

Dealing with Ecology and the Inherent Challenges in the Modern World

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Abstract

Man has been taking keen interest in his surrounding and for that matter his environment in a practical sense since his evolution. His matter of survival was dependent on his understanding of the natural forces surrounding him. Civilization and settled agriculture further strengthened his relationship with environment as he started modifying and controlling the forces of nature. However it is important to understand the concept of ecology as it concerns man and his environment. Scholars have noted that the dangers associated with environmental damage have become better known over the last few decades. In fact, awareness of the crisis we face has entered into the mainstream of politics. Those who assert that environmental problems as regards ecology are minor or non-existent have, thankfully, become marginalised. This article analyzes these basic problems of ecology and how best to proffer a lasting solution to them amidst the political influences that confront the subject matter.

Keywords: Ecology

Introduction

Man according to Aristotle is a social being. The sociality of man is not limited to just his interaction with his fellow humans but also his interaction with his physical environment including both the biotic and a biotic components of the environment. All organisms and species work towards self preservation; an attempt to enhance continuity of life or existent of things. Man by nature works towards this self preservation which is being guided by rationality seen in the act of procreation and sustenance of the already existing things for the sustenance of the universe.

Man's environment forms a greater part of his existence and there is need for proper care to avoid termination or extinction of things. So, there is needed to make investigations into the maintenance of the environment for a better future and the sustenance of the universe and preservation of life, for it is the right to every human to have a good environment. President Nixon in his 22nd January, 1970 address he says, "The great question of the seventies is, shall we surrender to our surroundings, or shall we make peace with nature and begin to reparations for the damage we have done to our water, our air, our land?... clean air, clean water, open spaces- these would once again be the birthright of every American; if we act now, they can be." This enquiry or investigation into man's interaction with his physical environment; aquatic or terrestrial, biotic and abiotic is called 'ecology' and man's actions or activities that enhance the growth and preservation of his environment is known as 'ecological responsibility'.

But the main question still remains, does man still comply to this natural vocation of self preservation of his environment, if yes, kudos to him but if no, what is the way forward, what could be the challenges that hinder him from carrying out this divine and natural vocation, what are the things or activities that man can engage in to enhance the preservation of his environment to avoid termination of life and extinction of things which is dependent on his interaction with his environment.

This article will be looking in to the meaning of the term ecology and the challenges facing the modern man towards ecological responsibility and will be of relevance to the general public as it will be furnishing their understanding of their responsibility towards their environment, not discarding the already established facts but adding flavor to it.

This article will be making use of literature investigation in exposing its aim and will begin by a way of introduction of the theme, clarification of some necessary terms, looking at ecological responsibility a challenge to the modern man and way forward before then arriving at a conclusion.

Ecology

The term ecology has the etymology as being derived from the Greek word: *οἶκος*, "house", or "environment"; - *λογία*, "study of". Ecology is, literally, the study of where living organisms live. Ecology is the scientific analysis and study of interactions among organisms and their environment. It is an interdisciplinary field that includes biology, geography, and Earth science. Ecology includes the study of interactions organisms have with each other, other organisms, and with both abiotic and biotic components of their environment.

However, the word "ecology" ("*ökologie*") was coined in 1866 by the German scientist Ernst Haeckel (1834–1919). Ecological thought is derivative of established currents in philosophy, particularly from ethics and politics. [1] ancient Greek philosophers such as Hippocrates and Aristotle laid the foundations of ecology in their studies on natural history . Modern ecology became a much more rigorous science in the late 19th century.

Evolutionary concepts relating to adaptation and natural selection became the cornerstones of modern ecological theory.

Ecology can be said to be the branch of biology that deals with the relations of organism to one another and to their physical surrounding, also it is political movement that seeks to protect the environment, especially from pollution. Ecology is the scientific study of the relationships that living organism have with one another and with the natural environment. Ecology also provides information about the benefits of ecosystems and how we can use Earth's resources in ways that leave the environment healthy for future generations.

Environmental science can be said to be closely related but then there is a thin line of difference between the two. Ecology is the “branch of biology that deals with the relations of organisms to one another and to their physical surroundings,” By contrast, Environmental Science is a broader, interdisciplinary field in which ecologists work with other physical, chemical, and biological related fields to study and seek solutions to environmental problems. But one role of ecology is to inform environmental science.

The Goal of Ecology

Ecology is primarily aimed at understanding the nature of environmental influences on individual organisms, their populations, and communities, and ultimately at the level of the biosphere. When the goal is achieved, an understanding of these relationships, ecology will be well placed to contribute to the development of systems by which humans could sustainably use ecological resources, such as forests, agricultural soil, and hunted animals such as deer and fish. And as such has made it an important goal because humans are, after all, completely reliant on ecologically goods and services as their only source of sustenance. Ecology also seeks to explain: Life processes, interactions, and adaptations, the movement of materials and energy through living communities, the successional development of ecosystems, the abundance and distribution of organisms and biodiversity in the context of the environment.

Ecological terminology

In ecology, some terms are like a reoccurring decimal in its study and we shall be looking at some of them, which include; organism, environment, ecosystem, habitat, ecological niche, population community, biosphere etc.

Organism: An organism is any contiguous living system such as an animal, plant, fungus, archaeon or bacterium. All organisms are capable of some degree of response to stimuli, reproduction, growth and development. An organism consist of one or more cells, when it has one cell it is known as a unicellular and when it has more than one it is known as a multicellular organism. An organism makes up the biotic which is the living part of the environment; it is the first level in the ecological organization which gives rise to other level through its combination and rapport with its nonliving environment. The term associated with an organism in the study of Ecology is environmental habitat and ecological niche.

Environment: It is the aggregate of all external and internal conditions affecting the existence, growth and welfare of the organism, such conditions include the physical condition of the place like light, temperature and the food and water that it takes for its activities.

The environment is the surroundings of an organism including the physical and chemical environment, and other organisms with which it comes into contact. This term is most frequently used in a human context, often referring to factors affecting our quality of life.

Habitat: According to Cavalier 1987, the habitat of a species describes the environment over which a species is known to occur and the type of community that is formed as a. More specifically, Habitat can be defined as region in environmental space that are composed of multiple dimensions, each representing a biotic or abiotic environment variable that is any component or characteristic of the environment related directly or indirectly to the use of location by the animal as noted by Wittaker R.1995.

Ecological niche

The definitions of the niche date back to 1917 but Evelyn Hitchinson made conceptual advances in 1957 by introducing widely adopted definitions. The set of biotic and abiotic conditions in which a species is able to persist and maintain stable population sizes the ecological niche is a central concept in the ecology of organisms and is sub-divided into the fundamental and the realized niche. The fundamental niche according to Wiens, J is the set of environmental conditions under which a species is able to persist while the realized niche is the set of environmental plus ecological conditions under which a species persists .

Biodiversity

Short for biological diversity, biodiversity is the range of variation found among microorganisms, plants, fungi, and animals. Some of this variation is found within species, such as differences in shapes and colors of the flowers of a single species of plants. Biodiversity also includes the richness of species of living organisms on

earth.

Population: Population ecology studies the dynamics of species of population and how these populations interact with the wider environment. According to Beyer Hawtherne 2010, a population consists of individual of the same species that live, interact and migrate through the same niche and habitat. A primary law of population ecology is the Malthusian growth model which states a population will grow or decline exponentially as long as the environment experienced by all individual in the population remains constant. Simplified population models usually start with four variable; death, birth, immigration and emigration .

Community: A community is made up of all the different population of living organism that exists together in a habitat. For example in a fresh water habitat, the community includes a population of bacteria, population of plants like algae, population of fishes, snails etc.

Biosphere: The largest scale of ecological organization is the biosphere. The total sum of ecosystems on the planet. Ecological relationships regulate the flux of energy, nutrients and climate all the way up to the planetary scale. For example, the dynamic history of the planetary atmosphere's co₂ and o₂. Biosphere comprises the part of the atmosphere, hydrosphere and lithosphere where life can be found.

Ecosystem: An ecosystem is a biological environment comprising of all the living organisms and non-living things. An ecosystem is a living community of plants and animals sharing an environment with non-living elements such as climate and soil. It is also a community of living organisms in conjunction with the nonliving component of their environment interacting as system. An ecosystem can be a natural wilderness area, a suburban lake or forest, or a heavily used area such as a city. The more natural an ecosystem is, the more ecosystem services it provides. These include cleansing the water (wetlands and marshes) and air (forests), pollinating crops and other important plants (insects, birds, bats), and absorbing and detoxifying pollutants (soils and plants). The ecosystem is made up of two (2) components; the abiotic and the biotic component. Abiotic components include the non-living, physical-chemical factor such as air, water soil and the basic element and compounds of the environment. Abiotic factors are broadly classified under three categories which includes;

Climatic factors which include the climatic region and physical factors of the environment like light, humidity, atmospheric temperature, wind etc

Daphic factors which are related to the structure and composition of soil including its physical and chemical properties like soil and its types, soil profile, mineral organic matter, soil water, soil organisms.

Inorganic substances like water, carbon, sulphur, nitrogen, phosphorus and so on.

Organic substances like proteins, lipids, carbohydrates, humic substances etc

The Biotic component comprises of the living part of the environment, which includes the association of a number of interrelated populations belonging to different species in a common environment. The populations are that of animal community, plant community and microbial community. Biotic community is distinguished into autotrophy, heterotrophs and saprophytes. The ecosystem is also divided into two major types which are natural ecosystem and artificial ecosystem.

Natural ecosystem; this is the biological environment that is found in nature, which are not created or altered by man. Natural ecosystem may be terrestrial like the desert, forest and meadow or aquatic like ponds and mammal ponds. The terrestrial ecosystem can be found anywhere apart from heavily saturated places, they are broadly classified into;

Forest ecosystem; they are the ecosystem in which an abundance of floral or plant is seen so they have a big number of organisms which live in relatively small space. Therefore, in forest ecosystem the density of living organisms is quite high. A small change in this ecosystem could affect the whole balance, effectively bringing down the whole ecosystem. Forest are further divided into;

Tropical evergreen forest: These are tropical forest that receive a mean rainfall of 80 for every 400 inches annually; the forests are characterized by dense vegetation which comprises tall trees at different heights. Each level is shelter to different types of animals

Tropical deciduous forest: There shrubs and dense bushes rule along with a broad selection of trees. This type of forest is found quite a few parts of the world while a large variety of fauna and flora are found there

Temperature evergreen forest: They are those which have a quite a few number of trees as mosses and ferns make up for them. Trees have developed spiked leaves in order to minimize transpiration.

Temperate deciduous forest: The forest is located in the most temperate places that have sufficient rainfall, summer and winters are clearly defined and trees shed the leaves during the winter months.

Desert ecosystem: desert ecosystem are located in regions that receive an annual rainfall less than 25. They occupy about 17 percent of all the land on our planet. Due to the extremely high temperature low water availability and intense sunlight fauna and flora are scarce and poorly developed. The vegetation is mainly shrubs, bushes few grasses and rare trees. The stems and leaves of the plants are modified in order to conserve water as much as possible

Grassland ecosystem: Grassland are located in both the tropical and temperate region of the world though the ecosystem vary slightly. The area mainly comprises grasses with a little number of trees and shrubs. The main

vegetation includes grasses, plant and legume that belong to the composite family. A lot grazing animals, insectivores and herbivores inhabit the grasslands. The two main kinds of grasslands ecosystem are savanna and prairies.

While the aquatic ecosystem is the ecosystem found in a body of water. It encompasses aquatic flora, fauna and water properties as well. There are two main types of aquatic ecosystem namely marine and freshwater. The aquatic ecosystem is further divided in to two; the marine or salt water ecosystem and the freshwater ecosystem.

The marine ecosystem: Marine ecosystems are the biggest ecosystems, which cover around 71% of earth surface and contain 97% of planet's water in marine ecosystems features in high amounts minerals and salts dissolved in them. The difference division of the marine ecosystem is profundal, deep or bottom water, Benthic bottom substrate tides, Estuaries, coral reefs salt marshes, many kinds of organisms live in marine ecosystem, the brown algae, corals cephalopods, echinoderms, dinoflagellates and sharks

Freshwater ecosystem: contrary to the marine ecosystems, the freshwater ecosystem covers only 0.008% of earth's surface and contains 0.009% of the total water. Three basic kinds of freshwater ecosystem exist; lakes, or pond and rivers. The ecosystem are habitats to reptiles, amphibians and around 41% of the turbulent waters typically contain a greater concentration of dissolved oxygen, supporting greater biodiversity than slow moving waters in pools.

ARTIFICIAL ECOSYSTEM: this is also known as man- made ecosystem. All types of artificial ecosystem are introduced and managed by man. An example is a garden and a pond.

The modern man

This refers to man of the man of the present time, a contemporary person. It is man in the era of fast technological growth, where everything is focused in enhancing life at any cost since man is the summit of all things and so everything should be at his own disposal. This is the era of industrialization where man through the power of reason participates in the work of creation by the manufacturing of machines to enhance life, to make life easy and the world a better place to live but unfortunately one can now say that man who is the subject is now the object.

Ecological responsibility

Ecological responsibility has to do with the way humans ought to behave in relation with their environment. It is the consciousness of one's action towards his environment knowing full well that he is committed to sustainable action toward the environment and the future generations. Ecological responsibility is displayed in all aspects of man, because it is within the surveillance of ecology that man works out his survival.

The effect of science and technology on ecology

The high rate of industrial development in the world has really affected man and his environment, though it seems positive but it has a negative implication on the area of his environment. Palmer 1994 notes that industrial benefits resulting from technological adaptation in major activities has indirectly contributed towards higher living standard through bad part on technology.

There are three major negative impacts of technology on environment. First is the environmental pollution resulting from waste output is an resultant factor of technology, contribution to global warming is the second effect of the growing technology, lastly depletion of natural resources and ecological imbalances experienced today result from technology. Environmental pollution occurs as a result of technological mismanagement and lack of control measures. Technological improvement in recent years has seen production of more machines, weapon and automobiles. Technology negatively affects the environment by compromising human health and safety, endangering natural ecosystems and biodiversity, having cumulative impact on global systems and depleting natural resources.

Technology positively affects the environmental science to solve problems caused by human environmental impact. Ecological problems also include the following; air pollution, the structure of the environment with chemicals, the pollution and depletion of the water resources and the soiling, defacement of the beauty of nature and causes acid rain.

Furthermore, the industries which are an evidence of the growth in technology make use of big machines and generators which emit high rate of harmful chemicals and gases in to the environment. For instance, the metallic contaminants like Cd (Cadmium), Zn (Zinc), Hg (Mercury) etc, destroy bacteria and beneficial microorganisms in the soil. The industrial wastes including toxins enter the food chain and cause a number of undesirable effects on both animals and human beings. Industrial effluent damages the natural biological purification mechanism of sewage treatment causing several soil and water borne disease. The radioactive industrial pollutant cause undesirable disease when food containing radio-nuclides is taken by man. Alongside these ones, some have also being identified such as;

- It leads to the depletion of natural resources.
- It leads to air pollution, water pollution and soil pollution.
- Global warming, climatic changes are the major consequences of industrialization.
- It causes acid rain.
- It leads to the degradation of the land quality.
- It leads to the generation of hazardous waste whose disposal becomes a big problem.
- These industries are responsible for these adverse diseases such as Silicosis and Pneumoconiosis, Tuberculosis, Skin disease and deafness.

Some Ecological problems

The environment is constantly changing. There is no denying that. However, as our environment changes, so does the need to become increasingly aware of the problems that surround it. With a massive influx of natural disasters, warming and cooling periods, different types of weather patterns and much more, people need to be aware of what types of environmental problems our planet is facing.

Global warming has become an undisputed fact about our current livelihoods; our planet is warming up and we are definitely part of the problem. However, this isn't the only environmental problem that we should be concerned about. All across the world, people are facing a wealth of new and challenging environmental problems every day. Some of them are small and only affect a few ecosystems, but others are drastically changing the landscape of the world we already know.

Our planet is poised at the brink of a severe environmental crisis. Some of these environmental problems make us vulnerable to disasters and tragedies, now and in the future. Man is in a state of planetary emergency, with environmental problems piling up high around us and unless we address the various issues prudently and seriously we are surely doomed for disaster. These environmental problems require urgent attention, they include;

Pollution: Pollution of air, water and soil require millions of years to recoup. Industry and motor vehicle exhaust are the number one pollutants. Heavy metals, nitrates and plastic are toxins responsible for pollution. While water pollution is caused by oil spill, acid rain, urban runoff; air pollution is caused by various gases and toxins released by industries and factories and combustion of fossil fuels; soil pollution is majorly caused by industrial waste that deprives soil from essential nutrients.

Global Warming: Climate changes like global warming is the result of human practices like emission of Greenhouse gases. Global warming leads to rising temperatures of the oceans and the earth's surface causing melting of polar ice caps, rise in sea levels and also unnatural patterns of precipitation such as flash floods, excessive snow or desertification.

Overpopulation: The population of the planet is reaching unsustainable levels as it faces shortage of resources like water, fuel and food. Population explosion in less developed and developing countries is straining the already scarce resources. Intensive agriculture practiced to produce food damages the environment through use of chemical fertilizer, pesticides and insecticides. Overpopulation is one of the crucial current environmental problems as it adds pressure to the environment.

Natural Resource Depletion: Natural resource depletion is another crucial environmental problem. Fossil fuel consumption results in emission of Greenhouse gases, which is responsible for global warming and climate change. Globally, people are taking efforts to shift to renewable sources of energy like solar, wind, biogas and geothermal energy. The cost of installing the infrastructure and maintaining these sources has fallen in the recent years.

Waste Disposal: The over consumption of resources and creation of plastics are creating a global crisis of waste disposal. Developed countries are notorious for producing an excessive amount of waste or garbage and dumping their waste in the oceans and, less developed countries. Nuclear waste disposal has tremendous health hazards associated with it. Plastic, fast food, packaging and cheap electronic wastes threaten the well being of humans. Waste disposal is one of urgent current environmental problem.

Climate Change: Climate change is yet another environmental problem that has surfaced in last couple of decades. It occurs due to rise in global warming which occurs due to increase in temperature of atmosphere by burning of fossil fuels and release of harmful gases by industries. Climate change has various harmful effects but not limited to melting of polar ice, change in seasons, occurrence of new diseases, frequent occurrence of floods and change in overall weather scenario.

Loss of Biodiversity: Human activity is leading to the extinction of species and habitats and loss of bio-diversity. Eco systems, which took millions of years to perfect, are in danger when any species population is decimating. Balance of natural processes like pollination is crucial to the survival of the eco-system and human activity threatens the same. Another example is the destruction of coral reefs in the various oceans, which support the rich marine life.

Deforestation: Our forests are natural sinks of carbon dioxide and produce fresh oxygen as well as helps in

regulating temperature and rainfall. At present forests cover 30% of the land but every year tree cover is lost amounting to the country of Panama due to growing population demand for more food, shelter and cloth. Deforestation simply means clearing of green cover and makes that land available for residential, industrial or commercial purpose.

Ocean Acidification: It is a direct impact of excessive production of CO₂ (carbondioxide), 25% of CO₂ produced by humans. The ocean acidity has increased by the last 250 years but by 2100, it may shoot up by 150%. The main impact is on shellfish and plankton in the same way as human osteoporosis (the abnormal loss of bony tissue resulting to a fragile porous bone often attributed to lack of calcium).

Ozone Layer Depletion: The ozone layer is an invisible layer of protection around the planet that protects us from the sun's harmful rays. Depletion of the crucial Ozone layer of the atmosphere is attributed to pollution caused by Chlorine and Bromide found in Chloro- fluoro carbons (CFC's). Once these toxic gases reach the upper atmosphere, they cause a hole in the ozone layer, the biggest of which is above the Antarctic. The CFC's are banned in many industries and consumer products. Ozone layer is valuable because it prevents harmful UV (ultra violent) radiation from the sun to reaching the earth.

Acid Rain: Acid rain occurs due to the presence of certain pollutants in the atmosphere. Acid rain can be caused due to combustion of fossil fuels or erupting volcanoes or rotting vegetation which release sulfurdioxide (SO₂) and nitrogen oxides into the atmosphere. Acid rain is a known environmental problem that can have serious effect on human health, wildlife and aquatic species.

Water Pollution: Clean drinking water is becoming a rare commodity. Water is becoming an economic and political issue as the human population fights for this resource. One of the options suggested is using the process of desalinization, that is, the removal of salt from sea water, as a way to improvise since the fresh waters are being polluted. Industrial development is filling our rivers, seas and oceans with toxic pollutants which are a major threat to human health.

Urban Sprawl: Urban sprawl refers to migration of population from high density urban areas to low density rural areas which results in spreading of city over more and more rural land. Urban sprawl results in land degradation, increased traffic, environmental issues and health issues. The ever growing demand of land displaces natural environment consisting of flora and fauna instead of being replaced.

Public Health Issues: The current environmental problems pose a lot of risk to health of humans, and animals. Dirty water is the biggest health risk of the world and poses threat to the quality of life and public health. Run-off to rivers carries along toxins, chemicals and disease carrying organisms. Pollutants cause respiratory disease like Asthma and cardiac- vascular problems. High temperatures encourage the spread of infectious diseases like Dengue.

Genetic Engineering: This is the genetic modification of food using biotechnology. Genetic modification of food results in increased toxins and diseases as genes from an allergic plant can transfer to target plant. Genetically modified crops can cause serious environmental problems as an engineered gene may prove toxic to wildlife. Another drawback is that increased use of toxins to make insect resistant plant can cause resultant organisms to become resistant to antibiotics.

Ecological Responsibility and the modern man; challenges and way forward

Ecological responsibility has being something which has been from the ages, but here the article points out particularly to the modern man, the man of the industrial age, where everything is now mechanized, the earth is being exploited for the benefit of man whose is now the center of attraction and as such determines the status quo.

As a way of enhancing the growth and development of our environment, there are certain things which are necessary for man to be conscious of and adhere to. Some of these things include;

- Awareness of possible environmental risks and their minimization through the choice of product technologies.
- Use of environment-friendly materials in our product portfolio.
- Use of every opportunity for a reduction in atmospheric, soil and water impact, as well as low greenhouse gas emissions and waste through appropriate measures.
- Maximum utilization of resource and environment-protective technologies in line with the ongoing.
- Continual improvements in connection with the consumption of raw materials, which consist primarily of aluminum, polymers, paper, varnished and links, constitute a major group concern.

Care of the animal world; the main purpose of conservation according to Dr Jude Onuoha is to maintain a healthy functioning ecosystem that will also provide humans with their needs. Conservation can be done through the preservation of natural resources like trees, wildlife and forest to enrich human living. Most species of plants and animals are endangered and very few of them are remaining, it is there a collective responsibility to foster such task. Wapes R. suggests that Governments should set aside parks, there should be a place for hunting certain animals, mining and drilling of oil, number of trees to be cut down. Other laws should be promoted so

that people will know where to site their factories, industries and home, for these laws can help protect our environment.

Challenges to ecological responsibility

Most of the challenges the modern man encounters over ecological responsibility is strongly concretized on the fact that the modern man is tempted to abuse the power of control and dominion, and the pursuit of his egocentric desires, his animalistic tendency is displayed and he forgets about the future generation.

Many countries have negated the issue of environmental preservation for the sake of higher output, lower cost and better profit which lead them to belittle and to ignore the danger resulting from certain production processes. Industrial activities, mining, agriculture and similar activities constitute major obstacle to ecological responsibility, also indolence, lack of flexibility and reluctance to learn cause and aggravates danger to the environment.

Ways forward

The planet faces a variety of troubling issues that stem from man-made contamination. Many of these lead to environmental problems that are causing long-term damage to the earth's ecosystem. The only way to control current environmental issues is to sensitize the public and create sustainable development strategies and continue to instill conservation methods.

- Some man-made accidents threaten wildlife and the ecosystem. Although these accidents are relatively rare because of increased safety procedures, accidents still occur, sometimes with devastating effects. Examples include oil spills, radioactive leaks, tanker spills, pipeline bursts and drilling accidents.
- Accidental spills: The best solution for accidental spills and leaks is to create additional safety protocol using both computerized and human detection systems.
- Water pollution: Water pollution is a growing problem globally. Large industries including those that make chemicals and plastics dump a large amount of waste into the water. Human waste and rubbish also ends up in the oceans and lakes. To address the problem, individuals can improve recycling and waste disposal, and they can volunteer to clean up shorelines and nearby public locations. Businesses should develop ongoing protocols to reduce the amount of chemicals and other waste they put into the water supply.
- Hazardous waste disposal: The mishandling of hazardous waste materials poses immediate and long-term risks to plants, animals, humans and the environment. Hazardous waste is any liquid or solid that contains carcinogenic or teratogenic compounds, including pesticides, paint strippers, solvents, paint, gasoline, bleach, ammonia, industrial cleaning agents and drain cleaners. Individuals and businesses should make sure that hazardous-waste disposal experts handle all hazardous waste, and should never dump hazardous waste with regular trash or into rivers or ditches.
- Ozone layer pollutants or depletion: There are several airborne materials that can lead to ozone pollution. Ground-level ozone, particulate matter, lead, sulfur dioxide, nitrogen oxide and carbon monoxide are all dangerous when released into the air. These pollutants can cause human health problems and damage to plants and animals. It is the function of the EPA (Environmental Protection Agency) to enforce laws controlling the release of these substances into the atmosphere. Controlled air quality leads to less stress on the outer ozone layer of the planet that helps protect us from the sun.
- Soil contamination: Man-made chemicals released into the dirt either by accident or through poor disposal techniques cause soil contamination. Rupture of underground storage tanks, acid rain, leaching of hazardous waste from a landfill, pesticides and herbicides, and discharge from industrial chemical wastes all can contaminate the soil in which farmers grow crops or graze livestock that people eventually eat. Laws against such contamination need to be stringent, and the appropriate agencies have to be tough in the enforcement of those laws to help keep soil safer for humans and animals.

Evaluation and Conclusion

The need for change in our daily lives and the marking out of some strategic policies of our government is very pertinent towards enhancing the development of our environment for the future. This is so because so many different factors come into play; governmental issues, the desire to stick to routine, many people don't consider that what they do will affect future generations. If humans continue moving forward in such a harmful way towards the future, then there will be no future to consider. Although it's true that we cannot physically stop our ozone layer from thinning (and scientists are still having trouble figuring out what is causing it exactly), there are still so many things we can do to try and put a dent in what we already know. By raising awareness in your local community and within your families about these issues, you can help contribute to a more environmentally conscious and friendly place for you to live.

Conclusively, ecological responsibility is the surest way to conserve and preserve life and the

environment for the future generations, to avoid going into extinction some the species and not in turn being a thorn in our flesh. Therefore, all hands must be on deck, both individuals, the government and the general public is invited to come together, reason together for the good of humanity.

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