<sup>108</sup> Ibid

<sup>109</sup> Muigua. K., 'The Role of Courts in Safeguarding Environmental Rights in Kenya: A Critical Appraisal.' Available at <http://kmco.co.ke/wp-content/uploads/2019/01/The-Role-of-Courts-in-Safeguarding-Environmental-Rights-in-Kenya-A-Critical-Appraisal-Kariuki-Muigua-17th-January-2019-1.pdf> (Accessed on 13/03/2024)

<sup>110</sup> Ibid

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For example, in Kenya, the Constitution grants jurisdiction to courts to enforce environmental rights through measures such as orders to prevent, stop or discontinue any act or omission that is harmful to the environment; orders to compel any public officer to take measures to prevent or discontinue any act or omission that is harmful to the environment; orders to provide compensation for any victim of a violation of the right to a clean and healthy environment among others<sup>111</sup>. It has been argued that there is need for courts to promote the realization of the right to a clean, healthy and sustainable environment by enhancing the principles of Sustainable Development and developing sound jurisprudence in environmental matters including cases concerning air pollution<sup>112</sup>. Further, it is necessary to enhance access to justice including access to courts in order to allow victims of air pollution among other environmental malpractices to realize environmental justice<sup>113</sup>.

Finally, it is of utmost importance to combat climate change<sup>114</sup>. It has been noted that air quality and climate change are interconnected since the chemical substances that lead to a degradation in air quality are normally co-emitted with greenhouse gases<sup>115</sup>. Therefore, changes in one inevitably cause changes in the other<sup>116</sup>. As a result, efforts to combat climate change by avoiding or limiting greenhouse gas emissions are also important in tackling air pollution<sup>117</sup>. According to the World Bank, air pollution and climate change are two sides of the same coin, but they are typically addressed separately<sup>118</sup>. It asserts that they should be tackled jointly, with a focus on protecting peoples' health particularly in low and middle-income countries in order to strengthen human capital and reduce

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<sup>111</sup> Constitution of Kenya, 2010, Article 70., Government Printer, Nairobi

<sup>112</sup> Muigua. K., 'The Role of Courts in Safeguarding Environmental Rights in Kenya: A Critical Appraisal.' Op Cit

<sup>113</sup> Ibid

<sup>114</sup> United Nations Climate Change., 'Air Quality Sinks as Climate Change Accelerates' Op Cit

<sup>115</sup> Ibid

<sup>116</sup> Ibid

<sup>117</sup> Ibid

<sup>118</sup> World Bank Group., 'What You Need to Know About Climate Change and Air Pollution' Available at <https://www.worldbank.org/en/news/feature/2022/09/01/what-you-need-to-know-about-climate-change-and-air-pollution> (Accessed on 13/03/2024)

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poverty<sup>119</sup>. Therefore, efforts to reduce greenhouse gas emissions provide dual benefits: of better air quality and improved health in localities and the global benefit of mitigating climate change<sup>120</sup>. It is therefore crucial to confront climate change in order to simultaneously abate air pollution.

### **5.0 Conclusion**

Air pollution is the most-pressing environmental health crisis of our time, responsible for an estimated seven million premature deaths every year<sup>121</sup>. Air pollution also contributes to climate change<sup>122</sup>. Improving our air quality will bring health, development, and environmental benefits<sup>123</sup>. It is therefore necessary to abate air pollution for a healthy environment for the benefit of both humanity and nature. This can be achieved through realizing the right to a Clean, Healthy, and Sustainable Environment<sup>124</sup>; strengthening air quality laws and regulations including through monitoring<sup>125</sup>; full operationalization and enhancing the enforcement of laws and regulations on air pollution<sup>126</sup>; enhancing access to environmental justice<sup>127</sup>; and combating climate change<sup>128</sup>. Abating air pollution for a healthy environment is the way to go towards ensuring the sustainability of our planet.

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<sup>119</sup> Ibid

<sup>120</sup> Ibid

<sup>121</sup> United Nations Environment Programme., 'Five Cities Tackling Air Pollution' Op Cit

<sup>122</sup> United Nations Environment Programme., 'About Air' Op Cit

<sup>123</sup> United Nations Environment Programme., 'Pollution Action Note - Data you Need to Know' Op Cit

<sup>124</sup> Muigua. K., 'Realizing the Right to a Clean, Healthy and Sustainable Environment' Op Cit

<sup>125</sup> Muigua. K., 'Safeguarding the Environment through Effective Pollution Control in Kenya' Op Cit

<sup>126</sup> Ibid

<sup>127</sup> Muigua. K., 'The Role of Courts in Safeguarding Environmental Rights in Kenya: A Critical Appraisal.' Op Cit

<sup>128</sup> United Nations Climate Change., 'Air Quality Sinks as Climate Change Accelerates' Op Cit

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