

Environment degradation and its effects

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Abstract

The subject of environmental economics is at the forefront of the green debate: the environment can no longer be viewed as an entity separate from the economy. Environmental degradation is of many types and have many consequences. To address this challenge a number of studies have been conducted in both developing and developed countries applying different methods to capture health benefits from improved environmental quality. Minimizing exposure to environmental risk factors by enhancing air quality and access to improved sources of drinking and bathing water, sanitation and clean energy is found to be associated with significant health benefits and can contribute significantly to the achievement of the Millennium Development Goals of environmental sustainability, health and development. In this paper, I describe the national and global causes and consequences of environmental degradation and social injustice. This paper provides a review of the literature on studies associated with reduced environmental risk and in particular focusing on reduced air pollution, enhanced water quality and climate change mitigation.

Keywords: Environment degradation, consequences, pollution and climate

Introduction

Environmental degradation is one of the largest threats that are being looked at in the world today. Environmental degradation is the deterioration of the environment through depletion of resources such as air, water and soil; the destruction of ecosystems and the extinction of wildlife. It is defined as any change or disturbance to the environment perceived to be deleterious or undesirable. Environmental degradation is one of the ten threats officially cautioned by the United Nations. The United Nations International Strategy for Disaster Reduction defines environmental degradation as "The reduction of the capacity of the environment to meet social and ecological objectives, and needs" Environmental degradation is of many types. When natural habitats are destroyed or natural resources are depleted, the environment is degraded. Environmental degradation can happen in a number of ways. At the point when environments are wrecked or common assets are exhausted, the environment is considered to be corrupted and harmed. Environmental degradation is a result of socio-economical, technological and institutional activities. Degradation occurs when Earth's natural resources are depleted. These resources which are affected include Water, air, soil, wildlife, plants, animals, micro-organisms. Human Activities, particularly during the last few countries, through industrialization, rapid urbanization, massive agriculture expansion etc. is responsible for the rapid change in its environment. Ecological effect or degradation is created by the consolidation of an effectively substantial and expanding human populace, constantly expanding monetary development or per capita fortune and the application of asset exhausting and polluting technology. The impact of environment degradation is more severe in developing countries, leading to ill health, death and disabilities of millions of people annually. Developed countries have the resources and technologies to combat pollution. As a result of the health risks and the potential impact of climate change, there have been efforts to reduce pollution. However, while this may be easy for

developed countries, halting environmental pollution may undermine economic growth and competitiveness of developing countries whose economies depends on natural resources. At every point and in every level of development, countries need to make choices between often conflicting goals. Developing countries desire to ensure energy for all at a competitive price to achieve and sustain economic growth and poverty reduction. The important role of industrialization in the development process of developing countries cannot be overemphasized. There is need for structural transformation from small-scale agriculture to industrialization in order for developing countries to experience inclusive and pro-poor growth. Developing countries in their quest for economic development and poverty reduction are expected to put economic growth, energy for all and industrialization at the fore front of their goals before giving consideration to environmental issues. Therefore, compelling developing countries like to pursue environmental goals, particularly reduction in CO₂ emissions, will require substantial economic, technological and financial support from developed countries and the international community to compensate for the economic losses associated with reducing pollution.

Causes of Environmental Degradation

Environmental Degradation is the result of developmental processes of economic and technological activities of man. It is caused by several forms of pollution [air, water, noise,] depletion of natural resources; increasing dependence on energy consuming and ecologically damaging technologies, the environmental crisis is ascribed to exponential growth in human population, fast expanding industries and philosophical religious outlook of society. Man's cruel behaviour with environments accelerated the pace of scientific and technological advancement. The primary cause of environmental degradation is human disturbance. The degree of the environmental impact varies with the cause, the habitat, and the plants and animals that inhabit it.

Habitat Fragmentation

Habitat fragmentation carries long term environmental impacts, some of which can destroy entire ecosystems. An ecosystem is a distinct unit and includes all the living and non-living elements that reside within it. Plants and animals are obvious members, but it will also include other components on which they rely on such as streams, lakes, and soils. Habitats become fragmented when development breaks up solid stretches of land. Examples include roads which may cut through forests or even trails which wind through prairies. While it may not sound all bad on the surface, there are serious consequences. The largest of these consequences are initially felt by specific plant and animal communities, most of which are specialized for their bioregion or require large areas of land to retain a healthy genetic heritage.

Pollution

Pollution, in whatever form, whether it is air, water, land or noise is harmful for the environment. Air pollution is defined as any contamination of the atmosphere that disturbs the natural composition and chemistry of the air. This can be in the form of particulate matter such as dust or excessive gases like carbon dioxide or other vapors that cannot be effectively removed through natural cycles, such as the carbon cycle or the nitrogen cycle. Water pollution involves any contaminated water, whether from chemical, particulate, or bacterial matter that degrades the water's quality and purity. Water pollution can occur in oceans, rivers, lakes, and underground reservoirs, and as different water sources flow together the pollution can spread. Soil, or land pollution, is contamination of the soil that prevents natural growth and balance in the land whether it is used for cultivation, habitation, or a wildlife preserve. Some soil pollution, such as the creation of landfills, is deliberate, while much more is accidental and can have widespread effects.

Land Disturbance

A more basic cause of environmental degradation is land damage. Numerous weedy plant species, for example, garlic mustard, are both foreign and obtrusive. A rupture in the environmental surroundings provides for them a chance to start growing and spreading. These plants can assume control over nature, eliminating the local greenery. The result is territory with a solitary predominant plant which doesn't give satisfactory food assets to all the environmental life. Whole environments can be destroyed because of these invasive species.

Acid Rain

Acid rain occurs when sulfur dioxide from coal plant emissions combines with moisture present in the air. A chemical reaction creates this acid precipitation. Acid rain can acidify and pollute lakes and streams. It causes similar effects to the soil. According to the U.S. Environmental Protection Agency (EPA), if enough acid rain falls in a given environment, it can acidify the water or soil to a point where no life can be sustained. Plants die off. The animals that depend upon them disappear. The condition of the environment deteriorates.

Agricultural Runoff

The environmental impact of agriculture varies based on the

wide variety of agricultural practices employed around the world. Ultimately, the environmental impact depends on the production practices of the system used by farmers. The connection between emissions into the environment and the farming system is indirect, as it also depends on other climate variables such as rainfall and temperature. There are two types of indicators of environmental impact: "means-based", which is based on the farmer's production methods, and "effect-based", which is the impact that farming methods have on the farming system or on emissions to the environment. An example of a means-based indicator would be the quality of groundwater that is effected by the amount of nitrogen applied to the soil. An indicator reflecting the loss of nitrate to groundwater would be effect-based. The environmental impact of agriculture involves a variety of factors from the soil, to water, the air, animal and soil diversity, plants, and the food itself. Some of the environmental issues that are related to agriculture are climate change, deforestation, genetic engineering, irrigation problems, pollutants, soil degradation, and waste. Farming creates agriculture runoff issues. Agricultural runoff is a deadly source of pollutants which can degrade environments, so much. Surface water washes over the soil and into lakes and streams. When it does so, it carries the fertilizers and pesticides used on the farm lands into water resources. Introducing poisons into waterways will have dire consequences. Fertilizers, whether or not they are organic, carry equal risks. Fertilizers containing large amounts of phosphorus can cause explosions of algae in lakes. As the algae die, bacteria start to breakdown the organic material. It soon develops into a situation where bacteria are using up the available dissolved oxygen in the water. Plants, fish, and other organisms begin to die off. The water becomes acidic. Like acid rain, lakes become dead zones with conditions so toxic that neither plants nor animals can live in these environments.

Urban Development

According to many noted ecologists, including those at Cornell University, urban development is one of the causes of environmental degradation? As populations increased, so did the need for land for homes and farms. Wetlands were drained. Prairies were plowed over. Today, less than 50 percent of the nation's wetlands still exist, according to the North Carolina State University Water Quality Group. National Geographic states that only five percent of the native prairie remains.

Natural Causes

Mother Nature causes environmental problems, too. Things like avalanches, quakes, tidal waves, storms, and wildfires can totally crush nearby animal and plant groups to the point where they can no longer survive in those areas. This can either come to fruition through physical demolition as the result of a specific disaster, or by the long term degradation of assets by the presentation of an obtrusive foreign species to the environment. The latter frequently happens after tidal waves, when reptiles and bugs are washed ashore. Of course, humans aren't totally to blame for this whole thing. Earth itself causes ecological issues, as well. While environmental degradation is most normally connected with the things that people do, the truth of the matter is that the environment is always changing. With or without the effect of human exercises, a few biological systems degrade to the point where they can't help the life that

is supposed to live there.

Landfills

Landfills pollute the environment and destroy the beauty of the city. Landfills come within the city due the large amount of waste that gets generated by households, industries, factories and hospitals. Landfills pose a great risk to the health of the environment and the people who live there. Landfills produce foul smell when burned and cause huge environmental degradation.

Overpopulation

The population on Earth is expanding rapidly and this Rapid population growth puts strain on natural resources which results in degradation of our environment. Mortality rate has gone down due to better medical facilities which has resulted in increased lifespan. More population simple means more demand for food, clothes and shelter. Our production industries are venting smoke and discharging chemicals that are polluting our water. The smoke that is emitted into the atmosphere holds unappealing gases such as carbon monoxide and sulfur dioxide. The high levels of pollution in the atmosphere form layers that are eventually absorbed into the atmosphere. Organic compounds such as chlorofluorocarbons (CFC's) have generated an unwanted opening in the ozone layer, which emits higher levels of ultraviolet radiation putting the globe at large threat. The available fresh water being affected by climate is also being stretched across an ever-increasing global population. It is estimated that almost a quarter of the global population is living in an area that is using more than 20% of their renewable water supply; water use will rise with population while the water is also being aggravated by decreases in stream flow and groundwater caused by climate change. Even though some areas may see an increase in freshwater supply from an uneven distribution of precipitation increase, an increased use of water supply is expected. An increased population means increased withdrawals from the water supply for domestic, agricultural, and industrial uses, the largest of these being agriculture believed to be the major non-climate driver of environmental change and water deterioration. The next 50 years will likely be the last period of rapid agricultural expansion, but the larger and wealthier population over this time will demand more agriculture. You need more space to grow food and provide homes to millions of people. This results in deforestation which is another factor of environmental degradation

Technology

The applications of technology often result in unavoidable environmental impacts. Environmental impacts caused by the application of technology are often perceived as unavoidable for several reasons. The purpose of many technologies is to exploit, control, or otherwise "improve" upon nature for the perceived benefit of humanity while at the same time the myriad of processes in nature have been optimized and are continually adjusted by evolution, and any disturbance of these natural processes by technology is likely to result in negative environmental consequences. The conservation of mass principle and the first law of thermodynamics (i.e., conservation of energy) dictate that whenever material resources or energy are moved around or manipulated by technology, environmental consequences are inescapable.,

According to the second law of thermodynamics, order can be increased within a system (such as the human economy) only by increasing disorder or entropy outside the system (i.e., the environment). Thus, technologies can create "order" in the human economy (i.e., order as manifested in buildings, factories, transportation networks, communication systems, etc.) only at the expense of increasing "disorder" in the environment. According to a number of studies, increased entropy is likely to be correlated to negative environmental impacts.

Effects of environment degradation

Impact on Human Health

Human health might be at the receiving end as a result of the environmental degradation. Areas exposed to toxic air pollutants can cause respiratory problems like pneumonia and asthma. Millions of people are known to have died of due to indirect effects of air pollution when factories produce harmful chemicals and toxic waste into bodies of water, humans suffer. Pesticides and fertilizers can also get into a region's water system and pollute it. Drinking water is contaminated. Some residing in third-world countries are highly effected by the degradation of our planet and these unhealthy practices cause the illnesses, Death in children, Death in adults

Loss of Biodiversity

Biodiversity is important for maintaining balance of the ecosystem in the form of combating pollution, restoring nutrients, protecting water sources and stabilizing climate. Deforestation, global warming, overpopulation and pollution are few of the major causes for loss of biodiversity.

Ozone Layer Depletion

Ozone layer is responsible for protecting earth from harmful ultraviolet rays. The presence of chlorofluorocarbons, hydro chlorofluorocarbons in the atmosphere is causing the ozone layer to deplete. As it will deplete, it will emit harmful radiations back to the earth

Water degradation

One major component of environmental degradation is the depletion of the resource of fresh water on Earth. Approximately only 2.5% of all of the water on Earth is fresh water, with the rest being salt water. 69% of the fresh water is frozen in ice caps located on Antarctica and Greenland, so only 30% of the 2.5% of fresh water is available for consumption.¹ Fresh water is an exceptionally important resource, since life on Earth is ultimately dependent on it. Water transports nutrients and chemicals within the biosphere to all forms of life, sustains both plants and animals, and moulds the surface of the Earth with transportation and deposition of materials. It is estimated that one in three people over the entire globe are already facing water shortages, almost one-fifth of the world's population live in areas of physical water scarcity, and almost one quarter of the world's population live in a developing country that lacks the necessary infrastructure to use water from available rivers and aquifers. Water scarcity is an increasing problem due to many foreseen issues in the future, including population growth, increased urbanization, higher standards of living, and climate change.

Climate change and temperature

It is predicted that the mean global temperature will rise in the coming years due to a number of forces affecting the climate, the amount of atmospheric CO₂ will rise. Transpiration from plants can be affected by a rise in atmospheric CO₂, which can decrease their use of water, but can also raise their use of water from possible increases of leaf area. Temperature increase can decrease the length of the snow season in the winter and increase the intensity of snowmelt in warmer seasons, leading to peak runoff of snowmelt earlier in the season, affecting soil moisture, flood and drought risks, and storage capacities depending on the area. Warmer winter temperatures cause a decrease in snowpack, which can result in diminished water resources during summer.

Losing Earth's Beauty

As humans dump waste products, use chemicals, and over fish in the oceans and seas, areas of beauty such as coral reefs are damaged. At times the destruction is so great that it cannot be reversed. We are killing our planet and the consequences are tremendous. One example of this lies within the coastal lands of Thailand. Here marine and coastal resources are at risk. Vast areas of mangrove wetlands have been lost. Coral reefs continue to suffer degradation, and the total fish available for catching is declining. Not only is the degradation causing marine and coastal resources to be lost, but this issue holds large economic problems. When there are not enough fish to catch, fishermen are without income to support themselves and their families. In some coastal towns, the shores are eroding at a rate of one to five meters per year. This results in an annual loss of more than six billion baht (\$150 million) in economic terms.

Loss for Tourism Industry

The deterioration of environment can be a huge setback for tourism industry that rely on tourists for their daily livelihood. Environmental damage in the form of loss of green cover, loss of biodiversity, huge landfills, increased air and water pollution can be a big turn off for most of the tourists.

Economic Impact

The huge cost that a country may have to bear due to environmental degradation can have big economic impact in terms of restoration of green cover, cleaning up of landfills and protection of endangered species. Economic Impact of environment degradation can be defined with the help of impacts on environmental degradation on yield and area. Environmental degradation and loss of ecosystem services will directly affect soil erosion and nutrient depletion, growing conditions through climate and weather, as well as available water for irrigation through impacts on rainfall and ground and surface water. These are factors that individually could account for over 50% in loss of the yield in a given "bad" year. Nutrient depletion as a form of land degradation has a severe economic impact at the global scale. Annual depletion rates of soil fertility were estimated at 22 kg nitrogen (N), 3 kg phosphorus (P), and 15 kg potassium (K) per ha. In Zimbabwe, soil erosion alone results in an annual loss of N and P totaling US\$1.5 billion. Erosion is very significant in land degradation. On a global scale, the annual loss of 75 billion tonnes of soil costs the world about US\$400 billion/year (at US\$3/tonne of soil for nutrients and US\$2/tonne of soil for water), or approximately US\$70/person/year. The productivity of some

lands has declined by 50% due to soil erosion and desertification). Many Model projections suggest that although increased temperature and decreased soil moisture will act to reduce global crop yields by 2050, the direct fertilization effect of rising carbon dioxide concentration (CO₂) will offset these losses.

Environment and developing countries

Many environmental challenges facing the world today. Most developing countries, depend majorly on natural resources for revenue and foreign exchange. These economies are driven by funds generated from exploitation of natural resources such as coal, oil and gas, agricultural and forest resources, gold, copper, etc. Developing countries desire to ensure energy for all at a competitive price to achieve and sustain economic growth and poverty reduction. The energy poverty experienced in these regions has been linked with the high level of income and non-income poverty in the regions. In their desire to develop and improve the standards of living of their citizens, these countries will opt for the goals of economic growth and cheap energy for all. This may lead to environmental pollution and degradation. The impact of pollution is more severe in developing countries, leading to ill health, death and disabilities of millions of people annually. At every point and in every level of development, countries need to make choices between often conflicting goals. The inevitability of pollution in developing countries has been demonstrated by the Environmental Kuznet Curve. The EKC is a hypothesized relationship between indicators of environmental degradation and income per capita. According to the theory, environmental pollution and degradation increase in the early stages of economic growth, get to a peak point, and reverse in such a way that the environment improves at high income levels. This is based on the fact that developing countries desire industrialization and economic growth and tend to consume more cheap energy. There is also need for developing countries to build roads and rail tracks and develop massive infrastructure to promote economic growth. Such activities that are required at the take-off stage of economic development are substantially energy-intensive. The important role of industrialization in the development process of developing countries cannot be overemphasized. There is need for structural transformation from small-scale agriculture to industrialization in order for developing countries to experience inclusive and pro-poor growth.

Conclusion

Environment degradation is a result of socio-economical, technological and institutional activities. Every country and nation has been suffering from these perilously hoarding junk and are now awake to stop this. Developing countries in their quest for economic development and poverty reduction are expected to put economic growth, energy for all and industrialization at the fore front of their goals before giving consideration to environmental issues. Therefore, compelling developing countries to pursue environmental goals, particularly reduction in CO₂ emissions, will require substantial economic, technological and financial support from developed countries and the international community to compensate for the economic losses associated with reducing pollution.

Suggestions

There are ways which can help to decrease degradation in our environment. The most effective method to control pollution and depletion is through completing legal framework. There are some drawbacks existing in the contemporary law, which encourages malfeasances implicitly. Therefore, government must enhance filling the gap in legal system to avoid illegal activities. Amendment to provisions relating to the exploitation of natural resources is urgent, since over-exploitation is the main reason for the loss of biodiversity. Government has long shaped its perception of economic, as well as social methods to solve the problem of pollution, but the implementation remains limited. Eliminating environmental pollution and recovering our ecology require more than a single effort to be successful. Authority of all levels must involve not only in policy-making but also in implementation and supervision of progress, so that the national long term environmental target can be attained, resulting in sustainable development.

- Government can utilize economic reward and punishment system to encourage forestation.
- Purchase recycled products
- Conserve water
- Do not litter or toss waste into inappropriate places
- Conserve energy
- Join an awareness group
- Talk with others about the impacts of environmental degradation
- Be an advocate to save our planet!

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