



Environmental Degradation in India

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ABSTRACT

Physical surroundings, including those in which a person lives and relies for daily activities such as respiration, production, and consumption, can be considered part of the definition of the environment. Everything in his physical environment is a part of his ecosystem, including the air, water, and land, as well as the many fossil fuels, earth, and plants and animals that make up his ecosystem. Physical environment and human well-being are intertwined in a variety of ways, including both qualitative and quantitative aspects. With regard to development and its speed, natural resources have a significant role. A considerable portion of the environment in an urbanised civilization is man-made. The creation of artificial settings (like buildings and roads) as well as the means of transportation (like clothing and cars) is dependent on human labour as well as the use of natural resources.

Keywords: *Degradation, environment, health, risk, waste, management, sustainable.*

Citation: Vikramendra Kumar (2022). Environmental Degradation in India. *International Journal of Arts, Humanities and Social Studies*, 4(1), 123-127.

INTRODUCTION

The term 'Environment' is commonly confined to ambient environment. Public health agencies are often in charge of overseeing the indoor environment. When it comes to health hazards, poor-quality fuels and inadequate ventilation are the most common culprits. Moisture, light, and incidence, as well as toxic compounds from construction materials, lacquers, and paints, may also be a concern. The absence of adequate infrastructure is not to blame for problems with drinking water, sewerage, and waste disposal. Human settlements and the urban environment statistics include data on the indoor environment as a subset. Economic development and human well-being depend on environmental and natural resource sustainability. Long-term inclusive development and food security may be built on a foundation of well managed natural resources, watersheds, fertile land and seascapes. More than a billion people rely on natural resources for their life, which provides substantial tax money. We all rely on the air, water, and soil provided by the various ecosystems that make up our planet. As a result, they serve as a one-of-a-kind and cost-effective defence against climate change and severe weather. Agriculture, forestry, fishing, and tourism, for example, rely on healthy ecosystems for long-term success. They currently employ over a billion people. These natural resources provide a priceless safety net in times of calamity for the 78 percent of the world's extreme poor who live in rural areas and rely on forests, lakes, rivers, and oceans for food, fuel, and income. These natural resources, however, are becoming more vulnerable. More than half of the world's ecosystems are decaying at a rate that is exceeding their ability to repair themselves. India has a slew of environmental problems. For India, contamination of the natural environment and air pollution are major issues. Between 1947 and 1995, the situation was far worse than it is now. According to data collection and environmental assessment studies carried out by World Bank professionals, India has made one of the fastest gains in resolving environmental concerns and boosting environmental quality. A long way to go before Indians can enjoy the environmental quality observed in rich countries. India's pollution problem is both a difficulty and an opportunity. As a country, India is afflicted by a wide range of health and environmental problems [1].

If assets such as air, water, and soil are depleted due to human activity, the ecosystem suffers from what is known as environmental degradation. Environmental degradation and animal extinction. India has a slew of environmental issues, including pollution of the air, water, waste, and the natural environment. Indian environmental progress between 1995 and 2010 has been praised by World Bank analysts as one of the fastest. India still has a long way to go before obtaining environmental standards comparable to those in Western countries, despite this. India's worst problem and greatest opportunity are both related to pollution. In India, environmental degradation is a leading source of sickness, health problems, and impacts on long-term employment [2].

Physical surroundings that a person is a part of and that he or she relies upon for activities such as physiological functioning, production, and consumption can be defined as the individual's environment. His physical surroundings include everything from the atmosphere, water, and land to the many natural resources that make up his ecosystem, such as fossil fuels, dirt, and a variety of plants and animals. Physical environment and human well-being are linked in a

variety of ways, including both qualitative and quantitative aspects. With regard to development and its speed, natural resources have a significant role. A considerable portion of the environment in an urbanised civilization is man-made. For all their convenience, human and natural resources are used to create the built environment, as well as the tools we use to get about in it. In most cases, “Environment” is used primarily to refer to the “natural” surroundings. When it comes to interior environments, such as the one at your house or place of work, they are seen as separate entities that should be studied on their own. Public health agencies are often in charge of overseeing the interior environment. When it comes to health hazards, impoverished fuels and inadequate ventilation are the most common culprits. Building materials such as lacquers and paints might include harmful compounds that are released throughout the manufacturing process. The absence of adequate infrastructure is not to blame for problems with drinking water, sewerage, and waste disposal. Human settlements and the urban environment statistics include data on the interior environment as a subset [3].

Earth and natural resources must be managed in a sustainable manner for economic growth and human well-being. In the event that well-managed natural resources are used to assist environmental sustainability, food security, and poverty reduction, they may provide a foundation for long-term growth and prosperity. A large number of people have jobs thanks to natural resources, which also provide substantial assessment money. Every day, the world's biological communities work together to keep the resources we all rely on clean. They act as a buffer against climate change and harsh weather events. Agriculture, ranger services, fisheries, and tourism all depend on healthy biological systems for long-term growth. Since then, they've expanded their range of employment opportunities [4].

For the 78 cents out of every dollar of the world's extremely poor who live in rural areas, forests, lakes, streams, and oceans provide a notable offer for families' diets, fuel, and livelihoods in emerging countries. These natural resources, however, are becoming more fragile. More than half of the world's ecosystems are decaying at a rate that is outpacing their ability to repair itself [5].

India has a slew of environmental problems. India has a slew of environmental issues, including pollution of the air, water, waste, and the natural environment. Between 1947 and 1995, the situation was far worse than it is now. It is estimated that between 1995 and 2010, India made one of the fastest gains in dealing with environmental issues and improving ecological quality on the planet. Indian environmental norms are far behind those in Western countries, despite the fact that India has made progress in recent years. Both pollution and India's potential may be attributed to one thing: pollution. In India, pollution is a leading cause of disease, health issues, and long-term economic loss. Environmental pollution must be addressed [6].

CAUSES OF ENVIRONMENTAL DEGRADATION

Modern urbanisation, industrialisation, overpopulation, deforestation, etc. are the main drivers of environmental deterioration. Deterioration of natural resources is referred to as environmental pollution. All living things have been adversely affected as a result of these changes. The amount of hazardous gases in the air is largely due to the smoke that is released by transportation and manufacturing. Moving vehicles and activities create waste products and smoke that pollute the air. There has been an increase in water, air, and sound pollution as a result of urbanisation and industrialisation. As a result of urbanisation and industrialisation, water supplies are becoming more contaminated. Particulates such as nitrous oxide, carbon monoxide and other non-toxic pollutants like chlorofluorocarbons damage the air when they are emitted from vehicles and other polluters. There is still a neediness factor at play in certain ecological concerns [2].

SOCIAL FACTORS

Population

Because of the country's rapid population increase and economic development, urbanisation and industrialization are out of control, agriculture is expanding and intensifying, and natural habitats are degrading. Population increase, which has a detrimental impact on natural resources and circumstances, is one element that contributes to environmental deterioration in India. The expanding population and deteriorating environment will be put to the test to determine if progress can be maintained without harming the environment. Economic growth may be encouraged or stifled by the existence or absence of ideal characteristic assets. When the human population grows faster than the resources available to support it, environmental deterioration results. No matter how innovative the improvement efforts are, they will fail to provide the desired outcomes unless a link can be formed between the expanding population and the already existing emotional support network. From the utilisation of natural resources and the creation of waste, there are environmental stressors such as biodiversity loss, air and water pollution, and an increased demand for arable land [3].

There has been an increase in population as a result of better health and disease management. The population density increased from 117 people per square kilometre in 1951 to 312 people in 2001 and then to 382 people in 2011. Relocation from rural areas to urban areas is said to be complicated by a number of variables. In rural areas, asset accessibility and financial open doors may be decreasing per capita, but in urban areas, financial open doors, universal

healthcare, and educational institutions, among other things, may be increasing, providing opportunities for greater elevations of human capital development. Just 2.4 percent of the world's land area sustains 17 percent of the world's people [5].

Poverty

Poverty is regarded to have both a cause and an effect on the environment. The complex connection between environmental degradation and poverty in and of itself is a miracle. Poor individuals, who rely more on natural resources than the wealthy, are more likely to deplete natural resources since they have little real chance of obtaining other types of assets. An ever-increasing human population is devouring natural resources and damaging the environment as the twenty-first century begins. Because of India's fast-growing population, poverty and environmental devastation are intrinsically tied. As the world's population expands, so do the strains on the environment. Natural resources are being depleted by the rapid growth of human populations, as well as the escalating levels of poverty and overuse, which are threatening the vocations of existing and future generations. As a result of population expansion, the environment is being depleted either by fuel needs for cooking or by people's need to make a living to survive. Urban ghettos are formed in urban areas due to the uneven distribution of resources and confined open doors, which result in an overloaded population density and a deterioration in the quality of life for those living below the poverty line [6].

As a result, a deteriorated environment may exacerbate poverty since the poor are directly dependent on natural resources. Despite the fact that the poverty rate in the nation has decreased significantly, from 55 percent in 1973 to 36 percent in 1993-94 and then to 27.5% in 2004-05, many people still live in poverty. Poverty as a percentage of the population dropped from 320 million in 1993-94 to 301 million in 2004-05, indicating a significant improvement in living conditions.

Urbanization

After independence, India's urbanisation accelerated due to the country's transition to a mixed economy in which the private sector flourished. Urbanization in India is increasing at a higher rate than in other countries. India's urban population was 11.4 percent in 1901, according to census data. There was an increase from 28.53 percent in 2001 to 31.16 percent in 2011, according to the enumeration. Cities are anticipated to house 40% of the country's population by 2030, according to the United Nations' State of the World Population report from 2007. According to the World Bank, India, China, Indonesia, Nigeria, and the United States will account for the majority of global urban population by 2050.

It's becoming more difficult to find work in rural areas, and this is resulting in a growing number of impoverished families moving to cities. As a result, a rapid expansion of urban areas has led to a decrease in the quality of urban life. A widening imbalance between supply and demand for infrastructure services such as energy, housing, transportation, communication, and education has exhausted metropolitan regions' abundant natural resources. Urban poverty has been compounded by environmental degradation, increased ghettoization and property changes that have led to the expansion of ghettos.

Economic Factors

There is a direct correlation between the lack of or badly functioning markets for environmental products and services and the widespread destruction of the environment. There is a distinctiveness among private and societal costs and benefits that reflects environmental degradation as a special instance of use or generating externalities. The market's dissatisfaction might be due to a lack of well-defined property rights. Value restrictions and endowments, however, may make environmental objectives more difficult to achieve.

Environmental issues were also influenced by the amount of economic growth. Economic growth and social welfare have always been at the front of India's development goals. As can be seen in common asset consumption (petroleum derivatives, minerals, timber), polluting of water, air, and land, well-being risks, and degradation of characteristic eco-frameworks, the production innovation received by the vast majority of businesses has placed an enormous burden on the environment. Mechanical sources have contributed to an already high level of air pollution, thanks to the extensive use of petroleum derivatives as a primary source of energy and to actual air polluting businesses like iron and steel, composting, and bond manufacturing.

Expansion of chemical-based industries has exacerbated the problem of waste management, which has major environmental health consequences. Earthly repercussions of transport operations include air pollution, noise pollution, and oil slicks from maritime delivery. In terms of systems and administrations, India's transportation foundation has grown impressively. As a result of this, street transportation contributes a significant amount of air pollution to metropolitan areas, such as Delhi. Ports and harbours have a significant impact on the delicate ecosystems around the shoreline. Their growth has varying degrees of impact on hydrology, water quality on the surface, fisheries, coral reefs, and mangroves.

Soil erosion and nutrient loss are two of the most obvious environmental implications of agricultural growth. Land and water resources have been completely exploited, as well as the increased use of manures and pesticides, since the green revolution started. Shifting farming contributes to land degradation as well. One of the most common sources of water pollution is the leaching of pesticides and fertilisers from agriculture. Land degradation, including salinization, alkalization, and water logging, may be attributed to the use of intensive agriculture and irrigation. “ (Economic Survey, 1997-98).

Institutional Factors

The Ministry of Environment and Forests is responsible for environmental protection, conservation, and development (MOEF). It collaborates with other federal agencies, state governments, pollution control boards, academic institutions, and non-profit organisations to achieve its goals. To regulate environmental management, the Environment (Protection) Act, 1986 is the most significant piece of legislation. The Forest (Conservation) Act of 1980 and the Wildlife (Protection) Act of 1972 are both internal and external systems of law in the region. The existing structure has a flaw in that it relies on natural foundations at both the intermediate and state levels of government for its execution. At the outset of the project, there is a lack of efficient coordination between the different Ministries/Institutions on the integration of environmental issues. In addition, current policies are dispersed over a number of different government entities, each with a distinct mandate. Many projects have indeed been put on hold due to a lack of a well-prepared workforce and a broad database.

The vast majority of State Government agencies are suffering just a minor shortage of specialised personnel and resources. No matter how far EIA studies have come in quality and efficiency, institutional strengthening steps including hiring and training key specialists and staffing with qualified technical personnel are still required to strengthen the EIA procedure.

Land Degradation

A modification or disruption to the land that is deemed undesirable is referred to as “land degradation”. Natural and man-made disasters, such as floods and forest fires, can cause havoc on the land. As much as 40% of the world's agricultural land may be severely damaged, according to some estimations. Deforestation, overgrazing, and excessive grafting are all contributing factors to land degradation, which is exacerbated by climate change. Indian land degradation is mostly caused by water erosion. Population growth and the resulting need for food, energy, and shelter have changed land use patterns considerably, degrading India's ecosystem to an extreme degree. Land intensification at the expense of forests and grazing fields was necessary since the demand for food could not keep pace with population growth. As a result, horizontal land expansion has fewer options and is more dependent on vertical improvement, which is aided by agricultural technology, such as HYV seeds, fertilisers, pesticides, herbicides, and agricultural instruments (such as harrows). All of these actions have the effect of deteriorating the ecosystem and depleting its resources [7].

Air Pollution

Burning wood and biomass burning, as well as fuel adulteration, vehicle emissions, and traffic congestion, are key contributors to air pollution in India. “Air pollution is partly to blame for the Asian brown cloud, which is delaying the monsoon. India is the world's largest user of fuel wood, agricultural waste, and biomass for energy purposes. Domestic energy usage in rural India is heavily dependent on the use of traditional fuels such as fuel wood, agricultural leftovers, and dung cake. About 24% of overall energy consumption in cities is fueled by this venerable fossil energy. Combustion products are emitted into India's indoor and outdoor atmosphere every year as a result of the burning of wood, agri-waste products, and biomass cakes. As a result, biomass stoves in India constitute a significant source of greenhouse emissions. India produces a little amount of greenhouse gases, such as carbon dioxide, per person. In 2009, the International Energy Agency (IEA) reported that the United States generated roughly 1.4 tonnes of gas per person, down from 17 tonnes in 2007. However, after China and the United States, India was the world's third-largest carbon dioxide emitter in 2009. (5.2 Gt per year). India, with 17 percent of the world's population, contributed just 5% of human-caused CO² emissions, compared to China's 24%.

Effects

There are very adverse effects of environmental degradation. These effects can be enumerated as:

Impact on Human Health

The destruction of the environment has the greatest effect on human health. Environmental degradation may have a negative impact on human health. Residents of areas with high levels of toxic air pollution run the risk of developing respiratory diseases like pneumonia and asthma. The indirect impacts of air pollution have killed millions of people. Cities in India are among the most polluted in the world. It is considered dangerous to breathe air in major cities because of the high pollution levels (WHO). SPM levels in Delhi are more than three times higher than recommended by the World Health Organization (WHO). India's urban air pollution has increased considerably during the previous decade.

RSPM, suspended particulate matter (SPM), NO₂, carbon monoxide (CO), lead, and sulphur dioxide (SO₂) are some of the most significant air pollutants (SO₂). Increasing industrialization and an increase in automobile pollution are the main causes of poor air quality in metropolitan areas. Industrial pollution, automobile emissions, and the burning of fossil fuels cause the deaths of tens of thousands of people each year, as well as millions more to suffer. Vehicle exhaust from lead-tainted cars pollutes city air while animal manure and chemical fertilisers pollute the land and 1600 water in the rural. An estimated 50 percent of Indian children under the age of three live in places like Mumbai and Delhi, where blood lead levels are over the safe limit of 10 micrograms per decilitre. Calcutta, Chennai, Delhi, and Mumbai, India's four largest cities, have all shown a considerable increase in illnesses and premature deaths linked to ambient suspended particle matter (SPM) in the air during the last five years. Human health might be put at risk even more by indoor air pollution. In the smoke that they release, people who cook and heat with wood, agricultural leftovers, animal dung, and low-quality coal generate dangerous particles and gases. Tuberculosis and other severe respiratory ailments, as well as blindness, may result from the indoor use of these fuels, which can be worsened by the use of inefficient stoves and inadequate ventilation. Development countries face four major environmental challenges, including indoor air pollution, according to the World Bank.

Loss of Biodiversity

Biodiversity is critical to the health of the ecosystem, since it helps to reduce pollution, replenish nutrients, protect water supplies, and regulate the climate through all of these processes. One of the primary drivers of biodiversity loss is deforestation; others include global warming, human population growth, and pollution. Humans have had a profound impact on the ecology and the landscape, affecting the biogeochemical cycles and introducing new species as a result of their activities such as fishing and hunting.

Ozone Layer Depletion

The ozone layer shields the Earth from dangerous UV radiation by absorbing them. Chlorofluorocarbon emissions are the primary cause of ozone layer depletion (CFCs). This is the primary cause of ozone layer depletion, accounting for around 80% of the total. Various new chemicals, such as hydrochlorofluorocarbons (HCFCs) and volatile organic compounds (VOCs), contribute to ozone depletion (VOCs). These poisons can be found in automobile exhaust, industrial waste, aerosols, and refrigerants. Until they reach the stratosphere, these ozone-depleting chemicals stay stable in the lower atmosphere. As a result, the chlorine in them breaks down, releasing free chlorine atoms into the atmosphere, causing the ozone layer to be depleted. Another consequence of environmental deterioration is global warming.

CONCLUSION

India's rapid population growth, along with economic development and the mismanagement of natural resources, is the primary cause of environmental degradation. Land degradation, deforestation, soil erosion, habitat destruction, and biodiversity loss are among the most pressing environmental concerns in India. Demand for energy and transportation have both grown as a result of the global economy's expansion and shifting consumption habits. Water shortages and pollution of the air, water, and noise are major problems in India's environment.

Between 1995 and 2010, India, according to World Bank estimates, made one of the fastest gains in resolving environmental issues and increasing environmental quality. Although India is making progress, it is still a long way from achieving environmental quality comparable to that seen in advanced economies.

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