

## **Environmental Degradation in India: Causes and Consequences**

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### **Abstract**

Environmental degradation is the disintegration of the earth or deterioration of the environment through consumption of assets, like, air, water and soil. The destruction of environments and the eradication of wildlife. Air pollution, water pollution, garbage, and pollution of the natural environment are all challenges for India. According to World Bank experts, between 1995 through 2010, India has made one of the fastest progresses in the world, in addressing its environmental issues and improving its environmental quality. Still, India has a long way to go to reach environmental quality similar to those enjoyed in developed economies. Pollution remains a major challenge and opportunity for India. Environmental degradation is one of the primary causes of diseases, health issues and long term livelihood impact for India.

Environment can be defined as the physical surrounding of man/woman of which he/she is a part and on which he/she is dependent for his/her activities like physiological functioning, production and consumption. His physical environment stretches from air, water and land to natural resources like energy carriers, soil and plants, animals and ecosystems. The relationship between physical environment and the well-being of individuals and societies is multi-fold and multi-faceted with a qualitative as well as a quantitative aspect to it. The availability and use of natural resources have a bearing on the outcome and the pace of development process. For an urbanized society, a large part of environment is man-made. But, even then the artificial environments (building, roads) and implements (clothes, automobiles) are based on an input of both labour and natural resources. The term 'Environment' is commonly restricted to ambient environment. In that view, the indoor environment

(home, work place) is regarded as isolated piece of environment to be treated on its own terms. The indoor environment usually is under the jurisdiction of the Public Health authorities. Health risks are mainly linked to space heating, cooking and lighting: low grade fuels, insufficient ventilation are often the main problems. Additionally, there may be problems connected with moisture, light, incidence, hazardous substances from building materials, lacquers and paints. Problems with drinking water, sewage and waste are not linked to the dwelling as such but rather to lack of appropriate infrastructure. Statistics on indoor environment may be regarded as a subset of statistics on human settlements and the urban environment (COES, 2013).

The sustainable administration of the earth and natural resources is essential for financial development and human prosperity. At the point when overseen well, inexhaustible characteristic assets, watersheds, profitable scenes and seascapes can give the establishment to supported comprehensive development, sustenance security and poverty reduction. natural resources give vocations to a huge number of individuals and create sizeable assessment income. The world's biological communities manage the air, water and soil on which we as a whole depend. They frame a special and practical cradle against extraordinary climate occasions and atmosphere change. Healthy biological systems are basic for the long haul development of financial areas, for example, agribusiness, ranger service, fisheries and tourism. They as of now give countless occupations.

In developing nations, woods, lakes, streams and seas give a noteworthy offer of families' eating regimens, fuel and livelihoods and speak to a valuable security net in the midst of emergency especially for 78 for each penny of the world's outrageous poor who live in rustic territories. The integrity and functionality of these vital natural assets, however, are increasingly compromised. 60 to 70 per cent of the world's ecosystems are degrading faster than they can recover.

There are many environmental issues in India. Air pollution, water pollution, garbage, and pollution of the natural environment are all challenges for India. The situation was worse between 1947 through 1995. As per information accumulation and condition evaluation investigations of World Bank specialists, between 1995 through 2010, India has gained one of the speediest ground on the planet in tending to its natural issues and enhancing its ecological quality. Still, India has a long way to go to reach environmental quality similar to those enjoyed in developed economies. Pollution remains a major challenge and opportunity for India. Environmental issues are one of the primary causes of disease, health issues and long term livelihood impact for India.

## **CAUSES OF ENVIRONMENTAL DEGRADATION**

The major causes of the environmental degradation are modern urbanization, industrialization, over-population growth, deforestation etc. Environmental pollution refers to the degradation of quality and quantity of natural resources. Various types of

the human exercises are the fundamental reasons of environmental degradation. These have prompted condition changes that have turned out to be hurtful to every single living being. The smoke radiated by the vehicles and processing plants expands the measure of toxic gases noticeable all around. The waste items, smoke radiated by vehicles and ventures are the fundamental driver of contamination. Spontaneous urbanization and industrialization have caused water, air and sound contamination. Urbanization and industrialization help to expand contamination of the wellsprings of water. So also, the smoke discharged by vehicles and ventures like Chlorofluorocarbon, nitrogen oxide, carbon monoxide and other clean particles dirty air. Neediness still remains an issue at the base of a few ecological issues.

## **SOCIAL FACTORS**

### **Population**

The rapid population growth and economic development in country are degrading the environment through the uncontrolled growth of urbanization and industrialization, expansion and intensification of agriculture and the destruction of natural habitats. One of the significant reasons for environmental degradation in India could be ascribed to quick development of population which is antagonistically influencing the natural resources and condition. The developing population and the ecological weakening face the test of maintained improvement without natural harm. The presence or the nonattendance of ideal characteristic assets can encourage or hinder the procedure of economical development. Population is an important source of development, yet it is a major source of environmental degradation when it exceeds the thresh hold limits of the support systems. Unless the connection between the multiplying population and the existence emotionally supportive network can be settled, improvement programs, howsoever, imaginative are not prone to yield wanted outcomes. Population impacts on the environment primarily through the use of natural resources and production of wastes and is associated with environmental stresses like loss of biodiversity, air and water pollution and increased pressure on arable land.

The increase in population has been due to the improvement in health conditions and control of diseases. The density of population has gone up from 117 in 1951 to 312 in 2001 and further to 382 persons in 2011 per square kilometer. A few push and draw factors are ventured to be agent towards trouble out relocation from rural to urban regions. This may be because of the declining asset accessibility per capita and contracting financial open doors in rural territories and better monetary openings, wellbeing and instructive offices and so on in urban regions giving chances to more elevated amount of human capital improvement could be the basic variables for country out movement. India supports 17 per cent of the world population on just 2.4 per cent of world land area.

**Poverty**

Poverty is said to be both cause and effect of environmental degradation. The round connection amongst poverty and environment is a to a great degree complex marvel. Imbalance may cultivate un sustainability in light of the fact that poor people, who depend on normal assets more than the rich, drain characteristic assets quicker as they have no genuine prospects of accessing different kinds of assets. As the 21st century starts, developing number of individuals and rising levels of utilization per capita are draining regular assets and corrupting the earth. The poverty-environmental damage nexus in India must be seen in the context of population growth as well. The pressures on the environment intensify every day as the population grows. The fast increment of human numbers joins with urgent poverty and rising levels of utilization are draining natural resources on which the vocation of present and future ages depends. Poverty is amongst the consequences of population growth and its life style play major role in depleting the environment either its fuel demands for cooking or for earning livelihood for their survival. The unequal dispersion of assets and constrained open doors cause push and force factor for individuals living underneath poverty line that results in overburdened the population thickness in urban zones and condition get controlled by manifolds, subsequently, urban ghettos are produced in urban zones.

Moreover, degraded environment can accelerate the process of impoverishment, again because the poor depend directly on natural assets. Although there has been a significant drop in the poverty ratio in the country from 55 percent in 1973 to 36 percent in 1993-94 and further to 27.5 per cent in 2004-05. The absolute number of poor has also declined from 320 million in 1993-94 to 301 million in 2004-05.

**Urbanization**

Urbanization in India started to quicken after freedom because of the nation's reception of a blended economy which offered ascend to the advancement of the private area. Urbanization is occurring at a quicker rate in India. Population living in urban territories in India, as per 1901 statistics, was 11.4%. This tally expanded to 28.53% as indicated by 2001 enumeration, and intersection 30% according to 2011 evaluation, remaining at 31.16%. As indicated by a review by UN State of the World Population report in 2007, by 2030, 40.76% of nation's population is required to dwell in urban zones. According to World Bank, India, alongside China, Indonesia, Nigeria, and the United States, will lead the world's urban population surge by 2050.

Lack of opportunities for gainful employment in villages and the ecological stresses is leading to an ever increasing movement of poor families to towns. Such fast and spontaneous extension of urban areas has brought about debasement of urban condition. It has extended the hole amongst request and supply of infrastructural administrations, for example, vitality, lodging, transport, correspondence, instruction, water supply and sewerage and recreational pleasantries, along these lines exhausting the valuable ecological asset base of the urban areas. The outcome is the developing

pattern in decay of air and water quality, age of squanders, the expansion of ghettos and bothersome land utilize changes, all of which add to urban poverty.

### **Economic Factors**

Environmental degradation, to a large scale, is the result of market failure, namely the non-existent or poorly functioning markets for environmental goods and services. In this unique situation, environmental degradation is a specific instance of utilization or generation externalities reflected by uniqueness amongst private and social costs/benefits. Absence of very much characterized property rights might be one reason for such market disappointment. Then again, showcase contortions made by value controls and endowments may irritate the accomplishment of environmental goals.

The level and pattern of economic development also affected the nature of environmental problems. India's development objectives have consistently emphasized the promotion of policies and programmes for economic growth and social welfare. The production innovation received by the vast majority of the ventures has set an overwhelming burden on condition particularly through concentrated asset and vitality use, as is clear in common asset consumption (petroleum derivative, minerals, timber), water, air and land sully, well being risks and debasement of characteristic eco-frameworks. With high extent petroleum derivative as the fundamental wellspring of modern vitality and real air contaminating enterprises, for example, iron and steel, composites and bond developing, mechanical sources have added to a generally high offer in air pollution.

Large quantities of industrial and hazardous wastes brought about by expansion of chemical based industry have compounded the wastes management problem with serious environmental health implications. Transport exercises have a wide assortment of consequences for the earth, for example, air pollution, noise from street activity and oil slicks from marine delivery. Transport foundation in India has extended impressively as far as system and administrations. In this way, street transport represents a noteworthy offer of air contamination stack in urban areas, for example, Delhi. Port and harbor extends mostly affect on touchy waterfront eco frameworks. Their development influences hydrology, surface water quality, fisheries, coral reefs and mangroves to shifting degrees.

Direct impacts of agricultural development on the environment arise from farming activities which contribute to soil erosion and loss of nutrients. The spread of green revolution has been joined by finished misuse of land and water assets, and utilization of manures and pesticides have expanded numerous overlap. Shifting cultivation has also been an important cause of land degradation. Leaching from extensive use of pesticides and fertilizers is an important source of contamination of water bodies. "Intensive agriculture and irrigation contribute to land degradation particularly salination, alkalization and water logging" (Economic Survey, 1997-98).

**Institutional Factors**

The Ministry of Environment & Forests (MOEF) in the Government is responsible for protection, conservation and development of environment. The Ministry works in close coordinated effort with different Ministries, State Governments, Pollution Control Boards and various logical and specialized establishments, colleges, non-Governmental associations and so on.

Environment (Protection) Act, 1986 is the key legislation governing environment management. Other important legislations in the area include the Forest (Conservation) Act, 1980 and the Wildlife (Protection) Act, 1972. The shortcoming of the current framework lies in the implementation abilities of natural foundations, both at the middle and the state. There is no effective coordination amongst various Ministries/Institutions regarding integration of environmental concerns at the inception/planning stage of the project. Current policies are also fragmented across several Government agencies with differing policy mandates. Absence of prepared work force and far reaching database postpone numerous activities.

The greater part of the State Government organizations are moderately little experiencing deficiency of specialized staff and assets.

Although overall quality of Environmental Impact Assessment (EIA) studies and the effective implementation of the EIA process have improved over the years, institutional strengthening measures such as straining of key professionals and staffing with proper technical persons are needed to make the EIA procedure a more effective instrument for environment protection and sustainable development.

**Land Degradation**

Land degradation is any change or disturbance to the land perceived to be undesirable. Land degradation can be caused by both manmade and natural reasons such as floods and forest fires. It is estimated that up to 40 per cent of the world's agricultural land is seriously degraded. The main causes of the land degradation includes climate change, land clearance and deforestation, depletion of soil nutrients through poor farming practices, overgrazing and over grafting. In India, water erosion is the most prominent reason of land degradation. The growing trends of population and consequent demand for food, energy, and housing have considerably altered land-use practices and severely degraded India's environment. The growing population put immense pressure on land intensification at cost of forests and grazing lands because the demand of food could not increase substantially to population. Thus, horizontal extension of land has fewer scopes and relies mostly on vertical improvement that is supported by technical development in the field of agriculture i.e. HYV seeds, Fertilizers, Pesticides, Herbicides, and agricultural implements. All these practices are causing degradation and depletion of environment.

**Air Pollution**

Air pollution in India is a serious issue with the major sources being fuel wood and biomass burning, fuel adulteration, vehicle emission and traffic congestion. Air pollution is also the main cause of the Asian brown cloud, which is causing the monsoon to be delayed. India is the world's largest consumer of fuel wood, agricultural waste and biomass for energy purposes. Traditional fuel (fuel wood, crop residue and dung cake) dominates domestic energy use in rural India and accounts for about 90 per cent of the total. In urban areas, this traditional fuel constitutes about 24 per cent of the total. Fuel wood, agri-waste and biomass cake burning releases over 165 million tones of combustion products into India's indoor and outdoor air every year. These biomass-based household stoves in India are also a leading source of greenhouse emissions contributing to climate change.

On per capita basis, India is a small emitter of carbon dioxide greenhouse. In 2009, IEA estimates that it emitted about 1.4 tons of gas per person, in comparison to the United States' 17 tons per person, and a world average of 5.3 tons per person. However, India was the third largest emitter of total carbon dioxide in 2009 at 1.65 Gt per year, after China (6.9 Gt per year) and the United States (5.2 Gt per year). With 17 percent of world population, India contributed some 5 percent of human-sourced carbon dioxide emission; compared to China's 24 percent share.

### **Effects**

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

### **Impact on Human Health**

The greatest effects on the health of individuals and populations result from environmental degradation. 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. Air pollution Indian cities are among the most polluted in the world. Air in metropolitan cities has become highly polluted and pollutant concentrations exceeds limit considered safe by the World Health Organization (WHO). Suspended particulate levels in Delhi are many times higher than recommended by the World Health Organization (WHO). The urban air pollution has grown across India in the last decade are alarming. Some of the most important air pollutants are residual suspended particulate matter (RSPM), suspended particulate matter (SPM), nitrogen dioxides (NO<sub>2</sub>), carbon monoxide (CO), lead, sulfur dioxide (SO<sub>2</sub>) etc. The main factors account to urban air quality deterioration are growing industrialization and increasing vehicular pollution, industrial emissions, automobile exhaust and the burning of fossil fuels kills thousands and lives many more to suffer mainly from respiratory damage, heart and lung diseases. In the countryside, nitrates from animal waste and chemical fertilizers pollute the soil and

water, and in the cities, the air is contaminated with lead from vehicle exhaust. In India's largest cities - Mumbai and Delhi - about one-half of children under age 3 show signs of harmful exposure to lead, defined as to or more micrograms of lead per deciliter of blood (IIPS and ORC Macro, 2000). The illness and pre-mature deaths due to ambient suspended particulate matter (SPM) in the air in mega cities of Calcutta, Chennai, Delhi and Mumbai have risen significantly in less than five years (Brandson and Honmon, 1992). The indoor air pollution may pose an even greater hazard for human health. Cooking and heating with wood, crop residues, animal dung, and low-quality coal produce smoke that contains dangerous particles and gases. When fuels such as these are burned indoors, using inefficient stoves and poor ventilation, they can cause tuberculosis, other serious respiratory diseases, and blindness (Mishra, Retherford and Smith, 1999). In fact, indoor air pollution from cooking and heating with unsafe fuels has been designated by the World Bank as one of the four most critical environmental problems in developing countries.

### **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. The main cause of loss of biodiversity are deforestation, global warming, overpopulation and pollution are few of the major causes for loss of biodiversity. In fact human beings have deeply altered the environment, and have modified the territory, exploiting the species directly, for example by fishing and hunting, changing the biogeochemical cycles and transferring species from one area to another.

### **Ozone Layer Depletion**

Ozone layer is responsible for protecting earth from harmful ultraviolet rays. The most important reason for ozone layer depletion is the production and emission of chlorofluorocarbons (CFCs). This is what which leads to almost 80 percent of the total ozone layer depletion. There are many other substances that lead to ozone layer depletion such as hydro chlorofluorocarbons (HCFCs) and volatile organic compounds (VOCs). Such substances are found in vehicular emissions, by-products of industrial processes, aerosols and refrigerants. All these ozone depleting substances remain stable in the lower atmospheric region, but as they reach the stratosphere, they get exposed to the ultra violet rays. This leads to their breakdown and releasing of free chlorine atoms which reacts with the ozone gas, thus leading to the depletion of the ozone layer. Global warming is another result of environmental degradation.

### **CONCLUSION**

The primary causes of environmental degradation in India are attributed to the rapid growth of population in combination with economic development and overuse of natural resources. Major environmental calamities in India include land degradation,

deforestation, soil erosion, habitat destruction and loss of biodiversity. Economic growth and changing consumption patterns have led to a rising demand for energy and increasing transport activities. Air, water and noise pollution together with water scarcity dominate the environmental issues in India.

According to World Bank estimate, between 1995 through 2010, India has made one of the fastest progresses in the world, in addressing its environmental issues and improving its environmental quality. Still, India has a long way to go to reach environmental quality similar to those enjoyed in developed economies.

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