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Pollution and Environment: A Study of Environmental Protection with Special Reference to the Role of Indian Judiciary

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Abstract: Pollution has been a major concern for the world today. Pollution has reached a critical level in India, especially in urban areas. Various NGOs and other Governmental organizations, ranging from the common individual are functioning relentlessly hard to protect the environment. The role of the judiciary in India is also undeniable and very significant. The Indian judiciary has been playing a very important role towards environmental sustainability and in protecting the environment. At different times Indian judiciary has taken up various environmental-related cases. The judgments of different cases have shaped the nature and pace of environmentalism in India at different times. This article focuses on pollution levels and sustainability in India. The role of the Indian judiciary in the protection of the environment has been closely examined. Various major environmental cases have been analysed by the author. The paper analyses the present situation of environmentalism in India and concludes with some scope for further research.

Keywords: Sustainability, Hazardous waste, Water pollution. Air pollution, The Environment (Protection) Act, Indian Judiciary

I. Introduction

Pollution has reached a critical level in present-day India. The pollution level has risen in various parts of India, especially in urban areas. Though pollution is not only a big issue for India this has become a worldwide phenomenon. Pollution may hamper the growth and development of developing nations whose economies depend on natural resources. Human and economic development efforts have a large negative impact on the environment. Environmental degradation such as poor human health, lack of freshwater resources, and fisheries as a result of air

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and water pollution degradation of forests.[2] In order to meet the need of a huge number of people, especially in the developing world, livestock production and intensified crop combined with incentives have contributed to increasing production of organic and chemical waste, biodiversity and natural resources loss.[3] Developing nations are suffering from explosive population growth, inadequate water resources, and nature unfriendly agriculture causing severe environmental problems. Environmental pollution in developing countries is very rigorous leading to disabilities, poor health and high mortality rate.[4]

Sustainable development is a concept which has been given importance in recent times. Sustainable development was described in 1987 by the Brundtland commission report as a development process which states that the requirements of recent time have to be fulfilled in such a way that future generations must not be deprived.[5] Natural resources must be used in such a way that they should fulfil the requirements of the present time as well as the need of the future. The next generations should not be deprived of the use of natural resources. According to the 2011 Human Development Report, HDI would decline by 8 per cent from the margin line for South Asia by 2050.[6] As in the case of severe environmental degradation, HDI would fall up to 15 per cent from the estimated baseline. As far as environmental pollution issues are concerned, India is one of the most polluted countries. Major cities in India are considered the most polluted cities in the world.

II. Environmental Degradation

Environment refers to the physical surroundings of an individual of which he/she is a part and his/her activities such as physical functioning, production, and

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[2] Judith Banister, *Population, Public health and The Environment in China*, 156 THE CHINA QUARTERLY, 986, 986-1015 (1998).

[3] Ruoh-Rong Yu & Cyrus Chu, *Population Dynamics and The Decline in Biodiversity*, 28 POPULATION AND DEVELOPMENT REVIEW 126, 130-143 (2002).

[4] Michael Greenstone & Rema Hanna, *Environmental Regulations, Air and Water Pollution and Infant Mortality in India*, 10 AMERICAN ECONOMIC REVIEW 3038, 3043-3072 (2014).

[5] BRUNDLANT COMMISSION, OUR COMMON FUTURE (1987), (Last visited Dec. 28, 2021), https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf .

[6] UNITED NATIONS, HUMAN DEVELOPMENT REPORT, (2011) (last visited Dec. 28, 2021), https://hdr.undp.org/en/content/human-development-report-2011.

consumption are dependent. Physical environment refers to air, ecosystems, water, natural resources etc. The physical environment can be of two types natural environment and man-made environment. Uncontrolled human activities such as rapid urbanization, deforestation, and unbridled use of natural resources have a tremendous negative outcome on the environment.[7] Environmental pollution refers to the deterioration of natural resources. Human activities have promoted severe conditions that have turned out to be very dangerous for every living being. Excessive vehicles and processing plants, factories have been generating toxic gases in the environment which is causing air pollution. Urbanization and industrialization are rapidly contaminating wellsprings of water and wetlands. The smoke is being heavily discharged by vehicles and factories containing Chlorofluorocarbon, nitrogen oxide, carbon monoxide and other harmful particles which is making the air polluted.[8]

Environmental degradation has a very severe effect on individuals and populations. Toxic air pollution creates serious respiratory problems like asthma, pneumonia and others. Thousands and millions of people are known to have died due to the indirect effects of air pollution.[9] Metropolitan cities of India are having serious air pollution and pollutant concentrations exceed the limit considered safe by the World Health Organization (WHO). When the level of air pollution rises drastically, some harmful substances are added to the environment like Residual Suspended Particulate Matter (RSPM), Suspended Particulate Matter (SPM), Carbon Monoxide (CO), Nitrogen Dioxides (NO2), Sulphur Dioxide (SO2), lead etc. The increase in harmful pollutants deteriorates urban air quality which threatens thousands of lives and many more to suffer from lifelong diseases. Constant environmental pollutions cause water pollution and pose threat to the health of millions. Drinking water is a growing problem in urban areas in India. Water erosion is the most prevalent reason for land degradation. Constant demands for energy, food, and housing have considerably degraded India's environment. The increase in population creates huge pressure on land

[7] C.M. Lakshmana, *Population, Development and Environment in India*, 11 CHINESE JOURNAL OF POPULATION RESOURCES, 203, 207-210 (2013).

[8] Swati Tyagi et.al., *Environmental Degradation: causes and Consequences*, 81 EUROPEAN RESEARCHER, 221, 221-224, (2014).

[9] Rajiv Chopra, Environmental in India: Causes and Consequences, 11 INTERNATIONAL JOURNAL OF APPLIED ENVIRONMENTAL SCIENCES 1593, 1594-1601 (2016).

intensification. The natural resources of the world are being destroyed to meet the constant needs of the people. Use of pesticides, HYV seed, fertilizers herbicides is having an intense effect on health.

III. Pollution in India

Air pollution is a massive threat to the livelihood of the citizen of India. Of the 30 most polluted cities in the world, 21 cities belong to India.[10] 13 cities of India out of 20 cities in the world are considered to have the highest annual level of air pollution.[11] According to the Smart Air survey, the top 20 most polluted cities in 2022 in India are following[12]

Rank	**City**	**PM 2.5 (**$\mu g/m^{3)}$
1	Faridabad	228
2	Ghaziabad	162
3	Gurugram	151
4	Noida	147
5	Baghpat	145
6	Kalyan	138
7	Bhiwandi	136
8	Moradabad	134
9	Muzaffarpur	130
10	Dharuhera	129
11	Meerut	119

[10] HELEN REGAN, 21 of the world's 30 cities with the worst air pollution are in India, CNN, Feb. 25, 2020.

[11] Sheena Scruggs, *India's air pollution, health burden get NIEHS attention*, NIEHS https://factor.niehs.nih.gov/2018/9/feature/3-feature-india/index.htm (Last visited Jan.5, 2022, 8:10 PM).

[12] DHARIYAS, *20 most polluted cities in India*, SMART AIR (Jan. 9, 2022, 8:20 PM) https://smartairfilters.com/en/blog/20-most-polluted-cities-in-india-2021

12	Agra	117
13	Rohtak	114
14	Ankleshwara	98
15	Durgapur	96
16	Kurukshetra	95
17	Yamuna Nagar	94
18	Prayagraj	93
19	Delhi	91
20	Patna	89

According to World Health Organization, up to 40 micrograms per cubic metre is safe by Indian standards. But the air quality of most of the Indian cities is very unhealthy and dangerous to the people. The Health Effects Institute (2018) finds that coal is a big reason and a source of fine particulate matter (pm 2.5) in India today.[13] Many other reasons like fuel and biomass burning cause thick smog in urban areas in India. Traffic congestion and greenhouse gases emission heavily contribute to air pollution in the country.[14] Another big reason for this problem is the way the trees are being cut down and the rapid deforestation is causing a devastating effect on the environment.

Around 80% of India's water is severely polluted due to the littering of filthy garbage, the dumping of untreated sewage into the rivers and other water sources. This serious water issue has led to severe health issues among the people in India because the majority of the people rely on their water usage on their water sources.[15] India suffers from unbridled growth of urbanization, unauthorized slums and good drainage facility. India has a huge slum population living in

[13] Anissa Suharsono et al., *Tackling Air Pollution in India*, 4 JSTORE 8, 8-11 (2019).
[14] United Nation Environment Program, Emission Gap Report, (Last visited Feb. 10, 2022 7:15 PM), https://www.unep.org/resources/emissions-gap-report-2019.
[15] Anna Sharudenko, *How water Pollution in India Kills Million*, BORGEN MAGAZINE, July. 14, 2020,
https://www.borgenmagazine.com/water-pollution-in.

congested areas without basic living facilities. These areas are dominated by tanker mafias. Their businesses are run illegally in these areas. Septic tanks are used illegally by the mafias. Septic tanks are filled with water from wells, lakes and sold by the mafias. They charge an unaffordable cost for supplying drinking water.[16] Contaminated wastes from various factories and industries are dumped directly into rivers, and lakes which cause severe water pollution and this is detrimental to the whole human society. The Central Pollution Control Board (CPCB) 2018 identified 351 polluted river stretches in India. The CPCB found that 31 states and Union territories (UT) had rivers and streams that don't meet the water quality standards [17] Harmful wastes from Industries and agricultural sectors are disposed of heavily in the rivers and lakes in India. Some rivers are considered sacred by the majority population in India. Social and religious functions like bathing, ashes of a dead body, and animal bathing are done in the rivers. Filthy garbage disposal in rivers is very common. The lack of Governmental actions is responsible for the water quality degradation in India.

Soil pollution is also another reason which is very prevalent in India. Soil pollution causes huge negative health on the people of India. India's urban areas are suffering from hazardous waste, agricultural waste, industrial waste, bio-medical waste etc leading to massive environmental pollution.

Hazardous waste has been defined by The Ministry of Environment, Forest and Climate change of the Government of India as any kind of waste which can harm the environment or health whether autonomously or in contact with other substances due to its strange physical, chemical or biological composition.

Sources and the possible effect of hazardous waste are mentioned in the following table[18]:

[16] *Id*.
[17] Shreya Verma, Behind Polluted Indian River Stretches, Inadequate Sewage Treatment, DOWN TO EARTH, July. 15, 2021), https://www.downtoearth.org.in/blog/pollution/behind-polluted-indian-river-stretches-inadequate-sewage-treatment-77957.
[18] Srinet Kothwale, The Hazard of Hazardous Waste Management in India: A Legal Overview, LAW ARTICLES (July. 12, 2019) http://www.legalservicesindia.com/law/article/1246/14/The-Hazard-of-Hazardous-Waste-Management-in-India-A-Legal-Overview.

Hazard Classification	Characteristics	Sources	Impact on Environment & Human Health
Oxidizing	Such waste may yield oxygen and can help in the combustion of other substances	Chemical Units, Pesticides, Power Plants, etc	Loss of crops, serious water pollution, serious effects on aquatic life, etc
Flammable/ Explosive	These kinds of waste may harm the environment by causing harmful gases at high pressures and temperatures or by fire hazards	Biomedical research facilities, colleges and university laboratories, offices, hospitals, nuclear power plants, etc	Air Pollution, Fire, Explosion, etc
Infectious Substances	These wastes contain microorganisms and are responsible for diseases in animals or humans.	Healthcare sections, Research institutions, Drugs manufacturing units, Bio-tech laboratories etc	Loss of fertility of the land, water contamination, Contagious diseases,
Poisonous (Acute)	These wastes are highly risky and poisonous that can lead to death or	Chemical Industries, Radioactive and	Loss of productivity of land, Behaviour abnormalities,

	severe injury to health	Nuclear Units, etc	Physiological malfunctions
Eco-toxic	These wastes may cause instant or delayed negative affect on the environment or health by means of noxious effects and /or bioaccumulation upon biotic systems.	Bio-Technology Industries, R & D Units, etc	Genetic mutations, Physical deformations, Birth defects, etc
Corrosives	These wastes are chemically charged and can seriously damage flora and fauna and other materials that come in their immediate exposure.	General Manufacturing Units	Loss of productivity of materials, Water contamination, etc
Organic Peroxides	These are organic wastes containing bivalent-O-O-structure and may undergo exothermic self-accelerating decomposition.	Plastic and Rubber Industries, etc	Water Pollution,
Toxic (Delayed or Chronic)	All these waste materials can have a delayed harmful effect if they enter into skin such as carcinogenicity	Chemical and Pharma Units, Fertilizers Units, Tanneries, etc	Soil contamination, loss of production, etc

Civil society is perceived, and understood as a voluntary association of individuals with common interests. The associations are above the individual and below the state.

b) Civil society is construed as an antecedent to the formation of a state.

c) Civil society is expected to transcend state and the nation.

d) Civil Society needs supervision and protection of State for its pragmatic functioning.

e) A state must have a minimum control over civil society.

f) Civil society must the independence for its efficient working as the mandate.

g) Civil Society is also placed in contrast with State. It is considered as a saviour from a totalitarian state.

h) It is also seen as a furtherance of neo-liberal agenda through "good governance."

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IV. Role of Indian Judiciary

The judiciary is an integral part of government and has many responsibilities in administering justice to the people. Our constitution provides the Right to life and personal liberty under article 21, which emphasises that "No person shall be deprived of his life or personal liberty except according to a procedure established by law". The Indian judiciary is the custodian and guardian of the constitution and has been adequately protecting the right of the people in a positive manner. The role of the judiciary in saving the environment is undeniable. Public Interest Litigation (PIL) has been one of the main vital developments in the Indian judiciary in recent years towards environmental protection. Writ petitions under Article 226 and Article 32 are the right to constitutional remedies that have been accepted in the form of PIL by the High Court and the Supreme Court. The constitutional sanction of the PIL was accepted in the 42nd Amendment Act 1974, which added 39-A to the Indian constitution to provide free legal aid with equal

justice. The system of PIL has encouraged and empowered many NGOs, voluntary organizations, and individuals to help affected persons who are helpless and unable to seek justice. Eminent people like M.C Mehta, Justice Kuldeep Singh, and Justice Ashok Desai have acknowledged judicial activism in the field of environmental protection. But it is true that judicial activism has many shortcomings, executive laxity and apathy towards the environment which cannot be provided just by judicial activism.

In *Subhas Kumar v. State of Bihar*[19], The Supreme Court of India considered air and water as an inalienable and indispensable part of "life" under article 21 of the constitution. Rural Litigation and Entitlement Kendra case Dehradun vs State of UP[20], The Supreme Court of India held that safeguarding and protecting the rights of the people to live in a healthy environment has to be done even if it has some economic cost. Supreme court has given a verdict in Vellore Citizen case[21] while explaining the importance of environment and health that there should be a harmony between development and the environment. Supreme Court also held that there should be green benches in dealing with matters and issues related to the protection of the environment. Court also held that it is international environmental law where people who are affected from the environmental point of view will be compensated by the polluting party for repairing natural harm.

A landmark judgement was given by the Supreme Court in *M.C Mehta v. Kamalnath & others case*[22] by enumerating the Public Trust Doctrine on the principle that certain natural resources like water, air, sea and forests have immense importance to people and it would be unjustified to make these natural resources a subject of private ownership. Another historic judgement was given by the Supreme Court in *Narmada Bachao v. Union of India and Ors*[23]. The court upheld that water is a fundamental and primary necessity for humans and an indispensable part of article 21 as a human right and right to life.

The power of The Supreme Court to grant compensation to victims of environmental degradation was determined in the Delhi Gas Leak case[24]. The

[19] Subhash Kumar v. State of Bihar, AIR 1991 SC 420.
[20] Rural Litigation and Entitlement Kendra v. State of U.P, AIR. 1985 SC 652.
[21] Vellore Citizens Welfare Forum v. Union of India, AIR 1996 SC 2715.
[22] M.C. Mehta v. Kamal Nath, (1996) 1 SCC 388.
[23] Narmada Bachao Andolan v. Union of India. (2000) 10 SCC 664.
[24] M.C. Mehta v. Union of India, (1987) 4 SCC 463.

court can grant remedial recoup for a proven infringement of a fundamental right (Article 21). The Supreme Court has given the judgement due to the unbridle hazardous activities by the industries which are affecting severely common people and this judgement brought radical changes in liability and compensation laws in India. In Charan Lal Sahu case[25], Supreme Court emphasized on the wholesome environment which is an essential part of the right to life guaranteed by Article 21. Court further stated that violation of the fundamental right to life and personal liberty through environmental degradation would be considered environmental pollution.

Bhopal gas leak disaster in 1984 in which over 500,000 people were directly exposed to highly toxic gas. Thousands of people died due to toxic gas inhalation. It is considered one of the worst industrial disasters in the world[26]. Supreme court in its famous judgement of the Bhopal Gas Tragedy case[27] established a trend of Absolute Liability without any exemption. In the judgement, the apex court stated that any enterprise which is involved in an unsafe pursuit which may suffer anyone in the activity of such dangerous exposure to gas, the particular enterprise is strictly obligated to recoup everybody to the victims of such accident and such risk is not subject to any kind of exemptions.

In Ratlam Municipal Council vs Shri Vardhichand & Others[28], The Apex court stated that environmental damage will be seen as a Public nuisance and any responsible public authority cannot run away from its responsibilities of providing public health. Ratlam municipality was ordered to take immediate action on pollution and contamination in the street. Court also upheld the provision of basic sanitary facilities and services for its inhabitants within a six months period.

Dehradun Valley Litigation case in 1987[29], the Supreme Court upheld the balance of environmental and ecological integrity against the demands of industries of forest resources. M C Mehta filed a writ petition in the Supreme Court in 1985 to highlight the growing pollution of the river Ganga by industries and

[25] Charan Lal Sahu Etc. v. Union Of India And Ors, AIR 1989 SCR 597.
[26] Bhopal Gas Tragedy, The Times of India, Oct. 25, 2016, https://timesofindia.indiatimes.com/topic/bhopal-gas-tragedy.
[27] Union Carbide Corporation v. Union of India, AIR 1990 SCC 273.
[28] Municipal Council, Ratlam v. Shri Vardhichand, AIR 1980 SC 1622.
[29] Rural Entitlement Litigation Kendra v. State of Uttar Pradesh, AIR 1985 SC 652.

municipalities situated on its banks. The apex court gave a historic judgement in 1987 to close and shut down various polluting tanneries near Kanpur.

Apart from MC Mehta v Union of India, there are other important judgements regarding pollution control in India. Ajay Construction vs Kakateeya nagar Co-op Housing Society Ltd[30], is a case related to improper draining which resulted in the pollution of water. MC Mehta vs the State of Orissa[31], the Orissa High Court dealt with the issue of providing a sewage system when the medical college complex took its shape. In Mandu Distilleriesn Pvt Ltd vs MP Pradushan Navaran Mandal[32], Bhopal, Madhya Pradesh High Court's Indore Bench is of the view that the direction to close a polluting industry without notice cannot be sustained.

Regarding Air pollution Chaithanya Pulverising Industry vs Karnataka Pollution Control Board[33], Court was dealing with the issue that whether a polluting industry was to be prohibited from carrying on its activity or not. In Murali Purushothaman vs Union of India[34], Court directed the state government to commence centres for measuring carbon monoxide and other pollutants emitted from automobiles. In MC Mehta v Union of India, Court directed to conversion between diesel vehicles to CNG vehicles to protect Delhi from pollution hazards.

Regarding hazardous waste, in Indian Council for Enviro-Legal Action vs Union of India[35], The Supreme Court examined the grave pollution of a village, caused by the trial run of 'rogue' industries and held that it was a case where the principle of absolute liability for damages should be applied. In Obayya Pujari v Member Secretary, KSPCB, Bangalore, the Karnataka High Court asked for the identification of 'safer zones' to which stone crushing units should be relocated. In Wing Commander Upal Barbara v State of Assam,[36] the Guwahati High Court looked into the hazards of plastics. The Court is of the view that legislation on this aspect is necessary.

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[30] Ajay Constructions And Etc. v. Kakateeya Nagar Co-Operative., AIR 1991 AP 294.
[31] M.C. Mehta v. State of Orissa And Ors, AIR 1992 Ori 225.
[32] Mandu Distilleries Pvt. Ltd. v. Madhya Pradesh Pradushan Niwaran, AIR 1995 MP 57.
[33] Chaitanya Pulvarising Industry v. Karnataka State Pollution, (1987) 1 KAR 928.
[34] Murali Purushothaman v. Union Of India And Ors, AIR 1993 Ker 297.
[35] Indian Council For Enviro-Legal v. Union Of India And Ors Etc., AIR 1996 SCC (3) 212.
[36] Utpal Barbara v. State Of Assam And Ors., AIR 1999 Gau 78.

In 1992 Supreme court delivered a historic judgement against vehicular pollution. Four-member bench suggested some measures for the nationwide control of vehicular pollution. Court gave importance to the use of lead-free petrol in the nation and upgrading the usage of another mode of fuel for vehicles. Since 1995 onwards catalytic converters have been fitted to all new cars in India and the use of CNG in transportation has been promoted in Delhi and other cities.

V. Conclusion

Protecting the environment is one of the prime duties of human beings. People can only live peacefully and blissfully if they have a pollution-free environment. Man must understand that no matter how far he reaches the peak of civilization, overall development cannot be possible in a polluted environment. Various NGOs, and organizations are relentlessly working toward the protection of the environment. The Indian judiciary is effectively playing a very crucial role to save the rights of the people from environmental pollution. The right to a healthy environment is recognised as a fundamental right under article 21. A corresponding duty is imposed on the state and other citizens under directive principles and fundamental duties to protect and improve the environment. Public participation in environmental decision-making has been the subject of debate for a long time in the country. In the last two decades, environmental law has been coherently developing in India. Higher judiciary as The Supreme Court and High Courts have taken many crucial initiatives to establish environmental laws in the country. Public Interest Litigation (PIL) has been an effective tool in this regard. The main reason behind adopting the measure of PIL is to give more access to people to ensure justice. PIL has ensured that justice shall not be denied to the needy one who can not afford the money or finances to fight in Court for their rights. In the present time, the Supreme Court has expanded the understanding of environmental rights. Due to the effective effort of the judiciary, many new environmental laws have been in operation now, especially under Article 21, Court has broadly interpreted the right to a healthy and pollution-free environment. The leading role of the judiciary of the country in protecting the environment is showing a bright light of hope for the nation.