



## Will remediation ever be enough? The environmental pollution tragedy

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### Abstract

Environmental pollution affects every aspect of human existence. Prior to the development of the legal framework for environmental regulation, environmental infractions persisted unabated until reprieve came in the form of compensation and injunctions and other remedies. However, rather than take precaution, polluters often see the remedies as the excuse to keep polluting as long as it is affordable. Remediation, in fact, is not a remedy because some effects of pollution cannot be reversed. This article argues that no form of remediation will be enough to reverse the effects of pollution. It promotes the view that rather than rely on remediation for the harm done to the environment, such actions that can result in environmental harm should be prevented or not taken at all because the economic gains will in no way remedy the losses that would have been suffered especially if that loss includes the loss of human lives.

**Keywords:** environment, pollution, air, water, land, remediation

### Introduction

Environmental pollution is an incurable disease, it can only be prevented.  
Barry Commoner

Over the course of time, acts in furtherance of business or personal agenda which have continually had negative effects on the global environment, have evolved from mere harmless acts to grave environmental infractions that have gradually taken a toll on the natural environment. Environmental pollution is coeval with the common existence of humans. The history of environmental pollution shows how far this gradual but steady decline in the health and sustenance of the environment has come and how much further a continuation on this path is likely to take the natural environment or what will be left of it. The structure of this article will take the form of looking at the beginning of environmental pollution and at what point the acts started getting global attention and what can be done in the short and long term to curtail this steady global environmental decline into global climate change and its dire consequences.

### A brief history of environmental pollution

Environmental pollution has been known to occur since the beginning of existence because it can occur due to natural events such as forest fires, volcanoes and earthquakes. However contemporary literature points to the fact that often pollution has occurred due to some acts of human catalysts<sup>[1]</sup>. The first acts of environmental pollution can be traced to centuries ago in the Stone Age when cavemen created fires to cook their food and produce heat to warm themselves. These fires when made, released smoke into the atmosphere

creating the first medium of environmental pollution<sup>[2]</sup>. This progressed to the act of burning coal for fuel to create fire and heat to cook and produce heat is an age long practice that is still in existence till date, conversion of coal to coke for iron smelting and has contributed in no small measure to air pollution<sup>[3]</sup>. Ancient cities were characterised by foul smells from debris, human and animal wastes. It is trite, however, that environmental pollution has since gone beyond this subsistent level to thrive on a globally industrial scale with the spread of industrialisation and population explosion.

### Types of environmental pollution

The development of environmental studies and environmental law has increasingly expanded the view on the types of pollution that impacts on the natural environment. Some of the examples of pollution are air, water and land pollution. Other more content specific types of pollutions are noise, thermal, radioactive, visual, light, dust<sup>[4]</sup> and plastic pollution which has continued to gain more prominence in the media and the world in recent times<sup>[5]</sup>.

### Instances of environmental pollution

Considering the increased awareness of environmental pollution, there have been records of acts of environmental pollution that have attracted global attention. This section briefly lists some of these disastrous occurrences and the consequences suffered by the inhabitants of the immediate location as an indication of how far and how destructive the acts of environmental pollution are.

The Bhopal Gas Leak in 1984 in India when toxic gases leaked from a chemical pesticide plant causing cancer,

<sup>1</sup> JA Nathanson, 'Pollution Environment' (2019) <<https://www.britannica.com/science/pollution-environment>> accessed on 31 January 2019.

<sup>2</sup> These acts when done back then by small groups of people, did not seem to pose any harm as it happened in isolation and there was enough space for more groups. However, with the creation of larger settlements and increased length of stay pollution gradually became an issue.

<sup>3</sup> L Makra and P Brimblecombe, 'Selection from the History of Pollution, with Special Attention to Air Pollution Part 1' (2004) 22(6) International Journal of Environment and Pollution 641, 2.

<sup>4</sup> Prevalent in China and Korea.

<sup>5</sup> There is awareness gradually sweeping across the globe about the dangers of plastic pollution especially in the aquatic environment. Many voluntary organisations and individuals have started the drive to clean the sea bed and rid it of plastic. There is also the awareness campaign against single use plastics.

retarded growth, dizziness and about 15 000 deaths<sup>[6]</sup>. The nuclear power plant explosion in Chernobyl, Ukraine in 1986 where a nuclear reactor shutdown and resulted in a fire and explosion resulting in, the instant death of about 50 persons, 4000 cancer deaths linked with the extensive spread of radioactive substances<sup>[7]</sup>. Exxon Valdez oil spill occurred in 1989 when about 10.8 million gallons of crude oil covering 11 000 miles of ocean destroying about 250,00 seabirds, 2,800 sea otters, 300 harbour seals, 247 bald eagles and an unidentified number of salmon and herring. Clean up commenced immediately but still could not fully remediate the environmental damage<sup>[8]</sup>.

The British Petroleum oil spill in the Gulf of Mexico is considered the worst oil spill in the history of the United States of America where a Deepwater Horizon oil rig exploded and sank releasing about 60 million barrels of mixed grade oil into the sea killing 11 employees. Curiously, the spill continued for more than four months, poisoning, suffocating and killing over 34,000 birds, 72 dolphins, hundreds of sea turtles and other marine animals<sup>[9]</sup>. In Africa, two notable environmental pollution examples stand out. First is the environmental pollution incidental to lead and copper poisoning of the major waterways in Zambia as a result of many years of copper mining in the region by companies reaping major benefits from the operation without taking precaution to pay compensation or mitigate the effect on the environment and human and animal life.<sup>10</sup> Second is the infamous Ogoni oil spill by Shell Petroleum Development Company limited in the southern part of Nigeria where extensive oil spill happened spanning five decades of petroleum exploration and exploitation unabated in the region<sup>[11]</sup>.

It is imperative to note that in the above examples of some of the most disastrous environmental infraction, in no case has the remediation or compensation method solved the resultant environmental pollution. At best the measures brought temporary reprieve but could not restore the environment to its original state<sup>[12]</sup>.

### **Remedies to environmental pollution and the attitude of defaulters to environmental pollution remedies.**

The development of environmental law brought with it the increased awareness of the dangers of environmental pollution and consequently developed a system of mitigating the effects of the acts and effect of environmental pollution.

Some of the remedies to environment pollution include compensation, injunction, revocation, taxes and royalties, damages, restitution, clean up, bioremediation and provision of infrastructure<sup>[13]</sup>.

Environmental pollution has continued to ravage the natural environment but as much as this trend is criticised, those responsible for environmental pollution have not in any way slowed down in their acts of the environmental infraction<sup>[14]</sup>. An interesting example is the Anti-gas flaring law in Nigeria where the law penalises continuous flaring of associated gas. Nigeria as a country has severally attempted to legislate on gas flaring. The first attempt was in 1979 prohibiting gas flaring and fixed the gas flaring terminal deadline for January 1984. This date was not a reality and was pushed back to December 2003, then 2008, 2009, and eventually 2010<sup>[15]</sup>. However, it does appear that the companies responsible for flaring the associated gas, found it more convenient to flare the gas and pay the fine rather than comply with the law and reinject it into the earth<sup>[16]</sup>.

In some cases, while refusing to pay compensation and terminate mitigate the acts of pollution, the defaulting parties prefer to tie up the indigent host communities in ceaseless legal battles that the host communities cannot afford while the assault on the environment persists<sup>[17]</sup>.

From the foregoing, it is quite easy to see that the remedies have now become a safe haven for defaulting parties in environmental pollution cases.

### **Conclusion**

Environmental pollution dates back to the pre-historic age even though the acts of pollution were not so intense as to warrant global attention. The rapid development that characterised the industrial revolution brought about the awareness of the global impact of acts of environmental pollution. This awareness necessitated the national, regional, international and global quest for a more environmentally friendly existence by the enactment of laws, bilateral and multilateral agreements, conventions which culminated in declarations<sup>[18]</sup>. Diverse types of remedies were also developed along the lines of common law and equity. Unfortunately, these remedies only helped the polluting parties to persist while meeting their legal obligations. However, experience has shown that even where the law is complied with and remedies are applied in instances of environmental pollution, the damage to the environment

<sup>6</sup> RS Oh, 'The Claims of Bodies: Practices of Citizenship After Bhopal in Survivor Testimony and Indra Sinha's *Animal's People*' AU - Oh, Rebecca S' (2019) 21(1) *Interventions International Journal of Postcolonial Studies* 70, 75.

<sup>7</sup> M Hatch and others, 'The Chernobyl Disaster: Cancer Following the Accident at the Chernobyl Nuclear Power Plant' (2005) 27 (1) *Epidemiologic Reviews* 56.

<sup>8</sup> MR Lindeberg and others, 'Condition of Persistent Oil on Beaches in Prince Williams Sound: 26 Years after *Exxon Valdez* Spill' (2018) 147 *Deep-Sea Research Part II* 8, 9.

<sup>9</sup> The Ocean Portal Team, 'Gulf Oil Spill' <<https://ocean.si.edu/conservation/pollution/gulf-oil-spill>> accessed 2 February 2019.

<sup>10</sup> S Das and M Rose, 'Copper Colonialism: British Miner Vedanta KCM and the Copper Loot of Zambia' (2019) <<http://www.foilvedanta.org/wp-content/uploads/FV-Zambia-report1.pdf>> accessed 1 February 2019 21.

<sup>11</sup> AA Kadafa, 'Oil Exploration and Spillage in the Niger Delta of Nigeria' (2012) 2 (2) *Civil and Environmental Research* 2222.

<sup>12</sup> W Sullivan, 'Clean-up Chemical at BP Oil Spill Tied to Health Problems' (2017) <<https://scienceline.org/2017/11/clean-chemical-bp-oil-spill-tied-health-problems/>> accessed 2 February 2019.

<sup>13</sup> KR Sharma, 'Soil Pollution-Variou Causes and Their Remedies' in P Kumar, BR Gurjar and S Tomar (eds), *Environmental Pollution: Biodegradation and Bioremediation* (Stadium Press Limited 2017) 214, 231.

<sup>14</sup> This can be seen in the Ogoni land oil spill perpetrated by Shell Petroleum Development Company limited until the UNEP indicted the company in its report and recommended a clean-up of the impacted site.

<sup>15</sup> Associated Gas-Reinjection Act Cap A25 Laws of the Federation of Nigeria 2010. The acts of gas flaring in Nigeria where the companies responsible for gas flaring have over three decades taken advantage of the taxes levied on flared gas and the continuous shifting of the gas flaring terminal date to continue to flare gas uninhibited.

<sup>16</sup> U Udok and EB Akpan, 'Gas-Flaring in Nigeria: Problems and Prospects' (2017) 5(1) *Global Journal of Politics and Law Research* 16, 20. Some loopholes in the law and the plan to terminate gas flaring enabled operators of the oil and gas sector to continue flaring gas. The excessive reliance on the sector for economic reasons, the low taxes for continuous flaring of gas that did not possess any deterrent effect and the silence of the law on who to bear the cost of gas reinjection.

<sup>17</sup> Vedanta Case in India: <http://www.ejolt.org/wordpress/wp-content/uploads/2015/08/FS-46.pdf>

<sup>18</sup> Some of such declarations are binding and some are not.

cannot be easily reversed if at all <sup>[19]</sup>.

While it is conceded that environmental pollution is now a global concern, it is also a fact that the contamination is worse in some nations than others <sup>[20]</sup>. In her famous book, Rachael Carson affirmed that “the most alarming of all man’s assaults upon the environment is the contamination of air, earth, rivers and sea with dangerous and even lethal materials. This pollution is for the most part irrecoverable; the chain of evil it initiates not only in the world that must support life but in living tissues is for the most part irreversible <sup>[21]</sup>.”

The realisation that most environmental pollution acts are irreversible and the laws regulating such acts have not successfully catered to the total elimination of inimical operational practices, should underpin the contemporary tilt of environmental studies and environmental law towards a stronger insistence on compliance and enforcement with environmental regulations and global best practices in any activity that is likely to impact the natural environment. The international environmental law precautionary principle ought also to be given more prominence in activities involving the natural environment. Operational practices not practised in the operator’s home country should not be allowed in its host countries because remediation may never be enough to cure the ills of environmental pollution.

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<sup>19</sup> Example of this is the Ogoni land clean-up in Nigeria. while the clean-up exercise is yet to commence, the environmental degradation is still on-going because the delay in the commencement of the process further worsens the condition of the polluted sites.

<sup>20</sup> AO Fayiga, MO Ipinmoroti and T Chirenje, 'Environmental Pollution in Africa' (2018) 20 (1) *Environmental Development and Sustainability* 41, 42.

<sup>21</sup> R Carson, *Silent Spring* (Houghton Mifflin Harcourt 2002) 378 6.