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ENVIRONMENTAL POLLUTION: A SCIENTIFICO-PHILOSOPHICAL APPRAISAL

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Abstract
Environmental pollution is indubitably one of the peculiar problems confronting the human society in recent times. Human conscious and non-conscious activity has not only hampered the progressivity and productivity of the natural environment, but has led to the pollution and destruction of same. One cannot but observe with dismay, that life in generality is greatly threatened if nothing is done urgently. Although the case of this problem can truly be traceable to certain non-human alterations in nature, yet predominantly, man stands as a peculiar precursor of environmental pollution. There is need to protect and nurture the environment for sustainable ecosystem.

Keywords: environmental pollution, diseases, human activities, pollutants, scientifico-philosophical

1.1 Introduction

Humans as rational beings always seek for ways to adapt, control or manipulate both natural and anthropogenic forces, activities or changes within their milieu. Consequently, they tend to create problems in the course of improving, remediating or eradicating any observed negative change or influence in their environment. Over the years, there have been series of reports on environmental degradation through natural and human activities resulting in climate change, ill-health and altered biota. This is largely due to the several sequence of environmental exploitation and management by man and his activities. Undoubtedly scientific and technological advancement, development and industrialization is pin pointedly of immense positive relevance to human development and advancement. However it is without gainsaying the fact that its negativities to environmentalism is worthy of note. Man's industrial activities cum strive for territorial dominance has not only hampered the sanctity of nature and the environment, but has greatly resulted in the pollution of same.

Civilizations is accompanied by pollution. Industrial revolution gave birth to environmental pollution. The generation that first saw automobiles replacing the horses saw cars as "miracles of cleanliness (Allitt 2014) but as known today, automobiles are part of the major causes of pollution especially in areas like Los Angeles in US (Jeffry and Kurkpatrick 2009). The development of nuclear science introduced radioactive pollution, which can remain lethally radioactive for thousands of years. Agricultural activities through the use of chemicals to improve crop yield and control insect pose a serious threat to our water bodies which directly

or indirectly affect life. These issues are of increasing concern to the international community due to their devastating effects to the biosphere. Global warming, acid rain, ozone layer depletion and spread of diseases are some of the imminent problems posed by environmental pollution. The United Nation (UN) estimated that annual cause of more than two million deaths and billions of illnesses are attributed to water pollution (Partha 2008). Urban air pollution is responsible for 300,000 – 700,000 deaths in a year and productivity losses on tropical soils are estimated to be in the range of 0.5 – 1.5% of gross domestic product (UNRISD 1994) due to soil degradation.

Many concerted national and international efforts have been put in place to control the menace of environmental pollution. Some of these efforts include: climate protection (1979 Geneva Convention on Long range Transboundary Air pollution), ozone layer (1985 Vienna Convention for the Protection of the Ozone Layer), Climate change (1992 United Nation Framework Convention on Climate Change, 1997 Kyoto Protocol, 2016 Paris Agreement), Marine, water and environmental protection (1990 International convention on Oil Pollution Preparedness, Response and Co-operation, 1992 OSPAR Convention for the Protection of Marine Environment of North-East Atlantic), Environmental impact assessment (2003 UNEC Protocol on Strategic Environmental Assessment) and Protection of flora and fauna and biodiversity (1992 Convention on Biological Diversity, 2000 Cartagena Protocol on Biosafety) (MOE 2017).

The cry of many therefore is for the application of distinct measures to curb, ameliorate the effects and enhance effective sustainability of our environment. This however can be achieved where the consequent effect (s) of environmental pollution is fully understood.

1.2 What is Environmental Pollution?

Many scholars have defined environmental pollution based on their field of study. Generally, pollution is the contamination of the surroundings of humans or other living species which may have harmful effect. The fact remains that there is a difference between contamination and pollution. An environment may be contaminated with oil, garbages and energies but not polluted. Pollution depends on the index of contamination. Environmental pollution is the emission or addition of some forms of energies or substances to the environment at levels which cannot be either absorbed, dispersed or degraded by that particular environment and its components. The inability to absorb, disperse or degrade some forms of energies (light, sound, heat) and substances (chemicals, oil, papers, faecal matters, aerosols) in an environment causes harmful effect to that particular environment and its biotic and abiotic components.

1.3 Classification of Environmental Pollution

Environmental pollution has been classified based on source and form of the pollution.

The source of pollution can be point or non-point, natural or anthropogenic source. Point source is when the pollution is from a single, identifiable and localized source such as direct discharge of industrial waste or sewage into the ocean (Narayanan 2007). Non-point source is when the pollution is from diffused and ill-defined sources such as wind-blown debris and agricultural runoffs.

Natural sources of pollution include meteorological (atmospheric phenomena/weather condition) and geographical (landslides, earthquake, volcanic activity, stream runoff, aquatic growth and decay). Anthropogenic sources include domestic, municipal sewage, agricultural and industrial waste.

Based on forms, pollution can be classified as air, water, land or soil, noise, light, radioactive and visual pollution.

Air pollution involves the emission of particles (aerosols) or chemicals into the atmosphere. It could be classified as primary and secondary types. Primary air pollutants refer to substances that occur in the same form as emitted directly into the atmosphere from source industry and operations. These include oxides of carbon (carbon(iv)oxide(CO_2), carbon(ii)oxide (CO)), oxides of sulphur and nitrogen (sulphur(iv)oxide (SO_2) and nitrogen(iv)oxide (NO_2)), hydrogen sulphide and metal vapours. Secondary pollutants are produced through interactions or chemical reactions between various substances present in the atmosphere. Examples are components of acid rain (tetraoxosulphate(vi)acid (H_2SO_4) and trioxonitrate(v) acid (HNO_3)), aerosols, smog and ozone (Narayanan 2007).

Water pollution is the contamination of water bodies as a result of introduction of undesirable or hazardous substances and pathogens at levels which are beyond absorbance, degradation or dispersal. It could be caused by natural or anthropogenic forces. Examples of water pollution include discharge of effluents, sewage and waste from home and industries into water bodies, runoffs of fertilizers and pesticides from agricultural activities, particulate matters, metals and their compounds from mining and metallurgy.

Land or soil pollution occurs when contaminants (chemicals) are released into the soil through spill or underground leakage. The contaminants include heavy metals, hydrocarbon, chlorinated hydrocarbons, herbicides, pesticides and methyl tert butylether (MTBE) (Winterberg et al., 2010) Noise pollution include sounds or noise from industrial machineries, high intensity sonar, road way noise, power generators and aircraft noise. Light pollution is caused by over illumination, astronomical interference and light trespass

Radioactive pollution results from nuclear power generation, nuclear weapon research, manufacture and deployment (Hala and James 2003). Visual pollution refers to the presence of overhead power lines, scarred landforms, open storage of trash, motor way bills and space debris at an alarming rate in the environment.

1.4 Scientifico-Philosophical Appraisal of Environmental Pollution

A Scientifico-philosophical evaluation of environmental pollution especially in contemporary times reveal enormous consequences both to humans and non-human animals and plants. It is disheartening to note that several diseases and problems confronting the human race, is largely traceable to environmental pollution. One cannot but note, that air pollution for instance is a prime catalyst of several environmental hazards ranging from global warming to depletion of ozone layer, manifestation of acid rain etc. Pollution of the water body on the other hand leads to the destruction of the habitat for animal species which inhabit same. Again, the land when polluted, leads to the contamination of the soil and the concomitant destruction of non-human animals and plants.

Suffice it to state that although humans are largely responsible for the exploitation, depletion and pollution of the natural environment, yet he suffers the brunt of its boomerang effect. Indubitably, air pollution can be considered as a distinct cause of various respiratory diseases including asthma and cancer. Again other diseases emanate consequent to the pollution of water body. Water-borne diseases such as diarrhea, gastroenteritis, typhoid and vomiting accounts to the destruction of many lives.

The truth remains that the continuity of pollution of the natural environment exposes humans, non-human animals and plants to severe danger. For instance, a continuous experience of acid rain will largely necessitate the destruction of plant and animal, and where this is the case, survival for humans remains truncated. One cannot but state that, many premature death of humans are related to environmental pollution. Alexandra Sifferlin observed that 16% of all deaths in 2015 were linked to pollution. According to him;

Air pollution was linked to 6.5 million deaths in 2015, water pollution was linked 1.8 million deaths and workplace pollution was linked to nearly one million deaths. Deaths from pollution-linked diseases, like heart disease and cancer, were three times higher than deaths from AIDS, tuberculosis and malaria combined (2017).

More frightening is the world health report which observes that:

More than 1 in 4 deaths of children under 5 years of age are attributable to unhealthy environments. Every year, environmental risk-such as indoor and outdoor air pollution, second-hand smoke, unsafe water, lack of sanitation, and inadequate hygiene, take the lives of 1.7 million children under 5 years (WHO Report 2017, 5)

Profound philosophical implications abound in relation to environmental pollution. One cannot but observe that every life is a representation of a generation. The death and destruction of one life, largely implies the destruction of a generation of humans. The human race stands at a great environmental and health risk where the environment is fully polluted.

Besides, the means of economic survival and progressivity is largely dependent on our environment. Hence where the environment is polluted, exploited and destroyed, the risk of man's economic collapse becomes truly evident.

The cry therefore is for a more prudent and conscientious preservation of the environment. It becomes laudably imperative for man to see himself as the custodian of the environment, whose primary responsibility is the sustainable preservation of the environment for effective productivity.

Since according to Platonism the cause of evil in every sphere including the environment is as a result of Ignorance or Pseudo knowledge (Feinberg 2002, 567). It is plausible to hold that when man is armed with sufficient knowledge on why and how to care for the environment, the problems of the environment would have greatly reduced.

In the light of this, therefore the need for proper sensitization of the necessity to preserve the environment becomes increasingly relevant. One denigrated mindset which views the environment as a tool to be exploited and plundered, accounts for why many plunder and pollute the environment. This must truly be done away with. Man must consciously imbibe the culture of taking responsibility to preserve the environment and restrict it from pollution. Asuo

(2012, 40) affirms that this sense of duty and obligation has tremendous positive effect to the environment and Philosophy of environment. In his words:

Deontological theory which demands that men act in a prescribed manner as a matter of obligation or duty, has some positive effect on the Philosophy of environment. By this ethical theory every individual irrespective of their opinion and personal inclination are duty bound to protect, preserve, conserve and sustain the environment.

The natural environment in its entirety must be perceived by man, as an ontological whole which must be preserved, nurtured and sustained. All anthropocentric tendencies and inclination which subscribes to the subjugation, exploitation and pollution of the environment must be viewed as being antithetical to ontological relevance.

Reality is multifaceted and must be appreciated from its moment and points of interwoveness. All units of existence – human and non-human must be nurtured in their points of relevance. The contribution and relevance of any of these atomic ontological frame cannot and must not be undermined. Any action aimed at undermining any unit of existence has a concomitant boomerang effect that will necessarily distort ontological equilibrium. Hence, since all unit of reality are nothing but missing-links, they remain vital and sufficiently contributory to the meaningfulness of the generality (Solomon 2018, 733)

In the light of the above therefore, the natural environment must be spectacled as a distinct entity with profound ontological relevance. It must be viewed as that whose 'perfect continuous' existence can enhance a dialectical progress of the eco-system.

Solomon and Asuo posit in this regards in that:

An ethic of the environment can be seen as viable if it considers the whole of reality as ontologically relevant. This point of view would free environmental ethics of anthropocentric bias and its attendant consequences while at the same time ensuring the protection and preservation of all being and species, not from sympathy but as members of a holistic picture of reality (2017).

Suffice it to state therefore that the sustainability and progressivity of the natural environment is largely dependent on the positive attitude towards the natural environment. The mindset that considers the environment as an ontological whole, not to be plundered and polluted, but that which must be nurtured.

1.5 Conclusion

The call for the protection, preservation and progressive reformation of the natural environment, remains absolutely urgent. This is hinged on the fact that environmental pollution has continuously and increasingly become one of the profound and subtle source of untimely death to the human race. Indeed, non-human animals and plants are not spared from the destructive consequences of this menace. The leeway to the continuous destruction of life – both human and non-human animals, essentially remains the stoppage of all activities that contribute to the pollution of the environment. In this way man is expected to refrain from all anthropocentric activities which constantly hold the environment as an entity to be exploited and polluted. The natural environment must therefore be viewed as that which must be

protected and nurtured, not for the sole benefit of man, but for the continuous progress of the eco-system.

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