

**Safeguarding the Environment through Effective Pollution
Control in Kenya**

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Abstract

Environmental pollution has become a major challenge, not only in Kenya but also across the globe, especially in the era of seeking faster economic development to take care of the ballooning human population in different countries. The Sustainable development agenda was formulated to help achieve the balance between development and environmental protection. Despite the development of the comprehensive sustainable development principles, there seems to have been slow progress in their implementation especially in curbing environmental pollution. Kenya has only seen increase in environmental pollution across the country and this threatens not only the environment but also human beings livelihoods that rely on a healthy environment. In the context of the constitutionally guaranteed right to a clean and healthy environment, this paper discusses how the problem of pollution can be dealt with in Kenya as a key step towards achieving sustainable development.

1. Introduction

Recently, the Kenyan media has been awash with reports of increased and unregulated cases of pollution. This has ranged from water, air and soil pollution, among others.¹ However, this does not imply that pollution is a Kenyan problem only. On the contrary, there have been increased cases of various forms of pollution the world over.² This is despite the presence of some legal and institutional frameworks meant to control the problem. At the international level and national environmental laws, environmental law has evolved to recognize substantive rights with relation

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¹ Odinga, T., "Focus on miners, farmers as soil pollution rises," *Business daily*, Tuesday, December 4, 2018. Available at <https://www.businessdailyafrica.com/datahub/3815418-4881226-11dxflkz/index.html> ; Omanga, E., Ulmer, L., Berhane, Z., & Gatari, M., "Industrial air pollution in rural Kenya: community awareness, risk perception and associations between risk variables," *BMC public health* 14, no. 1 (2014): 377.

² World Health organization, "9 out of 10 people worldwide breathe polluted air, but more countries are taking action," 2 May 2018. Available at <https://www.who.int/news-room/detail/02-05-2018-9-out-of-10-people-worldwide-breathe-polluted-air-but-more-countries-are-taking-action>

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to the environment, such as the rights implied in the common heritage of mankind and the right to be free from toxic pollution, among others.³

The Constitution of Kenya guarantees the right of every person to a clean and healthy environment including the right to have the environment protected for the benefit of present and future generations through legislative and other measures, particularly those contemplated in Article 69.⁴ One of the obligations of the State under Article 69 is to ensure sustainable exploitation, utilisation, management and conservation of the environment and natural resources, and to ensure the equitable sharing of the accruing benefits.⁵

According to the Kenya's National Land Policy 2009⁶, Kenya faces a number of environmental problems including the degradation of natural resources such as forests, wildlife, water, marine and coastal resources as well as soil erosion and the pollution of air, water and land. No doubt mining will escalate the situation unless environmental management is integrated into mining activities.

There have been nationwide reports indicating that raw water in Kenya is too polluted with chemicals and heavy metals to be fit for irrigation or human and livestock consumption.⁷

This paper seeks to add to the existing literature on how the problem of pollution in Kenya can be dealt with effectively. While this paper discusses environmental pollution in Kenya, it will specifically focus on air, water, land and noise pollution since these are the most common forms of pollution in Kenya.⁸

³ United Nations, *UNEP Compendium on Human Rights and the Environment: Selected international legal materials and cases*, United Nations Environment Programme ; Center for International Environmental Law (2014). Available at <http://wedocs.unep.org/handle/20.500.11822/9943>

⁴ Art. 42; Art. 70(1) of the Constitution states that if a person alleges that a right to a clean and healthy environment recognised and protected under Art. 42 has been, is being or is likely to be, denied, violated, infringed or threatened, the person may apply to a court for redress in addition to any other legal remedies that are available in respect to the same matter.

⁵ Art. 69(1) (a), Constitution of Kenya, 2010.

⁶ Republic of Kenya, National Land Policy (Government Printer, Nairobi, 2009).

⁷ Nasike, C., "Enforce measures to curb water pollution," *Business Daily*, Thursday, August 22, 2019. Available at <https://www.businessdailyafrica.com/analysis/letters/Enforce-measures-to-curb-water-pollution/4307714-5245596-tdpn9y/index.html> [Accessed on 9/9/2019].

⁸ This list is not exhaustive as such Acts as the *Radiation Protection Act*, Cap 243, Laws of Kenya Revised Edition 2012 [1985], seeks to provide for the protection of the public and radiation workers from the dangers arising from the use of devices or material capable of producing ionizing radiation and for connected purposes. Sec. 8 (1) thereof

2. Environmental Pollution: Meaning and Forms

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’.⁹

Environmental Pollution has also been defined as ‘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’.¹⁰

Pollutants strain ecosystems and may reduce or eliminate populations of sensitive species. Contamination may reverberate along the food chain causing mass destruction.¹¹ An example is the use of herbicides and pesticides in agricultural land. Some of these chemicals seep into rivers that flow through protected areas, causing poisoning of wildlife which drinks from the river. Another problem is the dumping of solid waste into rivers that flow through protected areas. Solid waste management which is constitutionally delegated to county governments has been a big problem across the country.¹²

Pollution has been attributed to many factors which include but not limited to waste by-products emanating from industrialization of our society, the introduction of motorized vehicles, and the explosion of the human population, leading to an exponential growth in the production of goods and services.¹³ This is mainly because of the indiscriminate discharge of untreated industrial and domestic wastes into waterways, the spewing of thousands of tons of particulates and airborne gases into the atmosphere, the "throwaway" attitude toward solid wastes, and the use of newly

prohibits any person, subject to such exemptions as may be prescribed under regulations made under this Act, to—
(a) manufacture or otherwise produce; (b) possess or use; (c) sell, dispose of or lease, loan or deal with;
(d) import or cause to be imported; or (e) export or cause to be exported, any irradiating device or radioactive material except under and in accordance with a licence issued under this Act.

⁹ 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.

¹⁰ Coker, A.O., "Environmental Pollution: Types, Causes, Impacts and Management for the Health and Socio-Economic Well-Being of Nigeria," p.1. Available at <https://pdfs.semanticscholar.org/8e7b/a9595bab30d7ea87715533353c53f7452811.pdf> [Accessed on 9/9/2019].

¹¹ FIAN International, ‘Study 3: Ecodestruction and the Right to Food: The Cases of Water and Biodiversity,’ *Starving the Future*, June 2002, available at <http://www.fian.at/assets/Ecodestruction02.pdf> [Accessed 20/9/2019].

¹² Schedule 4, Constitution of Kenya 2010.

¹³ Coker, A.O., "Environmental Pollution: Types, Causes, Impacts and Management for the Health and Socio-Economic Well-Being of Nigeria," p.1. Available at <https://pdfs.semanticscholar.org/8e7b/a9595bab30d7ea87715533353c53f7452811.pdf> [Accessed on 9/9/2019].

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developed chemicals without considering potential consequences has resulted in a lot of environmental disasters throughout the world.¹⁴

A major cause of pollution in coastal ecosystems is construction of hotels and other facilities in areas that are not on the sewerage lines.¹⁵ Beach resorts and some households in Mombasa have constructed onsite sewage management systems such as septic tanks and soakage pits.¹⁶ However, these often cause groundwater contamination which in turn causes considerable coral reef dieback and threatens the proliferation of marine life.¹⁷ The Wildlife Conservation and Management Act, 2013¹⁸ deals with pollution by making it an offence to pollute wildlife habitats.¹⁹ The Act applies the polluter pays principle and environmental restoration alongside payment of hefty fines for persons convicted of polluting wildlife habitats.²⁰ EMCA has very substantive provisions on pollution of the environment and gives deterrent penalties for violation of those provisions. The courts have further upheld the provisions of EMCA relating to pollution of wildlife resources and one such incidence was in the case of *Kwanza Estates LTD v Kenya Wildlife Service*,²¹ where the court issued an injunction stopping the construction of a public toilet on the beachfront without approval from NEMA holding that the actions had potentially negative effects on the environment.

Environmental pollution is a threat to not only the sustainable development agenda but also to the very existence of the humankind. Environmental law thus seeks to control the use of one's property and human behaviour so as to permit a habitable environment and to minimize adverse ecological effects.²²

¹⁴ Coker, A.O., "Environmental Pollution: Types, Causes, Impacts and Management for the Health and Socio-Economic Well-Being of Nigeria," p.1. Available at <https://pdfs.semanticscholar.org/8e7b/a9595bab30d7ea87715533353c53f7452811.pdf> [Accessed on 9/9/2019].

¹⁵ Businge, M.S., *et al.*, 'Environment and Economic Development' in *Kenya State of the Environment and Outlook 2010* (NEMA, 2011) 2, p.14.

¹⁶ *Ibid.*

¹⁷ *Ibid.*

¹⁸ No. 47 of 2013, laws of Kenya.

¹⁹ S. 89.

²⁰ S. 89(2).

²¹ Civil Case 133 of 2012 [eKLR].

²² Kutner, Luis. "The Control and Prevention of Transnational Pollution: A Case for World Habeas Ecologicus," *University of Miami Inter-American Law Review* 9, no. 2 (1977): 257.

3. Types of Pollution in Kenya

The most common types of pollution perceived in our environment include: water pollution; land pollution; noise pollution; and air pollution.²³

3.1 Land and Water pollution

It is estimated that about 30 to 50 per cent of nitrogen applied to soils leaches into rivers and the air, suffocating aquatic life, worsening climate change and shortening lives through contamination.²⁴ Nutrient pollution, or an excess of nutrients such as nitrogen and phosphorus in the water which enter the rivers as runoff from farmlands and residential areas, can lead to a host of health and environmental problems.²⁵ Nutrient pollution is attributed to fertilizer, animal manure, sewage treatment plant discharge, detergents, storm water runoff, cars and power plants, failing septic tanks and pet waste.²⁶

Nutrient pollution of rivers is considered to be one of the most widespread human impacts on water resources.²⁷ This is especially more serious in agriculture based economies such as Kenya where most people in rural areas engage in farming using modern chemicals that end up in water bodies. This not only pollutes the water but have a residue effect on the soil thus polluting the

²³ Coker, A.O., "Environmental Pollution: Types, Causes, Impacts and Management for the Health and Socio-Economic Well-Being of Nigeria." Available at <https://pdfs.semanticscholar.org/8e7b/a9595bab30d7ea87715533353c53f7452811.pdf>; Ndungu, N.J., "Pollution in Thika Municipality: Assessment Of Community-Based Awareness and Perception." (2003), available at <http://erepository.uonbi.ac.ke/bitstream/handle/11295/19013/Ndungu%20John%20Ndiraku%20Pollution%20in%20Thika%20Municipality-%20Assessment%20of%20Communty-based%20Awareness%20and%20Perception.pdf?sequence=3&isAllowed=y>; 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.

²⁴ Onyango, L., "Nema shuts down four firms for polluting Nairobi River," *Daily Nation*, Monday August 26 2019. Available at <https://www.nation.co.ke/news/Nema-shuts-down-four-firms-for-polluting-Nairobi-River/1056-5250274-dlwt1iz/index.html>

²⁵ Thompson, E., "How Land Use Affects Nutrient Pollution in a Changing Climate," *Earth & Space Science News* (sourced from *Journal of Geophysical Research: Biogeosciences*), 4 September, 2019. Available at <https://eos.org/research-spotlights/how-land-use-affects-nutrient-pollution-in-a-changing-climate>

²⁶ United Nations Environmental Protection Agency, "The Facts about Nutrient Pollution," available at https://www.epa.gov/sites/production/files/2015-03/documents/facts_about_nutrient_pollution_what_is_hypoxia.pdf

²⁷ Stevenson, R., "Nutrient Pollution: A Problem with Solutions," In book: *River Conservation: Challenges and Opportunities*, Chapter: 4, Publisher: Fundacion BBVA, Editors: Sergi Sabater, Arturo Elosegui, pp.77-104, at p.77.

soil. Apart from farming chemicals, Sewerage water, industrial wastes and disposals are also sources of water pollution.²⁸

Target 6.3 of the Sustainable Development Goals (SDGs) requires that states should ensure that “by 2030, they improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

3.2 Noise and Air pollution Control in Kenya

Some scholars have defined the term noise to describe sounds that are disagreeable or unpleasant produced by acoustic waves of random intensities and frequencies.²⁹ Noise from industry, traffic, homes and recreation can cause annoyance, disturb sleep and effects health. Thus, sound is considered to be a potential serious pollutant and threat to the environmental health.³⁰

Air pollution can be defined as “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”.³¹

Air pollution is now considered to be a significant public health problem, responsible for a growing range of health effects in many regions of the world.³² Indeed, it has been documented that air pollution has overtaken poor sanitation and a lack of drinking water to become the main

²⁸ 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.

²⁹ Ibid.

³⁰ Ibid; Mead, M.N., "Noise Pollution: The Sound behind Heart Effects," *Environmental Health Perspectives* 115, no. 11 (2007): A536; Owen, D., "Is Noise Pollution the Next Big Public-Health Crisis?" *The New Yorker*, May 13, 2019 Issue. Available at <https://www.newyorker.com/magazine/2019/05/13/is-noise-pollution-the-next-big-public-health-crisis>

³¹ 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* 1, no. 3 (2013): 391-396; Ghorani-Azam, A., Riahi-Zanjani, B., & Balali-Mood, M., "Effects of air pollution on human health and practical measures for prevention in Iran," *Journal of research in medical sciences: the official journal of Isfahan University of Medical Sciences* 21 (2016); Rani, B., Singh, U., & Maheshwari, R., "Menace of air pollution worldwide," *Advances in Biological Research* 2, no. 1 (2011): 1-22.

³² Kelly, F. J., & Fussell, J. C., "Air pollution and public health: emerging hazards and improved understanding of risk," *Environmental geochemistry and health* 37, no. 4 (2015): 631-649.

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environmental cause of premature death.³³ Nitrogen oxides, Sulphur dioxide, Carbon Monoxide, Ammonia and Ozone are considered to be the major air pollutants.³⁴

The United Nations observes that 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.³⁵

Kenya's air condition in most major cities and towns has been rated as some of the most polluted in the world.³⁶ This is mainly attributed to the unsustainable policies in sectors such as transport, energy, waste management and industry.³⁷

It has been argued that while other parts of the world, particularly the developed nations, also have the problem of air pollution mainly caused by burning of hydrocarbons for transport that can be addressed by tackling fuel usage through electric vehicles, and car-free zones, African cities have entirely different problems; pollution is mainly due to the burning of rubbish, cooking with inefficient solid fuel stoves, millions of small diesel electricity generators, cars which have had their catalytic converters removed and petrochemical plants, all pushing pollutants into the air over the cities.³⁸

According to the World Health Organization, approximately 19,000 people die prematurely in Kenya annually because of air pollution.³⁹ This is mainly attributed to PM 2.5 annual exposure, which, according to the United Nations, are 70 per cent over the safe level in Nairobi.⁴⁰

Kenya has had its own share of air and noise pollution despite the existence of laws meant to curb the same.⁴¹

³³ Ibid.

³⁴ 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.

³⁵ United Nations Environment Programme, "Air pollution hurts the poorest most," 9 May, 2019. Available at <https://www.unenvironment.org/news-and-stories/story/air-pollution-hurts-poorest-most>

³⁶ Chasant, M., "Air Pollution In Kenya: Causes, Effects And Solutions," 4 July, 2019. Available at <https://www.atcmask.com/blogs/blog/air-pollution-in-kenya>

³⁷ Ibid.

³⁸ Vidal, J., "There is no escape!: Nairobi's air pollution sparks Africa health warning," *The Guardian*, 10 July, 2016. Available at <https://www.theguardian.com/cities/2016/jul/10/no-escape-nairobi-air-pollution-sparks-africa-health-warning>

³⁹ United Nations Environment Programme, "Nairobi matatus' odd engine idling culture pollutes, harms health," 19 December, 2019. Available at <https://www.unenvironment.org/news-and-stories/story/nairobi-matatus-odd-engine-idling-culture-pollutes-harms-health>

⁴⁰ Ibid.

4. International and Regional Law and Pollution Control

The *International Covenant on Economic, Social and Cultural Rights*⁴², recognises the right to be free from pollution and states that ‘the States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health. The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for: the improvement of all aspects of environmental and industrial hygiene.’⁴³

The United Nations *Montreal Protocol on Substances that Deplete the Ozone Layer*⁴⁴ aims to reduce and eventually eliminate the emissions of man-made ozone depleting substances.

The *1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*⁴⁵ requires the parties to reduce to a minimum the transboundary movements of hazardous wastes; to ensure that such wastes are managed and disposed of in an environmentally sound manner, as close as possible to their source of generation; and to reduce to a minimum the generation of hazardous wastes at the source.

The *1992 Framework Convention on Climate Change*⁴⁶ requires parties to achieve "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

The other *Protocol to the Nairobi Convention is the Protocol Concerning Co-operation in Combating Marine Pollution in Cases of Emergency in the Eastern African Region*⁴⁷ which was

⁴¹ African City Planner, “Nairobi, Kenya, faces a Growing Challenge of Noise Pollution,” October 17, 2016. Available at <http://africacityplanner.com/nairobi-kenya-faces-growing-challenge-noise-pollution/>; Barczewski, B., "How well do environmental regulations work in Kenya?: a case study of the Thika highway improvement project." *Center for Sustainable Urban Development* (2013); Jammah, A., “Kenya needs to address the crisis of air pollution,” Standard Digital, 18th March, 2016. Available at <https://www.standardmedia.co.ke/article/2000195290/kenya-needs-to-address-the-crisis-of-air-pollution>.

⁴² 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.

⁴³ *International Covenant on Economic, Social and Cultural Rights*, Article 12 (1)(2)(b).

⁴⁴ UN General Assembly, *Protection of global climate for present and future generations of mankind: resolution / adopted by the General Assembly*, 6 December 1988, A/RES/43/53.

⁴⁵ UN General Assembly, *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*, Basel, 22 March 1989, United Nations, *Treaty Series*, [vol. 1673](#), p. 57.

⁴⁶ UN General Assembly, *United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly*, 20 January 1994, A/RES/48/189.

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adopted in 1985. Article 2 of the Protocol provides that it applies to “marine pollution incidents which have resulted in or which pose a significant threat of, pollution to the marine and coastal environment of the Eastern African region or which adversely affect the interests of one or more of the Contracting Parties.” The other Protocol relating to the East Africa region, is the Protocol for the Protection of the West Indian Ocean Marine Environment from Land-Based Sources and Activities (LBSA Protocol)⁴⁸, enacted in 2010.

The *Nairobi Convention*⁴⁹ together with its three protocols constitutes the current regional legal framework for the protection and conservation of the marine and coastal environment of the Western Indian Ocean region. The Convention is meant to ensure there is a joint regional legal framework that coordinates the efforts of the member states to build their capacity to protect, manage and develop their coastal and marine environment.⁵⁰ This would include capacity to keep these areas pollution free. This is because transnational pollution would require cooperation among states sharing major water bodies like Indian Ocean.⁵¹

These legal instruments are to offer guidelines to states on how to conserve the various aspects of the environment and also curb pollution.

5. Legal and Institutional Framework on Pollution Control in Kenya: Challenges and Prospects

5.1 Constitution of Kenya 2010

Under the Constitution of Kenya 2010⁵² Although the national government, has the role of protecting the environment and natural resources,⁵³ county governments have a role in pollution

⁴⁷ United Nations, *Protocol Concerning Co-operation in Combating Marine Pollution in Cases of Emergency in the Eastern African Region*, Jun 21, 1985, Nairobi. Entry into force: May 30, 1996

⁴⁸ Protocol for the Protection of the Marine and Coastal Environment of the Western Indian Ocean from Land-Based Sources and Activities. Adopted in Nairobi, Kenya on 31 March 2010

⁴⁹ <https://www.unenvironment.org/nairobiconvention/>

⁵⁰ Ibid.

⁵¹ See generally, Mendis, C., "Sovereignty vs. trans-boundary environmental harm: The evolving International law obligations and the Sethusamuduram Ship Channel Project," *Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, United Nations, New York, NY(USA)*. 67 (2006): 2006, see also Caron, D.D., "Liability for Transnational Pollution Arising from Offshore Oil Development: A Methodological Approach," *Ecology Law Quarterly* (1983): 641-683; Kutner, L., "The Control and Prevention of Transnational Pollution: A Case for World Habeas Ecologicus," *University of Miami Inter-American Law Review* 9, no. 2 (1977): 257.

⁵² Constitution of Kenya 2010 (Government Printer, Nairobi, 2010).

⁵³ S. 22, Constitution of Kenya, 2010.

control⁵⁴ and implementation of specific national government policies on natural resources and environmental conservation including soil and water conservation and forestry.⁵⁵ The Counties should however work closely with the national government and other stakeholders in discharging some of these duties considering that they may traverse various counties and may require some major steps from both national and county levels of government.

5.2 Environmental Management and Coordination Act (EMCA), 1999

The Environmental Management and Coordination Act (EMCA), 1999⁵⁶, is the framework law on environmental management and conservation. EMCA establishes among others institutions; National Environment Management Authority, National Environment Complaints Committee⁵⁷, National Environment Tribunal and County Environment Committees.

EMCA provides the general guidelines and standards to be observed in management and conservation of various aspects of the environment. It is therefore supposed to be implemented through enactment of sectoral laws that should focus on the various aspects of the environment. In order to align the Act with the Constitution, EMCA was amended in 2015 by the *Environmental Management and Co-ordination (Amendment) Act (No 5 of 2015)*. While EMCA contains provisions on almost all the aspects of the environment, it is worth pointing out that the procedural aspects of the regulation of these aspects heavily depends on regulations and other laws that expound on the EMCA provisions.

5.3 National Environment Management Authority (NEMA)

The National Environment Management Authority (NEMA) was established as the principal instrument of government charged with the implementation of all policies relating to the environment, and to exercise general supervision and coordination over all matters relating to the environment. In consultation with the lead agencies, NEMA is empowered to develop regulations, prescribe measures and standards and, issue guidelines for the management and conservation of natural resources and the environment. The Act provides for environmental

⁵⁴ *Ibid*, S. 3 of Part II.

⁵⁵ *Ibid*, S. 10.

⁵⁶ No. 8 of 1999, Laws of Kenya.

⁵⁷ See *Environmental Management and Co-ordination (Amendment) Act (No 5 of 2015)*, Laws of Kenya.

protection through; Environmental impact assessment; Environmental audit and monitoring; and Environmental restoration orders, conservation orders, and easements.

Notably, NEMA can delegate its functions under EMCA to any lead agency, being the oversight authority, and where it carries out a delegated duty, it can recover costs from the relevant body for any of such functions.⁵⁸

5.4 Health Act, 2017

The Health Act, 2017⁵⁹ was enacted to establish a unified health system, to coordinate the inter-relationship between the national government and county government health systems, to provide for regulation of health care service and health care service providers, health products and health technologies and for connected purposes.⁶⁰ In seeking to promote and advance public and environmental health, the Act obligates the national health system to ensure that measures for managing environmental risk factors to curtail occurrence and distribution of diseases are put in place and implemented. In particular such measures should target, inter alia—the reduction of disease burden arising from poor environmental hygiene, sanitation, occupational exposure and environmental pollution.⁶¹

5.5 Public Health Act

The *Public Health Act*⁶² was enacted to make provision for securing and maintaining health.⁶³ The Act empowers the Cabinet Minister in charge to make rules concerning port health matters. Specifically, the Cabinet Secretary may make rules, inter alia: or the destruction of rats, mice or insects in, vessels, the disposal of bilge or other water on board, the cleansing of vessels, the provision of a supply of pure water on board, and for preventing the pollution of the water of the port with excreta and manure or any infective or offensive matter.⁶⁴

It also places a duty on local authority to protection of water supplies. Specifically, It provides that it shall be the duty of every local authority to take all lawful, necessary and reasonably

⁵⁸ Sec. 12, EMCA.

⁵⁹ Act No. 21 of 2017, Laws of Kenya.

⁶⁰ Ibid, Preamble.

⁶¹ Health Act, 2017, Sec. 68 (2)(a).

⁶² Public Health Act, Cap. 242, Laws of Kenya Revised Edition 2012 [1986].

⁶³ Ibid, preamble.

⁶⁴ Ibid, sec. 73 (d).

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practicable measures—for preventing any pollution dangerous to health of any supply of water which the public within its district has a right to use and does use for drinking or domestic purposes (whether such supply is derived from sources within or beyond its district); and for purifying any such supply which has become so polluted, and to take measures (including, if necessary, proceedings at law) against any person so polluting any such supply or polluting any stream so as to be a nuisance or danger to health.⁶⁵ The Act also empowers the Cabinet Secretary on the advice of the Central Board of Health, to make, and impose on local authorities and others the duty of enforcing, rules in respect of defined areas—prohibiting bathing in, and prohibiting or regulating the washing of clothes or other articles or of animals in, or in any place draining into, any such water supply as is mentioned in section 129; and prohibiting or regulating the erection of dwellings, sanitary conveniences, stables, cattle-kraals, pig-styes, ostrich-pens, dipping tanks, factories or other works likely to entail risk of harmful pollution of any such water supply, or prohibiting or regulating the deposit in the vicinity of, or in any place draining into, any such supply of any manure, filth or noxious or offensive matter or thing, and generally, for preventing the pollution dangerous to health of any supply of water which the public within its district has a right to use and does use for drinking or domestic purposes and for purifying any such supply which has become so polluted, and for preventing the pollution of streams so as to be a nuisance or a danger to health.⁶⁶

Regarding disposal of sewage, the Act provides that no person should dispose of solid or liquid sewage or sewage effluent in such a manner or in such a position as to cause or be likely to cause dampness in any building or part thereof, or to endanger the purity of any water supply, or to create any nuisance, with exception of disposal of waste water from baths, lavatory basins or kitchen sinks by a satisfactory method of surface irrigation or sub-irrigation in such a manner that neither dampness of buildings, the breeding of mosquitoes, the pollution of water supplies nor other form of nuisance is caused thereby.⁶⁷

While this Act seems comprehensive in its provisions, its implementation and enforcement seems minimal or non-existent considering that all that it seeks to prohibit is what has been happening across the country and especially in major towns and cities such as Nairobi and

⁶⁵ Ibid, sec. 129.

⁶⁶ Sec. 130.

⁶⁷ Sec. 63; See also EMCA's Water quality Regulations, 2006 (Legal notice No. 121); Water Act, 2016.

Mombasa. Nairobi River is enough evidence of lack of implementation of the Public Health Act owing to its current pathetic state and absolute pollution as has been highlighted severally in the media. The ripple effect has been the pollution of other watercourse downstream such as the River Athi.⁶⁸ This affects not only human beings and animals but also adversely affects agricultural production and also causes the double tragedy of people consuming polluted and contaminated foodstuffs produced with the polluted water. There is thus a heightened need for protection of the public health from industrial pollution in Kenya which may range from water, air and land pollution.

5.6 Suppression of Noxious Weeds Act

Considering that land degradation and pollution can be caused by various factors including noxious weeds, the *Suppression of Noxious weeds Act*⁶⁹ was enacted to provide for the suppression of noxious weeds.⁷⁰ The Cabinet Secretary may by notice in the Gazette declare a plant to be a noxious weed in any area, which shall be specified in the notice, and which may consist either of the whole of Kenya or of one or more districts or portions thereof.⁷¹ Where a weed is declared as noxious, any person in charge of such land should clear the noxious weed, or cause it to be cleared, from that land.⁷² Such weeds may be injurious to agricultural or horticultural crops, natural habitats or ecosystems, or humans or livestock, hence the need to control them.⁷³

a) Water pollution Control

National Environment Management Authority (NEMA) has made considerable attempts at controlling water pollution in the country.⁷⁴ However, this may be considered to be a reactive

⁶⁸ Kienja, K., "Pollution of urban waterways in Nairobi: a case study of Mathare 4B village, Nairobi, Kenya." Master Thesis, University of Canterbury (2017). Available at <https://pdfs.semanticscholar.org/06b6/abcabbe413610fe725ee8bb27ac61971868a.pdf>

⁶⁹ *Suppression of Noxious weeds Act, Cap 325*, Laws of Kenya, Revised Edition 2012 [1983].

⁷⁰ Ibid, Preamble.

⁷¹ Ibid, sec. 3.

⁷² Ibid, sec. 4.

⁷³ Gbèhounou, G., *Guidance on Weed Issues and Assessment of Noxious Weeds in a Context of Harmonized Legislation for Production of Certified Seeds*, Plant Production and Protection Division, Food and Agriculture Organization of the United Nations, 2013. Available at <http://www.fao.org/3/a-i3493e.pdf>

⁷⁴ Onyango, L., "NEMA shuts down four firms for polluting Nairobi River," *Daily Nation*, Monday August 26 2019. Available at <https://www.nation.co.ke/news/Nema-shuts-down-four-firms-for-polluting-Nairobi-River/1056-5250274-dlwt1iz/index.html>

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measure which was only taken after media houses' expose on the extent of pollution that is taking place in the country, especially perpetrated by the corporate bodies. This begs the question where NEMA was and whether the requisite measures during the licensing of these companies were taken. Environmental Impact Assessment (EIA)⁷⁵ and Strategic Environment and Social Assessment (SESA)⁷⁶ assessments as required by the law were supposed to address this problem; follow up measures by NEMA to ensure that there is compliance were evidently missing. This has resulted in various companies dropping their guard and engaging in wanton destruction of water bodies through uncontrolled and untreated discharge of pollutants into the water bodies. NEMA Director General has been on record stating that some of the closed down companies do not have efficient waste water treatment plants.⁷⁷ This is worrying as it may mean that there are many more out there doing the same and its only that they have not been discovered.

The *Water Quality Regulations 2006*⁷⁸ apply to drinking water, water used for industrial purposes, water used for agricultural purposes, water used for recreational purposes, water used for fisheries and wildlife, and water used for any other purposes.⁷⁹ The Regulations not only obligate every person to refrain from any act which directly or indirectly causes, or may cause immediate or subsequent water pollution, but also seek to regulate through licensing the various uses and interaction with water. They also set standards by which every user of water and water bodies must observe.

The Water Act 2016⁸⁰ also carries provisions that seek to curb contamination and pollution of water sources and establishes institutions that should enforce the Act. Despite the enactment of this Act, there are still many cases of pollution of water bodies due to lack of enforcement of the prescribed standards and little has changed if at all, in the quality of water across the country as far as water hygiene is concerned.

⁷⁵ Sec. 68, EMCA.

⁷⁶ Sec. 57A, EMCA.

⁷⁷ Onyango, L., "Nema shuts down four firms for polluting Nairobi River," *Daily Nation*, Monday August 26 2019. Available at <https://www.nation.co.ke/news/Nema-shuts-down-four-firms-for-polluting-Nairobi-River/1056-5250274-dlwt1iz/index.html>

⁷⁸ Water quality Regulations, 2006 (Legal notice No. 121).

⁷⁹ Regulation 2.

⁸⁰ No. 43 of 2016, Laws of Kenya.

b) Land pollution Control

Land pollution and degradation is closely related to water pollution as this can also result in water pollution, hence the need to tackle the problem. Land degradation in Kenya is often attributed to both natural and human factors which include biophysical (natural) factors related to climatic conditions and extreme weather events such as droughts and floods, and catchment factors such as steep slopes and highly erodible soils.⁸¹ However, human activities carry the greatest share of blame, and these include unsustainable land management practices (anthropogenic) factors such as destruction of natural vegetation, over-cultivation, overgrazing, poor land husbandry and excessive forest conversion.⁸²

Land degradation may include: biological/Vegetation degradation (loss of biodiversity/vegetation); Soil erosion by water; Wind erosion; Water resources degradation; Chemical degradation; and physical degradation.⁸³

Considering that the above factors fall under different sectors, land pollution is governed by various policies and laws that range from agricultural laws, forestry laws, climate change laws and water laws among others.⁸⁴

Article 60 of the Constitution requires that in Kenya should be held, used and managed in a manner that is equitable, efficient, productive and sustainable, and in accordance with the

⁸¹ Republic of Kenya, Report Of the Land Degradation Assessment (LADA) In Kenya: Based On A Study Of Land Degradation Assessment (Lada) With Remote Sensing And GIS, For Sustainable Land Management (SLM) In Kenya, March 2016. Available at <http://www.environment.go.ke/wp-content/uploads/2018/08/LADA-Land-Degradation-Assessment-in-Kenya-March-2016.pdf>

⁸² Ibid.

⁸³ Ibid.

⁸⁴ See Agricultural Sector Development Strategy 2010–2020, the Kenya Vision 2030, the National Environment Policy, 2013, the Environment Management and Coordination Act 1999, the National Livestock Policy, 2013, the National Ocean and Fisheries Policy, 2008, the National Food and Nutrition Security Policy, 2011, the National Horticulture Policy, 2012, the Forest Policy, 2014, the Sessional Paper No. 3 of 2009 On National Land Policy, the Draft National Land Use Policy, 2016, the National Spatial Plan (NSP) 2015-2045, the Natural Resources Benefit Sharing Bill, the Forest Conservation and Management Act, No. 34 of 2016, the Community Land Act No. 27 of 2016, the Agriculture, Fisheries and Food Authority Act (No 13 of 2013) Crops Act 2013 No 16 of 2013, The Kenya Agricultural and Livestock Research Act, 2013 (No. 17 of 2013), the Fisheries Management and Development Act, 2016, Biosafety Act, No. 2 of 2009, the Kenya Plant Health Inspectorate Service Act, No. 54 of 2012, the Seeds and Plant Varieties Act, Cap 326, the Wildlife Conservation and Management Act, 2013 (No. 47 of 2013), the County Governments Act, 2012 (No.17 of 2012), the Urban Areas and Cities Act, 2011 (No. 13 of 2011), the Land Adjudication Act (Cap. 284), Agriculture and Food Authority (AFA) 2016-2021 Strategic Plan, the Livestock and Livestock Products Development and Marketing Bill, 2016, the Food Security Bill, 2017, and the National Drought Management Authority Act, No. 4 of 2016.

principles of sustainable and productive management of land resources; and sound conservation and protection of ecologically sensitive areas, among others.

The Constitution also obligates the State to: ensure sustainable exploitation, utilisation, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits; work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya; encourage public participation in the management, protection and conservation of the environment; protect genetic resources and biological diversity; establish systems of environmental impact assessment, environmental audit and monitoring of the environment; and eliminate processes and activities that are likely to endanger the environment.⁸⁵ It also requires every person to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.⁸⁶

The *Kenya Vision 2030* also commits the country to mitigate unintended adverse land degradation.

The various policies and laws thus seek to curb or mitigate the above forms of land pollution/degradation. However, the situation on the ground paints a grim picture and serves as an indication that little has been achieved despite the existence of these legal instruments.

c) Noise pollution Control

The *Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulation, 2009*⁸⁷ defines “noise” to mean any undesirable sound that is intrinsically objectionable or that may cause adverse effects on human health or the environment. These Regulations prohibit any person from making or causing to be made any loud, unreasonable, unnecessary or unusual noise which annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment.⁸⁸ However, there are some exemptions to these prohibitions.⁸⁹

⁸⁵ Article 69 (1).

⁸⁶ Article 69 (2).

⁸⁷ Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009, Legal Notice No. 61 of 2009.

⁸⁸ Ibid, Regulation 3 (1).

⁸⁹ Regulation 7.

In the case of **Pastor James Jessie Gitahi and 202 others vs Attorney General**⁹⁰, the court recognized one of the components of a clean and healthy environment to be the prevention of noise and vibration pollution.

The National Environmental Management Authority (Nema) inspectors have made attempts at noise pollution control in the country.⁹¹

Despite the Regulations, noise pollution is however still a major problem in the country because of lack of enforcement of the Regulations and possibly the public's ignorance on the levels of noise that may be considered as air pollution.

d) Air pollution Control

The *Air Quality Regulations 2014* seek to provide for prevention, control and abatement of air pollution to ensure clean and healthy ambient air. They also seek to ensure that there is establishment of emission standards for various sources such as mobile sources (e.g. motor vehicles) and stationary sources (e.g. industries) as outlined in the Environmental Management and Coordination Act, 1999.⁹² As already pointed, despite the existence of these Regulations, there has been massive pollution of air especially around major towns due to industrial development and unsustainable mode of transport, mainly public service vehicles (matatus) and other unroadworthy vehicles. Some authors have rightly pointed out that developing countries such as Kenya have limited air quality management systems due to inadequate legislation and lack of political will, among other challenges. In addition, maintaining a balance between economic development and sustainable environment is usually a challenge; there are no investments in pollution prevention technologies.⁹³ More attention goes to the short-term benefits

⁹⁰ [2013] eKLR, petition No. 683 of 2009.

⁹¹ Omullo, C., "Nema shuts four Nairobi clubs over noise pollution," *Business Daily*, Thursday, January 11, 2018. Available at <https://www.businessdailyafrica.com/news/Nema-shuts-four-Nairobi-clubs-over-noise-pollution/539546-4260126-1u5arqz/index.html>

⁹² The Environment Management And Co-Ordination (Air Quality) Regulations, available at http://www.nema.go.ke/index.php?option=com_content&view=article&id=31&Itemid=171

⁹³ Omanga, E., Ulmer, L., Berhane, Z., & Gatari, M., "Industrial air pollution in rural Kenya: community awareness, risk perception and associations between risk variables," *BMC public health* 14, no. 1 (2014): 377.

from increased production and job creation where the lack of air quality management capability translates into lack of air pollution data, hence the false belief that there is no problem.⁹⁴

Under EMCA, projects and activities that are likely to cause air pollution are also to be subjected to Environmental Impact Assessment⁹⁵.

6. Towards an Effective framework on Pollution Control in Kenya

6.1 Effective Waste Management

Effective disposal and management of waste is considered as one of the ways of pollution control.⁹⁶ Achievement of sustainable waste management mechanisms in Kenya has been attributed to such factors as lack of adequate consumer awareness, poor policy frameworks and lack of structured Extended Producer Responsibility Schemes, among others.⁹⁷

6.2 Real Time Air Pollution Monitoring

Under the Kenya Bureau of Standards legal provisions of 2014, the Kenya Bureau of standards offers pre-export inspection of used vehicles to determine whether they conform to the code regulations in a bid to control pollution.⁹⁸ Investing in technology that will enable the government agencies to achieve real time air pollution monitoring can go a long way in ensuring that pollutants are kept within acceptable levels as defined by the World Health Organisation standards. As already pointed out, air pollution is worst in the major cities and towns and these efforts should be concentrated more on these areas due to their high susceptibility and the high population living in these areas. Kenya can develop and invest in the relevant sensors through tapping into the local experts skills.⁹⁹

⁹⁴ Ibid.

⁹⁵ Sec. 68, EMCA.

⁹⁶ Spiegel, J., & Maystre, L. Y., "Environmental pollution control and prevention." *Encyclopedia of Occupational Health and Safety*. 4th ed. Geneva: International Labour Office 2 (1998).

⁹⁷ Wakiaga, P., "Incentivising waste management is way to go," *Business Daily*, Sunday, August 25, 2019. Available at <https://www.businessdailyafrica.com/analysis/letters/incentivising-waste-management-is-way-to-go/4307714-5248640-ym86ov/index.html> [Accessed on 17/9/2019].

⁹⁸ Uttamang, P., Aneja, V. P., & Hanna, A. F., Assessment of gaseous criteria pollutants in the Bangkok Metropolitan Region, Thailand, *Atmospheric Chemistry and Physics*, 18(16), 12581-12593.

⁹⁹ Mugendi, E., "Measuring Nairobi's air quality using locally assembled low-cost sensors: How low cost sensors are tracking air quality in East Africa's largest city," May 9, 2018. Available at <https://medium.com/code-for-africa/measuring-nairobis-air-quality-using-locally-assembled-low-cost-sensors-94a356885120>

There is a need to invest in pollution prevention technologies like emission controls especially for factories and heavy industries with strict enforcement to ensure that people living in such areas do not pay the heavy cost of air pollution. The risk of such pollution is not just restricted to the urban areas. Research has concluded that ‘pollution from industries negatively impacts the health of employees and neighbouring communities and the potential for adverse health outcomes is heightened when the industries are located in rural areas where the bulk of the population is vulnerable because of limited information about their rights and limited capacity to defend themselves or influence policy decisions’.¹⁰⁰

There is need to fully operationalize the *Air Quality Regulations 2014* which ensure clean and healthy ambient air. There is need for strict enforcement of compliance with the emission standards for various sources such as mobile sources (e.g. motor vehicles) and stationary sources (e.g. industries) as outlined in the *Air Quality Regulations 2014 and Environmental Management and Coordination Act, 1999*.¹⁰¹

6.3 Incentive-Based Regulatory Approaches for Pollution Control

There are other regulatory approaches that can be used to promote and attain environmental protection and public health that are not rights-based. These include economic incentives and disincentives, criminal law, and private liability regimes which are all now considered as part of the framework of international and national environmental law and health law.¹⁰² Scholars have argued that market-based instruments “harness market forces” so that they use market signals to affect behaviour (of both consumers and firms) towards pollution control. They are also called Economic Incentives for pollution control (EI) and include pollution charges or levies, taxes and tradable permits.¹⁰³

¹⁰⁰ Omanga, E., Ulmer, L., Berhane, Z., & Gatari, M., "Industrial air pollution in rural Kenya: community awareness, risk perception and associations between risk variables," *BMC public health* 14, no. 1 (2014): 377.

¹⁰¹ The Environment Management And Co-Ordination (Air Quality) Regulations, available at http://www.nema.go.ke/index.php?option=com_content&view=article&id=31&Itemid=171

¹⁰² Shelton, D., ‘Human Rights, Health and Environmental Protection: Linkages in Law and Practice: A Background Paper for the WHO,’ p. 3. Available at http://www.who.int/hhr/information/Human_Rights_Health_and_Environmental_Protection.pdf [Accessed on 28/09/2019].

¹⁰³ Di Falco, S., "Economic incentives for pollution control in developing countries: what can we learn from the empirical literature?." *Politique Agricola Internazionale (PAGRI)* 2, no. 2 (2012): 7-24, at p.7.

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Some authors have argued that incentive-based policy instruments are more efficient means of achieving environmental goals such as reductions in polluting emissions and fostering the delivery of ecosystem services.¹⁰⁴

Both a charge system and a tax system use financial instruments to persuade polluters to reduce pollution, by making pollution more costly to the polluter, thus forcing firms to reduce emissions.¹⁰⁵

Kenya has been making progress in adopting these approaches, with the latest being the Green Bond Programme - Kenya, which aims to promote financial sector innovation by developing a domestic green bond market.¹⁰⁶ Such measures are commendable for promoting sustainability and reducing climate change¹⁰⁷, which is one of the results of pollution, through funding renewable energy and afforestation projects.¹⁰⁸

Banning of non-reusable plastic bags in August 2017 was also a major step in curbing pollution in the country and this has received accolades across the globe.¹⁰⁹ This has not only been embraced by companies but also the general public.

Using such incentives and investing in technology, the Government of Kenya can succeed in achieving sustainable solid waste management in the country which is still a big menace. Notably, the poorly disposed solid waste causes water, air and soil/land pollution.

The Government should also invest more in modern modes of transport that emit fewer polluting gases through offering relevant tax breaks/exemptions to encourage investment in the sector.

¹⁰⁴ de Vries, F. P., & Hanley, N., "Incentive-based policy design for pollution control and biodiversity conservation: a review." *Environmental and Resource Economics* 63, no. 4 (2016): 687-702.

¹⁰⁵ Di Falco, S., "Economic incentives for pollution control in developing countries: what can we learn from the empirical literature?" *Politique Agricola Internazionale (PAGRI)* 2, no. 2 (2012): 7-24, at p.9.

¹⁰⁶ "The Green Bonds Programme – Kenya," available at <https://www.greenbondskenya.co.ke/>

¹⁰⁷ Kenya Bankers Association, *Kenya Green Bond Guidelines Background Document (Draft 02)*. Available at <https://www.nse.co.ke/products-services/debt-securities/the-green-bond>

¹⁰⁸ Ngugi, B., "Kenya sets stage for first ever green bond after approving rules," *Business Daily*, Wednesday, February 20, 2019. Available at <https://www.businessdailyafrica.com/markets/capital/Kenya-sets-stage-for-first-ever-green-bond/4259442-4990946-y3k2y4z/index.html>

¹⁰⁹ National Environment Management Authority, "Government BANS Plastic Carrier Bags," *NEMA News: NEMA Quarterly magazine*, January-March, 2017. Available at <http://www.nema.go.ke/images/Docs/Awariness%20Materials/NEAPS/NEMA%20Quarterly%20Magazine-Jan-March%202017.pdf>

It is hoped that in the long run, this will see Kenya achieve a cleaner environment for all, thus moving closer to achieving the right to a clean and healthy environment.

6.4 Pollution Control in the Context of Sustainable Development

Sustainable Development Goals (SDGs) 3.9 requires that by 2030, countries should substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.¹¹⁰

In addition to the 2030 SDGs, *Agenda 21*¹¹¹ was adopted in 1992 with the aim of combating the problems of poverty, hunger, ill health and illiteracy, and the continuing deterioration of the ecosystems on which the human race depend for their well-being. Further, it sought to deal with the integration of environment and development concerns and greater attention to them which would lead to the fulfillment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future.¹¹² The aim was to achieve a global consensus and political commitment at the highest level on development and environment cooperation.

Chapter 3 of the *Agenda 21* deals with combating poverty. Clause 3.2 thereof provides that while managing resources sustainably, an environmental policy that focuses mainly on the conservation and protection of resources must take due account of those who depend on the resources for their livelihoods. Clause 4.5 thereof notes that special attention should be paid to the demand for natural resources generated by unsustainable consumption and to the efficient use of those resources, consistent with the goal of minimizing depletion and reducing pollution.¹¹³ *Agenda 21* basically seeks to enable all people to achieve sustainable livelihoods through integrating factors that allow policies to address issues of development, sustainable resource management and poverty eradication simultaneously.¹¹⁴

¹¹⁰ SDG 3 requires countries to ensure healthy lives and promote wellbeing for all at all ages.

¹¹¹ (A/CONF.151/26, vol.II), United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992, Agenda 21.

¹¹² Ibid, Preamble.

¹¹³ Ibid, Clause 4.5.

¹¹⁴ Ibid, Clause 3.4.

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The *Forest Principles*¹¹⁵ state in the preamble that the subject of forests is related to the entire range of environmental and development issues and opportunities, including the right to socio-economic development on a sustainable basis. The guiding objective of these principles is to contribute to the management, conservation and sustainable development of forests and to provide for their multiple and complementary functions and uses.¹¹⁶

The Principles require countries to ensure that forest resources and forest lands are sustainably managed to meet the social, economic, ecological, cultural and spiritual needs of present and future generations. These needs are for forest products and services, such as wood and wood products, water, food, fodder, medicine, fuel, shelter, employment, recreation, habitats for wildlife, landscape diversity, carbon sinks and reservoirs, and for other forest products. As a result, appropriate measures should be taken to protect forests against harmful effects of pollution, including air-borne pollution, fires, pests and diseases, in order to maintain their full multiple value.¹¹⁷

Notably, the *Principles* state that the vital role of all types of forests in maintaining the ecological processes and balance at the local, national, regional and global levels through, inter alia, their role in protecting fragile ecosystems, watersheds and freshwater resources and as rich storehouses of biodiversity and biological resources and sources of genetic material for biotechnology products, as well as photosynthesis, should be recognised.¹¹⁸

6.5 Public Empowerment and Participation

The Constitution provides that every person has a duty to cooperate with the State in discharging of its obligations towards the environment. Noting that the general public is as much a partaker in generation of pollution as it is a victim of its effects, there is need to involve them in combating pollution in the country. Creating awareness on the harmful effects of the various forms of pollution as well as creating incentives for the public to desist from activities that cause pollution is necessary. This must however be accompanied by providing alternative means of

¹¹⁵ United Nations, The Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests (Forest Principles) A/CONF.151/26 (Vol. III).

¹¹⁶ Ibid, Preamble.

¹¹⁷ Principle 2 (b).

¹¹⁸ Principle 4.

production that are sustainable. Environmental education and ethics should be promoted in the country. They should also be involved through other participatory tools such as the Environmental Impact Assessment (EIA)¹¹⁹ and Strategic Environmental Assessment (SEA)¹²⁰ in order to make environmentally sound decisions which also consider their views.

There is also a need to put in place a working public/citizen complaint mechanism that provides the opportunity for citizens to lodge complaints and grievances about the violation/infringement of their right to a clean and healthy environment by companies polluting the environment. The acceptance speech by Nobel Laureate, the late Prof. Wangari Maathai, summarises the importance of public participation and empowerment in environmental protection and conservation as follows: “.....*So, together, we have planted over 30 million trees that provide fuel, food, shelter, and income to support their children's education and household needs. The activity also creates employment and improves soils and watersheds. Through their involvement, women gain some degree of power over their lives, especially their social and economic position and relevance in the family....Initially, the work was difficult because historically our people have been persuaded to believe that because they are poor, they lack not only capital, but also knowledge and skills to address their challenges. Instead they are conditioned to believe that solutions to their problems must come from 'outside'. Further, women did not realize that meeting their needs depended on their environment being healthy and well managed. They were also unaware that a degraded environment leads to a scramble for scarce resources and may culminate in poverty and even conflict....In order to assist communities to understand these linkages, we developed a citizen education program, during which people identify their problems, the causes and possible solutions. They then make connections between their own personal actions and the problems they witness in the environment and in society....* (Emphasis added).”¹²¹

6.6 Proper and Effective Spatial Planning

There have been various reports of demolition of buildings deemed to have been built in riparian land and other ecologically sensitive areas. There is a need to put in place effective spatial

¹¹⁹ See Article 69 (1), Constitution; Sec. 68, EMCA.

¹²⁰ See 57A, Environmental Management and Co-ordination (Amendment) Act, 2015 (No. 5 of 2015).

¹²¹ The Norwegian Nobel Institute, ‘Wangari Maathai: The Nobel Lecture (Oslo, December 10, 2004),’ available at http://nobelpeaceprize.org/en_GB/laureates/laureates-2004/maathai-lecture/ [Accessed on 20/9/2019].

planning management systems as well as a working system for monitoring development activities. This will avoid situations where people not only suffer losses but also eliminate all chances of corruption by government officers who may be in the habit of illegally issuing clearances. The means of achieving some of these are well set out in the *National Spatial Plan 2015-2045*¹²² whose specific objectives are:-To create a spatial planning context that enhances economic efficiency and strengthens Kenya's global competitiveness; To promote balanced regional development for national integration and cohesion; To optimize utilization of land and natural resources for sustainable development; To create livable and functional Human Settlements in both urban and rural areas; To secure the natural environment for high quality of life; and to establish an integrated national transportation network and infrastructure system. Full implementation of this Plan can go a long way in not only controlling pollution but also eliminating any factors that may lead to pollution in future.

6.7 Role of Courts in Environmental Conservation

The Constitution of Kenya places an obligation on national Courts and tribunals to protect and enforce environmental rights and especially the right to a clean and healthy environment.¹²³ The Court, especially the Environment and Land Court has made impressive efforts to discharge this duty. These efforts date to the pre-2010 Constitution era as evidenced by such cases as *Peter K. Waweru v Republic*,¹²⁴ where the Court stated that ‘...environmental crimes under the Water Act, Public Health Act and EMCA cover the entire range of liability including strict liability and absolute liability and ought to be severely punished because the challenge of the restoration of the environment has to be tackled from all sides and by every man and woman....’ It went further to state, —...In the name of environmental justice water was given to us by the Creator and in whatever form it should never ever be the privilege of a few – the same applies to the right to a clean environment.¹²⁵ The Court, while borrowing from such jurisdictions as India¹²⁶, also

¹²² National Spatial Plan, 2015-2045 (Government Printer, Nairobi, 2015).

¹²³ Articles 21, 22, 42, 70, Constitution of Kenya.

¹²⁴ [2006] eKLR, Misc. Civ. Applic. No. 118 of 2004.

¹²⁵ p.14.

¹²⁶ The Supreme Court of India held in *Subhash Kumar v. State of Bihar*, that the “right to life guaranteed by Art. 21 of the Constitution includes the right of enjoyment of pollution-free water and air for full enjoyment of life.” Further, in the case of *Dr. Mohiuddin Farooque v. Bangladesh, represented by the Secretary, Ministry of Irrigation, Water Resources and Flood Control and Others*, the Supreme Court interpreted the right to life to include the protection and preservation of the environment and ecological balance free from pollution of air and water. In another Indian case of *K. Ramakrishnan and Others v State of Kerala and Others* (smoking case), the Court stated

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affirmed the broad scope of the right to a clean and healthy environment by stating, *inter alia*, that ‘the right of life is not just a matter of keeping body and soul together because in this modern age that right could be threatened by many things, including the environment. The right to a clean environment is primary to all creatures including man; it is inherent from the act of creation, the recent restatement in the Statutes and the Constitutions of the world notwithstanding.’¹²⁷

The recognition of the right to a clean and healthy environment as now guaranteed under Article 42 of the Constitution of Kenya has been reaffirmed by the Environment and Land Court in several more recent decisions¹²⁸.

It is a commendable step towards realising the right to a clean and healthy environment free from pollution for the courts to protect the rights of all especially those that seem to have been ignored in decision making processes during the setting up of industries that affect their environment adversely.

7. Conclusion

The 2030 SGDs acknowledge that social and economic development depends on the sustainable management of our planet’s natural resources. The goal is therefore to conserve and sustainably use oceans and seas, freshwater resources, as well as forests, mountains and drylands and to protect biodiversity, ecosystems and wildlife. They also seek to ensure that countries promote sustainable tourism, tackle water scarcity and water pollution, to strengthen cooperation on desertification, dust storms, land degradation and drought and to promote resilience and disaster risk reduction.¹²⁹ Combating pollution in all its forms is thus critical if the sustainable

that “*The word ‘life’ in the Constitution has not been used in a limited manner. A wide meaning should be given to the expression ‘life’ to enable a man not only to sustain life but also to enjoy it in a full measure. The sweep of right to life conferred by Art. 21 of the Constitution is wide and far-reaching so as to bring within its scope the right to pollution free air and the “right to decent environment.”*”

¹²⁷ [2006] eKLR, Misc. Civ. Applic. No. 118 of 2004, p.8.

¹²⁸ Friends of Lake Turkana Trust v Attorney General & 2 others, [2014] eKLR, ELC Suit No. 825 of 2012; In The Matter of the National Land Commission [2015] eKLR; Joseph Leboo & 2 others v Director Kenya Forest Services & another [2013] eKLR, Environment and Land No. 273 of 2013; Joseph Letuya & 21 others v Attorney General & 5 others [2014] eKLR, ELC Civil Suit No. 821 of 2012 (OS); Joseph Owino Muchesia & another v Joseph Owino Muchesia & another [2014] eKLR; John Mining Temoi & Another v Governor Of County Of Bungoma & 17 Others [2014] eKLR; Kenya Association of Manufacturers & 2 others v Cabinet Secretary - Ministry of Environment and Natural Resources & 3 others [2017] eKLR; *Mohamed Ali Baadi and others v Attorney General & 11 others [2018] eKLR.*

¹²⁹ Target 33.

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development agenda is to be achieved. This calls for concerted efforts from all stakeholders including state organs, private sector and individuals. Kenya still has a lot to do in its fight against pollution and all its ills. If the Vision 2030, which seeks to ensure that Kenya achieves a newly industrialised state by 2030 through sustainable means of production and manufacturing is to be achieved, environmental pollution must receive more attention than it is receiving currently. So far the various phases of the Vision 2030 have not performed satisfactorily in curbing pollution. Pollution threatens national development as well as achievement of sustainable livelihoods for the Kenyan people.

Safeguarding the environment through effective pollution control in Kenya is essential. It is worth the effort for the sake of the current and future generations.

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