

# Environment Degradation: Challenges and Legal Responses

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## **Abstract**

*Environmental destruction and pollution has seriously threatened the human life, health and livelihood. Thus, there has been a thrust on the protection of environment the world over. If the quality of life is to be assured to the present generation and if the future generation is to be saved from the environmental catastrophe, the nature's gift to us in the form of flora and fauna should be preserved in the natural form. Environmental issues in India include various natural hazards, particularly cyclones and annual monsoon floods, population growth, increasing individual consumption, industrialization, infrastructural development, poor agricultural practices, and resource mal-distribution have led to substantial human transformation of India's natural environment.*

**Keywords:** *Environment, Hazards, Quality of Life, Climate Change, population growth, industrialization*

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## **INTRODUCTION**

Environmental protection is a practice of saving the environment, on individual, organizational or governmental level. With the unplanned industrial and agricultural development, the pressure on natural resources has considerably increased and due to man's increased interference with the nature, the problem of environmental pollution has increased manifold. Environmental destruction and pollution has seriously threatened the human life, health and livelihood. Thus, there has been a thrust on the protection of environment the world over. If the quality of life is to be assured to the present generation and if the future generation is to be saved from the environmental catastrophe, the nature's gift to us in the form of flora and fauna must be preserved in the natural form. The object of environmental law is to preserve and protect the nature's gifts such as water, air, earth and atmosphere from pollution.

Man, in order to survive, adapts itself to its environment but he rarely pays due attention for its improvement, either

because of his indifference towards it or because of his ignorance of it [1]. Environmental issues in India include various natural hazards, particularly cyclones and annual monsoon floods, population growth, increasing individual consumption, industrialization, infrastructural development, poor agricultural practices, and resource mal-distribution have led to substantial human transformation of India's natural environment [2]. India is vulnerable to various natural hazards, particularly cyclones and annual monsoon floods and various combinations of poverty, population growth, increasing individual consumption, industrialization, infrastructural development, poor agricultural practices, and resource mal-distribution have led to substantial human transformation of India's natural environment. Forest cover is declining because of harvesting for fuel wood and the expansion of agricultural land. These trends, combined with increasing industrial and motor vehicle pollution output, have

led to atmospheric temperature increases, shifting precipitation patterns, and declining intervals of drought recurrence in many areas [3].

## ENVIRONMENT: MEANING AND DEFINITION

The environment refers to natural things around us which sustain human life, such as the earth's atmosphere, healthy air or water fit to drink. The environment may be defined as that outer physical and biological system in which men and other organisms live with many interacting components. "Environment" includes water, air and land and the inter-relationship which exist among and between water, air, and land and human beings, other living creatures, plants, micro-organism and property" [4].

Environment means "the conditions under which any person or thing lives or is developed; the sum-total of influences which modify and determine the development of life or character" [5]. Similarly, according to *Black's Law Dictionary* "environment" as the totality of physical, economic, cultural, aesthetic, and social circumstances and factors which surround and affect the desirability and value of property and which also affect the quality of people which influence or modify.

## ENVIRONMENTAL POLLUTION: ITS KINDS

Pollution refers essentially to a process by which a resource (natural or man-made) is rendered unfit for some beneficial use due to physical, chemical or biological factors. The major forms of pollution are listed below along with the pollutants relevant to each of them:

**Air pollution:** Air is the mixture of gases that forms the earth's atmosphere and it extends up to the height of about 300 km above the earth's surface. The World Health Organization estimates that about two million people die prematurely every year due to Air pollution while many more suffer from breathing ailments, heart disease, lung infections and even cancer. Fine particles or microscopic dust from coal or wood fires and unfiltered diesel engines are rated as one of the

most lethal forms of air pollution caused by industry, transport, household heating, cooking and ageing coal or oil-fired power stations [6].

**Water pollution:** Water is an important factor in the life of organisms. It is a universal solvent in which practically all the minerals, present in soil, may be dissolved. It supports life system and its shortage has been the main concern of human beings. Water pollution occurs by the discharge of wastewater from commercial and industrial waste (intentionally or through spills) into surface waters; discharges of untreated domestic sewage, and chemical contaminants, such as chlorine, from treated sewage; release of waste and contaminants into surface runoff flowing to surface waters (including urban runoff and agricultural runoff, which may contain chemical fertilizers and pesticides); waste disposal and leaching into groundwater and littering [7].

**Noise pollution:** Noise is another major cause of environmental pollution which encompasses roadway noise, aircraft noise, industrial noise as well as high-intensity sonar. Noise is an unwanted, undesired and unpleasant sound. It is also termed as misplaced sound. It is of very high intensity. It produces bad effect on health. The most commonly produced effect on health is the loss of hearing capacity and fatigue.

**Radioactive contamination:** This is resulting from 20th century activities in atomic physics, such as nuclear power generation and nuclear weapons research, manufacture and deployment.

**Thermal pollution:** A temperature change in natural water bodies caused by human influence, such as use of water as coolant in a power plant.

**Visual pollution:** It refers to the presence of overhead power lines, motorway billboards, scarred landforms (as from strip mining), open storage of trash or municipal solid waste.

**Land Pollution:** Land is that part of the earth which holds terrestrial life. Terrestrial flora and fauna survive on it and man carries on various activities. Industries consume enormous amounts of natural resources, fresh

ecological produce, raw materials and of course fresh water and air, etc., but produce poisonous gases, dangerous water and other kind of organic and inorganic pollutants along with its regular product, which are not only dangerous but suicidal for human health as such. The common practice is to dump the effluents into streams, rivers and the sea which is used for human and animals' consumption. This toxic water causes multiple health hazards [8].

**Food Pollution:** Every living being requires food to obtain energy through which he carries on his activities. If the food taken is polluted and adulterated; it will have injurious effects.

**Light pollution:** It is also known as photo pollution or luminous pollution and is excessive or obtrusive artificial light. The International Dark-Sky Association (IDA) defines *light pollution* as: Any adverse effect of artificial light including sky glow, glare, light trespass, light clutter, decreased visibility at night, and energy waste. Light pollution obscures the stars in the night sky for city dwellers, interferes with astronomical observatories, and, like any other form of pollution, disrupts ecosystems and has adverse health effects. Light pollution can be divided into two main types: (1) annoying light that intrudes on an otherwise natural or low-light setting and (2) excessive light (generally indoors) that leads to discomfort and adverse health effects. Light pollution is a side effect of industrial civilization. Its sources include building exterior and interior lighting, advertising, commercial properties, offices, factories, streetlights, and illuminated sporting venues. Like other forms of pollution (such as air, water, and noise pollution), light pollution causes damage to the environment [9]. It includes light trespass, over-illumination and astronomical interference.

## INTERNATIONAL PERSPECTIVES RELATING TO ENVIRONMENTAL PROTECTION

The protection of environment is a global issue and it is not an isolated problem of any area or nation. The problem of environmental pollution in an increasingly small world concerns all countries irrespective of their size, level of development or ideology and it increases with every passing year and causing grave and

irreparable damage to the earth [10]. The Declaration of the United Nations Conference on the Human Environment [11] is a first formal international recognition of the need for protection of environment between persons of same generation and between persons of present and future generations. The said Declaration recognizes that development should be conditioned with due regard to environment and the international interest. The World Charter for Nature [12] laid down principles for conservation by which all human conduct affecting nature is to be guided and judged. It declared that nature shall be given due respect and its essence should not be impaired. The Montreal Protocol [13] (Ozone Treaty), 1987 was aimed at the elimination of ozone-depleting substances like CFCs (Chlorofluorocarbons) at a uniform rate irrespective of the development status of a Country. Similarly, the Earth Summit was held in June, 1992 at Rio de Janeiro which forced the people worldwide to re-think how their lives affect natural environment and resources and to confront a new environment that determines the surroundings in which they live. The World community at Rio Conference showed unanimity on two aspects, i.e., to prevent global climate change and eradication of biologically diverse species. Accordingly, two legally binding conventions, i.e., the "Convention on Climate Change" and "Convention on biodiversity" were signed by the representatives of more than 150 countries. The first Convention on climate change requires the State to take steps to reduce their emissions of gases believed to contribute to global warming. The other convention on biodiversity requires the State to take steps for protection and sustainable use of the world's diverse plant and animal species.

## NATIONAL PERSPECTIVE

### Environmental Protection: A Constitutional Obligation

Right from mother's womb, one needs unpolluted air to breathe, uncontaminated water to drink, nutritious food to eat and hygienic condition to live in. These elements are *Sine Qua non* for sound development for human personality. The Constitution of India directly or indirectly provides provisions for the protection of environment. The "right to life" under Article 21 means a life of dignity to be

lived in a proper environment; free from the danger of disease and infection. The Supreme Court through its wisdom and activism has expanded this right. This right includes the right of enjoyment of pollution free water and air for full enjoyment of life. If anything endangers or impairs that quality of life in derogation of laws, a citizen has right to have recourse to Article 32 for removing the pollution of water or air which may be detrimental to the quality of life.

The State shall direct its policy towards securing that the citizens, men and women equally, have the right to an adequate means of livelihood which means providing safe and pollution free environment is the duty of the State [14]. Article 47 of the Constitution declares raising of the level of nutrition and the standard of living of its people and improvement of public health as one of the primary duties of the State. Article 48A [15] provides that the State shall endeavour to protect and improve the environment and to safeguard forests and wildlife of the country. Though, it is a directive principle and thus not enforceable through courts, yet its directive character does not dilute its significance and the obligation of the State to protect and improve the environment.

Part IV-A of the Constitution which contains the Fundamental Duties of the Citizens of India [16]. Article 51-A (g) says that, "It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creature." Thus, it is the Constitutional obligation of the State and the citizens to protect and improve environment.

### **Legislation Concerning Environment**

There are various statutory provisions in India which play a very important role in preventing and controlling all kinds of pollution. Indian Penal Code, 1860 makes various acts affecting environment as offences. Sections 268 to 294-A deal with the offences affecting the public health, safety and convenience with a view to safeguard the public health by causing those acts punishable which make environment polluted or threaten the life of the people. Sections 426, 430, 431 and 432, deal with mischief.

Section 91 of the Code of Civil Procedure, 1908 also contains provisions for the abatement of air and water pollution when it becomes nuisance to the people. Similarly, the provisions of the Code of Criminal Procedure, 1973 can also be invoked to prevent the pollution of almost of all kinds. Section 133 to 144 can provide most effective and speedy remedy for preventing and controlling public nuisance causing air, water and noise pollution.

### **Specific Legislative Measures to Control Environment Pollution**

The Parliament of India has also passed some special statutes for the environment protection.

***The Water (Prevention and Control of Pollution) Act, 1974:*** "Water" being a "State subject", the Parliament can exercise the power to legislate on "water" only under Article 249 and 252 of the Constitution of India. The Parliament enacted the Water (Prevention and Control of Pollution) Act, 1974. Its main objectives are: to provide for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water, to establish Central and State Boards for the prevention and control of water pollution, to provide penalty for the contravention of the provisions of the Water Act and to establish Central and State water-testing laboratories to enable the Board to assess the extent of pollution, lay down standards and establish guilt or default.

***The Air (Prevention and Control of Pollution) Act, 1981:*** It is a specialized legislative measure, meant to tackle one facet of environmental pollution. The main objectives of the Act are: to provide for the prevention, control and abatement of air pollution, to provide for the establishment of Central and State Boards and to lay down the standards to maintain the quality of air.

***The Environment (Protection) Act, 1986:*** This Act was enacted under the provisions of Article 253 of the Constitution with a view to implementing the decisions of the United Nations Conference on the Human Environment, which was held at Stockholm in the year 1972. The Environment Protection Act (EPA) was formulated to pursue the need for a general legislation for environmental protection and to fill in uncovered gaps in areas of major environmental hazards. Co-ordination of the activities of the various regulatory

agencies, creation of authorities with adequate powers for environmental protection, regulation of discharge of environmental pollutants and handling of hazardous substances, speedy response in the event of accidents threatening the environment and provision for deterrent punishment were the objects of the legislation [17].

**The National Environment Tribunal Act, 1955:** An enterprise engaged in activities with potential threat to the health and safety of the persons residing in the surrounding areas of the factory owes an absolute duty to the community to ensure that no harm is caused to any one due to hazardous and inherently dangerous nature of such activities. Cases seeking compensation for damages to human health, property and the environment, particularly contamination of sub-surface water are increasing. There is also an increasing trend in the number of industrial disasters. This Act provides for strict liability for damages arising out of any accident occurring while handling any hazardous substance and for the establishment of a National Environment Tribunal for effective and expeditious disposal of cases arising from such accident, with a view to giving relief and compensation for damages to persons, property and the environment.

The Wild Life (Protection) Act, 1972; The Forest (Conservation) Act, 1980; The Public liability Insurance Act, 1991; The Factories Act, 1948, etc. also carry the provisions for the protection of environment. Similarly, the Government has framed various rules under the above mentioned Acts with a view to preserve and protect the environment.

## JUDICIARY AND THE ENVIRONMENT PROTECTION

The Supreme Court and other Courts are paying due attention to environmental issues of the Country. The Courts have emphasized that such problems should be given prime importance and cases be decided as early as possible, because environmental pollution not only affects human life, flora and fauna, but also the atmosphere, the quality of life and national development. Atmospheric pollution gave birth to the 'Green House Effect' which has endangered the existence of mankind on

the earth. In case of *L. K. Koolwal v. State of Rajasthan*, [18] the court was held that the primary duty of the municipal Council to remove filth, rubbish, night soil or any other notions matter. The maintenance of health, preservation of sanitation and environment falls within the purview of Article 21 of the Constitution of India as it adversely affects the life of citizen and it amounts to slow poisoning and reducing the life of the citizen because of the hazard created. Similarly, In the case of *Ratlam Municipality v. Vardichand*, [19] the court held that the human rights calling for unpolluted environment must be implemented irrespective of financial constraints. The public nuisance because of pollutants is a challenge to the social justice component of the rule of law. In A. P. High Court in *T. Damodar Rao and others v. The Special Officer, Municipal Corporation, Hyderabad*, [20] observed that "Protection of environment is not only the duty of the citizens but is also the obligation of the State and all other State organs including the Courts." In *People United for Better Living in Calcutta v. State of West Bengal* [21], the court held that there should be a proper balance between the protection of environment and the development process: the society shall have to prosper, but not at the cost of the environment. The Supreme Court also has shown concern for protection and conservation of forests and in different cases issued direction to stop the illegal cutting of trees. In *T.N. Godavarman Thirumulkpad v. Union of India* [22], the Supreme Court issued order that all the on-going activities within any forest in any State throughout the Country without the permission of the Central Government must be stopped immediately. Similarly, in *Uttar Pradesh Pollution Control Board v. Dr. Bhupendra Kumar Modi* [23], the Apex Court held that those who discharge noxious polluting effluents into streams, rivers or any other water bodies which detrimentally affects public health at large should be dealt with strictly. Recently, several District Magistrates have also issued prohibitory orders not to burn the crop residuals to save the environment. Judiciary has responded well to the environmental crisis caused by indiscriminate quarrying, mining, stone crushing near the populated areas or near the National Highways.

## CONCLUDING OBSERVATIONS

Environmental pollution is more than a fashionable catchword. It has in fact become one of the most formidable threats to mankind. It is true that when man was busy in exploring outer-space to satisfy his adventurous instinct, in increasing industrial output for making his life resplendent with splendor and in producing new angled artifacts to show his matchless creativity, the negative impacts also blossomed in the form of pollution. The factors fueling the fire are: population explosion, deforestation, increasing demand on land for food and raw materials, rapid industrialization, strain on the eco-system caused by infrastructural development and so on.

### Management of Agricultural Waste

Agricultural waste includes paddy and wheat straw, cotton sticks, bagasse and animal waste. At present large volumes of wastes are being burnt in the field or as a fuel. Several initiatives for its proper management have been taken up. These include:

**Utilization of Straw and Husk:** Burning of rice/wheat straw causes problems of air and soil. Hence, various district administrations in the state have imposed a ban on burning of rice straw in the fields after its harvesting. As a result, various departments and institutions are promoting alternative uses of straw instead of burning.

**Use as Fodder:** Almost 40% of wheat straw produced in the state is used as dry fodder for animals. Rice straw, however, is not suitable in view of high silica content. Notice related to ban on burning of rice straw showed improvement in health and milk production. The technology was demonstrated in district Gurdaspur, Ludhiana, Hoshiarpur and Bathinda. The department of Animal Husbandry, Punjab has propagated the technology in the State.

**Straw/Biomass based Thermal Power Plants:** PSEB had set up 10 MW biomass-based power plant at village Jalkheri, Fatehgarh Sahib in the year 1992 with rice straw as fuel. The plant is operational since 2001, after the PSEB entered into a lease cum power purchase agreement with Jalkheri Power Private Limited (JPPL). The original system installed by BHEL, i.e., firing the boiler with rice straw in baled form, used to create innumerable

problems like ash melting, slagging, super heater choking, clinkerisation, drop in boiler temperature due to moisture in the bales, etc. Hence, the fuel was changed from rice straw to rice husk, wood chips, cotton waste, etc. in mixed form or rice husk alone to achieve the desired parameters.

### **Paddy Straw as Bedding Material for Cattle:**

The farmers of the state have been advised to use paddy straw as bedding material for cross bred cows during winters as per results of a study conducted by the Department of Livestock Production and Management, College of Veterinary Sciences, Punjab Agricultural University. It has been found that the use of paddy straw bedding during winter helped in improving the quality and quantity of milk as it contributed to animals' comfort, under health and leg health.

### **Use of straw in Mushroom Cultivation, Paper Making and Pulp Board Manufacturing:**

Paddy straw can be used for the cultivation of *Agaricus bisporus*, *Volveriella volvacea* and *Pleurotus* spp. One kg of paddy straw yields 300 g, 120–150 g and 600 g of these mushrooms, respectively. Paddy straw can also be used in conjunction with wheat straw in 40:60 ratio for paper production. The sludge can be subjected to biomethanization for energy production. The technology is already operational in some paper mills, which are meeting 60% of their energy requirement through this method. Rice straw is also used as an ideal raw material for paper and pulp board manufacturing [24].

It is, indeed, unfortunate that Punjab has been poisoned by the people who live off its land, and whose livelihood depends on industries which are based in the State. The intensively framed State has a low forest cover, a meagre 5.1 per cent instead of the 33 per cent norm, and thus it would stand to reason that the State would be even more conscious about its responsibility, but this is not so. At the root of the problem is the fact that there has never been a focused attempt to evaluate and address issues that allow the proliferation of pollution. The agricultural sector has a sorry record of overusing chemical fertilizers, insecticides, weedcides, etc., which have been contaminating the food chain, besides causing pollution. On the other hand, natural drains



became convenient and extremely harmful dumping grounds for industrial waste. The issue was highlighted repeatedly in the media and some steps have been taken, but much more needs to be done. There is a tremendous shortage of sewage plants due to which riparian cities have turned downstream rivers into sewers. The Government did act firmly against farmers by not allowing paddy to be sowed before a specified time, thus preserving the much-depleted groundwater, but it has not been able to prevent them from burning the paddy stumps, which causes much air pollution. There were far more misses than hits on the pollution front in Punjab [25]. Thus, the required legal and social steps should be taken adequately in due course of time for the proper preservation and protection of environment.

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## Cite this Article

Bhupinder Singh. Environment Degradation: Challenges and Legal Responses. *National Journal of Environmental Law*. 2018; 1(1): 23–29p.