



# SUSTAINABLE ENVIRONMENT ISSUES AND CHALLENGES IN INDIA

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## ABSTRACT

Indian environment has been deteriorated remarkably in the past 50 years due to rapid decline in natural resources and severe increase in pollution level. Depletion of forests, population growth, vehicular emissions, use of hazardous chemicals and various other undesirable human activities are mainly responsible for this degraded scenario of environmental health in India. It is, in fact, rendering considerable economic loss to the country and warrants serious attention of policymakers, administrators, scientists and people altogether to save the environment and humanity and to provide generational equity.

**Keywords :** Environment, pollution, population growth and vehicular emissions etc.

## Introduction :

An environment, in a general sense, refers to the surroundings or conditions in which a living organism, system, or activity exists and operates. It encompasses both the physical and non-physical elements that can impact and interact with the subject in question. Environments can vary widely in scale and complexity, and they play a crucial role in shaping and influencing the behavior, development, and well-being of individuals, organisms, or systems.

India has completed fifty years of its independence full of covetable success scored through unflagging commitments and relentless efforts of the people and the government in social, economic, scientific and technological areas. A nation which failed to manufacture even a needle in 1947 is furiously engaged in churning out space-crafts and rockets and exploiting nuclear devices for peaceful purpose. During the past five decades India's achievement in science and technology seem to be very impressive which would reveal expertise built up in space research, nuclear engineering, production of steel, fertilizer, petroleum, chemical, machine tools, construction of big dams etc. Miraculous

achievement has been made in the agricultural production through Green Revolution during last three decades, which converted India of the fifties, as an importer of food grain to that of an exporter. The technological advancement in agriculture is brought about through the increased production of new high yielding varieties of crops by means of the application of chemical fertilizers and pesticides. Bringing more land under food crops for the ever increasing population has no doubt saved mankind from hunger and pestilence. On the other hand various developmental activities such as construction of huge dams, establishment of power plants and industrial units have changed the man-nature relationship. They have changed not only the economic and socio-cultural life of the people but also their values, systems, ideas, beliefs and indeed their entire life style. Destruction of more forests for extension of land for agricultural purpose, for making buildings, roads and other constructions has led to the extinction of a number of plant and animal species and is also responsible of ecological imbalance. Apart from these, the indiscriminate disturbance of the forest ecosystem leads to the disturbance in corresponding recycling system. The storm of modernisation and industrialization has not only uprooted man but in fact has destroyed his habitat and environment. The increase in the discharge of toxic gases from the industrial units and carbon dioxide liberated from animals and human beings and from burning of fossil fuels is as sharp as decrease in release of oxygen by the trees and plants as a result of which the biospheric equilibrium maintained since time immemorial has been affected.

### **Air Pollution**

Undoubtedly one of the most pressing environmental issues in India is air pollution. According to the 2021 World Air Quality Report, India is home to 63 of the 100 most polluted cities, with New Delhi named the capital with the worst air quality in the world. The study also found that PM<sub>2.5</sub> concentrations – tiny particles in the air that are 2.5 micrometres or smaller in length – in 48% of the country's cities are more than 10 times higher than the 2021 WHO air quality guideline level.

Vehicular emissions, industrial waste, smoke from cooking, the construction sector, crop burning, and power generation are among the biggest sources of air pollution in India. The country's dependence on coal, oil, and gas due to rampant electrification makes it the world's third-largest polluter, contributing over 2.65 billion metric tonnes of carbon to the atmosphere every year.

In 2021, India was among the world's most polluted countries, second only to Bangladesh. The annual average PM<sub>2.5</sub> levels in India was about 58.1  $\mu\text{g}/\text{m}^3$  in 2021, “ending a three-year trend of improving air quality” and a clear sign that the country has returned to pre-pandemic levels. Scientists have linked persistent exposure to PM<sub>2.5</sub> to many long-term health issues including heart and lung disease, as well as 7 million premature deaths each year. In November 2021, air pollution reached such severe levels that they were forced to shut down several large power plants around Delhi.

The State Government of the Indian capital has taken some stringent measures to keep a check on air pollution. One of which is the Odd-Even Regulation – a traffic rationing measure under which only

private vehicles with registration numbers ending with an odd digit will be allowed on roads on odd dates and those with an even digit on even dates. Starting from January 2023, there will also be a ban on the use of coal as fuel in industrial and domestic units in the National Capital Region (NCR). However, the ban will not apply to thermal power plants, incidentally the largest consumers of coal. Regardless of the measures taken to curb air pollution, as the World Air Quality Report clearly shows.

## **Water Pollution**

Among the most pressing environmental issues in India is also water pollution. The Asian country has experienced unprecedented urban expansion and economic growth in recent years. This, however, comes with huge environmental costs. Besides its air, the country's waterways have become extremely polluted, with around 70% of surface water estimated to be unfit for consumption. Illegal dumping of raw sewage, silt, and garbage into rivers and lakes severely contaminated India's waters. The near-total absence of pipe planning and an inadequate waste management system are only exacerbating the situation. Every day, a staggering 40 million litres of wastewater enter rivers and other water bodies. Of these, only a tiny fraction is adequately treated due to a lack of adequate infrastructure.

Finally, in 2019, Gujarat – a state of more than 70 million citizens – launched its Reuse of Treated Waste Water Policy, which aims to drastically decrease consumption from the Narmada River. The project foresees the installation of 161 sewage treatment plants all across the state that will supply the industrial and construction sectors with treated water.

## **Waste Management**

Among the most pressing environmental issues in India is also waste. As the second-largest population in the world of nearly 1.4 billion people, it comes as no surprise that 277 million tonnes of municipal solid waste (MSW) are produced there every year. Experts estimate that by 2030, MSW is likely to reach 387.8 million tonnes and will more than double the current value by 2050. India's rapid urbanisation makes waste management extremely challenging. Currently, about 5% of the total collected waste is recycled, 18% is composted, and the remaining is dumped at landfill sites.

The plastic crisis in India is one of the worst on the planet. According to the Central Pollution Control Board (CPCB), India currently produces more than 25,000 tonnes of plastic waste every day on average, which accounts for almost 6% of the total solid waste generated in the country. India stands second among the top 20 countries having a high proportion of riverine plastic emissions nationally as well as globally. Indus, Brahmaputra, and Ganges rivers are known as the 'highways of plastic flows' as they carry and drain most of the plastic debris in the country. Together with the 10 other topmost polluted rivers, they leak nearly 90% of plastics into the sea globally.

To tackle this issue, in 2020 the government announced that they would ban the manufacture, sale, distribution, and use of single-use plastics from July 1 2022 onwards. Furthermore, around 100 Indian cities are set to be developed as smart cities.

## Biodiversity Loss

Last but not least on the list of environmental issues in India is biodiversity loss. The country has four major biodiversity hotspots, regions with significant levels of animal and plant species that are threatened by human habitation: the Himalayas, the Western Ghats, the Sundaland (including the Nicobar Islands), and the Indo-Burma region. India has already lost almost 90% of the area under the four hotspots, according to a 2021 report issued by the Centre for Science and Environment (CSE), with the latter region being by far the worst affected.

Forest restoration may be key to India's ambitious climate goals, but some argue that the country is not doing enough to stop the destruction of this incredibly crucial resource. Indeed, despite committing to create an additional carbon sink of 2.5-3 billion tonnes of CO<sub>2</sub> equivalent through additional forest and tree cover by 2030, Narendra Modi's government faced backlash after refusing to sign the COP26 pledge to stop deforestation and agreeing to cut methane gas emissions. The decision was justified by citing concerns over the potential impact that the deal would have on local trade, the country's extensive farm sector, and the role of livestock in the rural economy. However, given these activities' dramatic consequences on biodiversity, committing to end and reverse deforestation should be a priority for India.

Air pollution, poor management of waste, growing water scarcity, falling groundwater tables, water pollution, preservation and quality of forests, biodiversity loss, and land/soil degradation are some of the major environmental issues India faces today.

## Conclusion

Environmental ethics must be developed, in each person, to command him as a force within to make decisions and take action on the different aspects of the environment which are not harmful to the community. Environmental ethics is a must as they aid in sharpening the judgment of a person and teach him for the sake of materials and political gains. Suitable strategies for developing environmental ethics must become a priority in the light of new environmental issues and problems in the contemporary society.

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