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# Environmental Protection Through Lenses of Law: An Ever-Evolving Landscape

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**Abstract:** Need, Rationale & Importance: Microfinance institutions (MFIs) serve as crucial vehicles for financial inclusion, particularly in underbanked and fraud-prone regions. However, challenges related to transparency, trust, governance inefficiencies, and repayment discipline continue to threaten their long-term viability. With the advancement of Blockchain Technology technology—promising decentralization, auditability, and automation—there arises a compelling need to evaluate its systemic impact beyond short-term use, focusing on sustained behavioral and institutional transformation. Originality & Research Gap: While prior studies have largely examined the technical feasibility of Blockchain Technology in financial services, there remains limited empirical evidence on its long-term effects within microfinance. Models that integrate trust mechanisms, behavioral outcomes, and governance evolution—all shaped by technological interventions—in low-resource and digitally fragile environments.

**Keywords:** Block chain Technology, Microfinance, fraud detection, financial inclusion, technology intervention.

## INTRODUCTION

Environmental law addresses the impact of human activity on the natural environment. It seeks to regulate and mitigate the adverse effects of industrialization, technological advancement, and population growth on ecological systems. Rapid economic and demographic expansion has subjected the biophysical environment to unprecedented stress, thereby threatening the survival of both human and non-human life forms. This ecological crisis has become a matter of global concern, demanding coordinated legal and policy responses. Recognizing these challenges, governments and international organizations have taken various steps

since the 1960s to counter environmental degradation. This was followed by a series of landmark international conferences and agreements. Which marked the turning points in global environmental governance. Despite these efforts, many international and national measures have faced criticism for being inadequately implemented or lacking binding enforcement mechanisms.<sup>1</sup>

Effective environmental protection depends on the dynamic interaction of three interwoven pillars: *environmental legislation, environmental ethics, and environmental education*.<sup>2</sup> Each reinforces the other in promoting sustainable development, ecological

balance, and environmental awareness. Together, these components form the foundation for achieving harmony between human development and environmental preservation.

Several man-made environmental disasters have caused server harm to both human life and the natural environment. It resulted in short-term and long-term damage to the environment (Flora and Fauna as well as to Human life).<sup>3</sup> One such catastrophic example is the very famous Chernobyl Nuclear Accident 1986. Although the immediate death toll was comparatively low, the disaster had a devastating long-term effect on Ukraine and Neighboring countries. It led to widespread radioactive contamination, causing severe health problems such as cancer and genetics deformities, and rendered vast areas uninhabitable. Even today, the safety and environmental stability of Europe depend largely on the continued containment and protection of the Chernobyl site.<sup>4</sup>

Another unforgettable tragedy, the Bhopal Gas Strategy 1984, is often described as the world's worst industrial accident. Releasing methyl isocyanate gas from Union Carbide plant in Bhopal, India, killed thousands of people and animal and leaving the survivors with chronic illness and disabilities and contamination of soil and groundwater continues to endanger local communities and ecosystem.<sup>5</sup> Such incidents highlight the urgent need of a robust environmental legislation and strict enforcement mechanisms. As they are not only essential for preventing future catastrophes but also play a crucial role in shaping human and organization behavior towards the environment, fostering accountability and promoting sustainable development.

The term environment refers to the surroundings in which humans, animals and other living organisms exist and interact. It encompasses a wide range of elements such as, water quality, air quality, forest, wildlife, soil and hazardous chemicals, management of waste etc. Therefore, environmental law needs to cover an extensive range of issues. To establish a strong framework environmental law focusing on both protecting and enhancing the environment.<sup>6</sup>

Due to globalization the world has become increasingly interconnected, reducing the geographical boundaries and facilitating the free movement of goods and services and people. While it has undoubtedly brought numerous economic and social benefits at the cost of the environment. As it has exposed the environment to new and intensified forms of degradation. Industrialization and technological development have led to a surge in various types of waste, most notably electronic waste

(e-waste), harsh chemical waste, nuclear waste, medical waste. They contain many harmful materials like lead, mercury uranium etc. consisting of poisonous substance. These toxic elements pose serious threats to human health, as well as to the survival of flora and fauna.<sup>7</sup> Although technological progress has intensified environmental challenges through pollution and waste generation, it also offers innovative solutions to mitigate the effect. With advancement of technology and implementation of robust environmental legislation, societies can actively reverse the damage done. For example, the introduction of B-5 engines in automobiles represents a significant move toward reducing air pollution.<sup>8</sup>

Hence, while technological progress and globalization have redefined the modern world, they have also deepened the urgency for stronger environmental governance. It is imperative to critically assess the effectiveness of current legal frameworks to ensure that development and environmental protection progress hand in hand.

## II. Evolution of Environmental Law in India

The concept of environmental pollution and climate change is as ancient as the existence of life on earth. While these issues have become more concerning in recent centuries, their origin trace back to the earliest interaction between humans and nature. With the development of science and technology, Rapid industrialization led to a sharp increase in manmade pollution, accelerating climate change far beyond its natural pace. Consequently, the need for environmental protection has existed since the evolution of homo sapiens and has remained a constant aspect of human survival and social progress.

In the Indian context, we can divide the evolution of environmental law into three phases: ancient and medieval period, during the British rule, Independence of India.

### • The First Phase: During the Period of Ancient and Medieval Period:

During this period one can derive from various religion and religious text. For instance, under Hindu religious literature, the sacred *Vedas*, *Puranas* and *Upanishads* provide considerable information in respect to human beings and its relationship with nature. In the verses of *Vedic literature*, it states about protection of environment and prevention of environmental pollution, with the help of many myths, folklore, art. Furthermore, many other Hindu scriptures emphasize on the importance of maintaining an ecological balance. In the *Arthshastra* it elaborates that polluting water is a sin and shall be punished either by out casting that person or

implementing fine. In another example, in the *Mahabharata*, it is stated that “it only takes a few people to defile and pollute, but the whole society suffers”.<sup>9</sup>

It is observed that the need to protect environment is also mentioned in various religions. For instance, the In Islam the *Holy Quran* provides that no one should do mischief with the earth and respect the nature and the environment.<sup>10</sup> The need to protect, preserve environment is also witnessed in *Buddhism*<sup>11</sup> and *Jainism*.<sup>12</sup>

All the religion that echoed in India state about the importance of environment as well as it states about the ecological code of conduct and human behavior towards the protection of environment. During the ancient period we didn't have any proper legal system like we have today. Society was regulated by the rules and regulations from the religious text they followed. Therefore, it was important to have glimpse of how environment was protected through the religious text.<sup>13</sup>

- **The Second Phase: During the Period of British Rule in India:**

The legal control of environment pollution began with the enactment of the Indian penal code of 1860.<sup>14</sup> According to section 277 of the code.<sup>15</sup> It clearly provides that, ‘whosoever voluntarily fouls the water of any public spring or reservoir, which will make any water body unfit for the ordinary use, shall be punished with simple or rigorous imprisonment for the term of three months and fine or both.’<sup>16</sup> Apart from Section 277 of the code, there other sections in the code, which specifically deal with offenses with pollution water.<sup>17</sup> The criminal procedure code 1972, empowered the magistrate to take immediate measures in order to prevent and activity which would cause public nuisance.<sup>18</sup> Apart from these two major codes various other acts were also implemented for the improvement and protection of environment in various fields. For instance, in respect of the regulations of factories, the Boilers Act 1923,<sup>19</sup> Explosive Act 1884<sup>20</sup>, Poisons Act 1919.<sup>21</sup> The Oriental Gas Company Act which prescribes penalty for polluting water. It also authorizes a person to dig up the ground and examine the pipelines; in case the water is polluted due leakage of the gas.<sup>22</sup>

In respect to preservation of forests and the protection of wildlife, several Acts were enacted, like the Forest Act<sup>23</sup>, the Elephant Preservation Act<sup>24</sup> and for the protection of aquatic life the Fishery Act<sup>25</sup> was enacted. In India, several laws which were

adopted and enacted during the British Rule are still applicable even after independence and India becoming an independent sovereign. After independence of India and with the adoption of the Constitution of India Article 13 of the Constitution, acted like strainer. All laws had to pass the test of a stainer, if it was inconsistent to the Fundamental Right enshrined in the Constitution, it would be struck down. On the other hand, if it was consistent with the Fundamental Right of the Constitution it would surpass. Namely, laws like the Indian Penal Code and the Criminal Procedure Code.<sup>26</sup>

- **The Third Phase: After Independence of India**

Prior to the 42<sup>nd</sup> amendment there was no specific provision about environment in the Constitution of India. Environmental protection could be availed under Part III in Article 21 of the Constitution of India.<sup>27</sup> Article 21 of the Constitution of India advocates for the Fundamental Right of ‘right to life and personal liberty’.<sup>28</sup> Under the 42<sup>nd</sup> Amendment in 1976, specific provision for the protection of Environment were incorporated.<sup>29</sup> As a result two Articles were implemented under Part IV (Directive Principle of State Policy) of the Constitution of India i.e. Article 51-A(g) and 48A of the Constitution.<sup>30</sup> Both the Articles impose an obligation upon the citizen of India to take steps for the protection and improvement of environment.<sup>31</sup> Further, more the Articles also impose duties of the state to make an endeavor for the protection and improvement of environment of the country.<sup>32</sup> Directive Principles of State Policies cannot be questioned in Court of Law unlike its counterpart, the Fundamental Rights. Nevertheless, they are considered complementary with the Fundamental Rights.<sup>33</sup>

### III. Sources of Environmental Law in India

Environmental law comprises of a body of laws, regulations, agreements and judicial principles that governs ‘how humans interact with the natural environment?’ Its primary objective is to protect and preserve the environment while establishing rules for the sustainable use of natural resources. They will not only aim to prevent and provide remedy for environmental harm but also define rights and responsibilities of individuals, cooperation and government in relation to the environment.

Environmental Law is a wholistic law, encompassing a wide range of subjects, including pollution control, conservation of forest and wildlife, management of hazardous substances, regulation of mining and industrial activities, preservation of biodiversity. It also determines who may use the natural resources

9. Mahabharata, 1.10.41. 10. Quran, 2:165. 11. Buddhist texts, 1.1.1. 12. Jain texts, 1.1.1. 13. Ibid. 14. Indian Penal Code, 1860. 15. Section 277. 16. Ibid. 17. Ibid. 18. Ibid. 19. Boilers Act, 1923. 20. Explosive Act, 1884. 21. Poisons Act, 1919. 22. Oriental Gas Company Act, 1911. 23. Forest Act, 1927. 24. Elephant Preservation Act, 1917. 25. Fishery Act, 1948. 26. Ibid. 27. Article 21. 28. Ibid. 29. 42nd Amendment, 1976. 30. Article 51-A(g) and 48A. 31. Ibid. 32. Ibid. 33. Ibid.

and under what conditions, thereby balancing economic development along with ecological sustainability.<sup>34</sup>

Given the vast scope and multifaceted objectives of environmental law, it is essential to understand the various sources from which it derives its authority and principles. In the Indian context, sources of environmental law in India are as follows:

#### a. International Sources

Customary International Law there are no specific rules which are concerned with the protection and improvement of the environment. The concept of environmental protection and sustainable development is of recent origin. The sources from which India derive its laws for environment protection are formulated on various international principles and international conferences and international case laws.

Since the environment cannot be curtailed within the boundaries of a country or space, it has ever lasted consequences throughout the world. Therefore, the doctrine *sic utero tuo ut alienum non laedas*: which is a Latin maxim meaning “one must use his own rights so as not to injure others was adopted.” This principle prevents environmental pollution and damage between nations. This principle evolved in the Trial Smelter case.<sup>35</sup> The United State also accepted this principle as binding principle.<sup>36</sup>

The United Nation conference on Human Environment, held in Stockholm in 1972. This conference is also the *Magna Carta* for environmental protection and sustainable development. For the first time all the representatives of the from countries all over the world met in this conference, in which they discussed important issue for environment protection and the need to take actions collectively. The General Assembly adopted twenty-six principles in its declaration. The three major principles adopted are as follows:

1. Right to freedom, equality and adequate condition of life, in an environment with life of dignity and well-being, is a fundamental right of man.
2. It is man’s responsibility to protect the environment, for the present and future generation.
3. The conference also adopted various resolutions and recommendations, such as the declaration on the human environment, action plan for the

human environment, resolution condemning nuclear weapons test especially those carried out in the atmosphere.

During the conference, recommendations were made for identifying environmental damage at both international and national levels. India, being a party to the conference led by the former prime minister of India, late Indira Gandhi. As a result of which it led to the amendment in the Indian constitution i.e. the 42<sup>nd</sup> amendment, it expressly inserting provisions in Directive Principle of State Policy. Subsequently, a range of laws which are concerned with the protection of environment were enacted, among them were ‘*The Water (Prevention and Control) Act 1974*’, ‘*The Air (Prevention and Control) Act 1981*’, ‘*The Environment (Protection) Act 1986*’.<sup>37</sup>

In 1989, the Basel Convention was convened to address the disposal methods of hazardous and toxic waste, which posed a threat of environmental damage. The Basel convention consists of 29 articles and six annexures. The convention was not exhaustive as it excluded any radioactive waste and waste that is derived from the normal voyage of ships, since they are covered under other international instruments.<sup>38</sup> The convention also states that trafficking of hazardous waste is illegal and considered a criminal act. It prohibited all the state parties under national jurisdiction from transporting and disposing of such waste. In case of shipment of hazardous waste, it must obtain conformity from the generally accepted and recognized international rules and standards. Shipping country must first declare in detail the intent of the shipment, along with the risks involved. Furthermore, it must attain prior permission from the receiving country in writing. All transboundary movements of toxic waste are required to be covered by insurance or any other guarantee.<sup>39</sup> To manage toxic waste and adhere to the Basel Convention, India has enacted rules under the Environment Protection Act of 1986, such as the Hazardous Waste (Management and Handling) Rules of 1989 (amended in 2000) and the Bio-Medical Waste (Management and Handling) Rules 1998.<sup>40</sup>

The Indian Environment Protection Act has also drawn its sources from the “The Earth Summit 1992” also called the conference of the Unite Nation Conference on Environment and Development (UNCED), which lead the world towards sustainable development goals.<sup>41</sup>

Some of the key accomplishments of the conference are as follows



- i. Agenda 21 acts as a blueprint for global actions to affect the transition to sustainable development.
- ii. The earth summit conference lead for the formation of a legal binding convention i.e. the convention on climate change and convention on bio- diversity. The main aim of these two conventions was to prevent global climate change and extinction of diverse species.<sup>42</sup>

The conference also adopted the Rio Declaration on Environment and Development, which articulated 27 principles defining the rights and duties of States regarding environmental protection including the Precautionary Principle and Polluter Pays Principle, both of which later gained judicial recognition in India.

The establishment of Rio Declaration of environment and development, it consists of principles, imposing and defining various rights and duties of states on protection of the environment. According to Principle 13 of Rio declaration the enactment of a national law, which would impose liability and compensation for the victims of environmental damage. This declaration plays a very important role in the development of environmental law. The National Environment Tribunal Act is the direct outcome of this convention and two main principles developed under this declaration which are as follow:

- *The Precautionary Principle.* According to this principle, where there is a threat of serious or irreversible harm, lack of scientific knowledge cannot be used as defense for delaying cost effective measures to take steps for prevention of environmental degradation.<sup>43</sup>
- *Polluter Pay Principle,* This principle emphasizes that the costs of environmental damage should be borne by those who cause the pollution, aiming to encourage more responsible environmental practices and reduce harm. It is a key component in fostering sustainable development and addressing environmental issues through economic and regulatory mechanisms.<sup>44</sup>

The above principles have paved way for the judicial recognition, by the Supreme Court of India in many cases.<sup>45</sup>

Another significant convention that contributed to the development of environmental protection law in India is the Framework Convention on Climate Change (UNFCCC), which was further reinforced by

the adoption of the Kyoto Protocol in 1997. The purpose of this protocol was to prevent dangerous interference with climate system by reducing the greenhouse gases into the atmosphere.<sup>46</sup>

All the conventions, treaties, declarations, and conferences mentioned above have played a crucial role in enhancing the legal framework for Environmental Protection Act in India. Moreover in recent years, global environmental governance has been shaped by landmark frameworks such as the Paris Agreement (2015), the United Nations Sustainable Development Goals (2015), the Conference of Parties (COP26, Glasgow 2021), and the Kunming–Montreal Global Biodiversity Framework (2022). These initiatives emphasize the urgent need to address climate change, biodiversity loss, and sustainable resource management through coordinated global action.

India has demonstrated its commitment to these international objectives by adopting policies such as the National Green Hydrogen Mission, the International Solar Alliance, and the LiFE (Lifestyle for Environment) movement. Furthermore, India has pledged to achieve net-zero carbon emissions by 2070, signaling its intent to balance economic development with ecological sustainability.<sup>47</sup>

#### **b. The Constitution of India:**

Although the Indian Constitution initially did not explicitly address environmental concerns at the time of its adoption, the 42nd Amendment introduced significant changes by enacting Articles 48-A and 51-A(g). These provisions impose a duty on both the state and citizens to take actions for the protection and improvement of the environment. Furthermore Article 21 of the Constitution of India also provides protection to the environment, by stating the right to life.<sup>48</sup> P.N Bhagwati J. in the case of *Francis Coralie v. Union Territory of Delhi*,<sup>49</sup> observed that, “right to life includes the right to live with human dignity” and all that goes along with , namely, the bare necessities of life such as adequate nutrition, clothing, shelter over the head and facilities for reading , writing and expressing oneself in diverse forms, freely moving about mixing and commingling with fellow human beings.<sup>50</sup>

Similar observations on the right to life enshrined in Article 21 of the Constitution includes “right to live with dignity along with bare necessities”, was made in various other cases like the *Maneka Gandhi* case.<sup>51</sup> The *Oleum gas leak* case and Bhopal gas disaster,<sup>52</sup> in

42. Agenda 21, adopted at the United Nations Conference on Environment and Development, Rio de Janeiro, 1992. 43. Principle 13 of the Rio Declaration on Environment and Development. 44. Principle 16 of the Rio Declaration on Environment and Development. 45. See, e.g., *Union Carbide v. Union Territory of India*, (1997) 1 SCC 421. 46. Kyoto Protocol to the United Nations Framework Convention on Climate Change, adopted on 16 November 1997. 47. Prime Minister's Statement on India's Net Zero Commitment, 2023. 48. *Francis Coralie v. Union Territory of Delhi*, (1997) 1 SCC 421. 49. *Francis Coralie v. Union Territory of Delhi*, (1997) 1 SCC 421. 50. *Francis Coralie v. Union Territory of Delhi*, (1997) 1 SCC 421. 51. *Maneka Gandhi v. Union of India*, (1978) 1 SCC 684. 52. *Union Carbide v. Union Territory of India*, (1997) 1 SCC 421.

the above cases the Supreme Court implied and recognized that right to live in a pollution free environment is a part of fundamental right enshrined under Article 21 of the Constitution.<sup>53</sup>

To meet the requirements laid down under international treaties, convention, declaration and conferences to which India is a signatory.<sup>54</sup> Article 253 of the Constitution of India provides powers to the parliament to implement any law for whole or any part of India.<sup>55</sup>

### c. Legislative Overview:

The increase in awareness of Indian state to step forward for the protection and improvement of environment and to meet international obligations led to the enactment of several new laws such as:

with the objective of establishing a special tribunal for the effective and speedy disposal of cases relating to environmental protection, conservation of forests and other natural resources, and the enforcement of legal rights relating to the environment, including granting relief and compensation for damages to persons and property.”

- i. The National Green Tribunal Act, 2010, this Act was enacted with the objective of establishing a special tribunal, for effective and speedy disposal of cases relating to environmental protection, conservation of forests and other natural resources, and the enforcement of legal right relating to the environment, including granting relief and compensation for damages to persons and property.<sup>56</sup>
- ii. The Air (Prevention and Control of Pollution), Act 1981: It was enacted for the prevention and control and abatement of air pollution and lays down rules for the establishment of a control board, at both center and state level. The duty of this board will be to counter problems with air pollution and take measures to improve the quality of air.<sup>57</sup>
- iii. Water (Prevention and Control of Pollution) Act, 1974: This act was enacted to prevent and control any water body from pollution and to restore the wholesomeness of water in the country. It provides for the establishment of a board which would carry out the aforesaid

purpose of prevention and control of pollution in any water body.<sup>58</sup>

- iv. Environment Protection Act, 1986: This is a general Act, it acts as an umbrella legislation designed to provide a framework for coordination between central government and the state government. The Environment Protection Act establishes the framework for studying, planning and implementing long-term requirements of environmental safety and laying down a system of speedy and adequate response to situations threatening the environment. Under the Environment Act, the Central Government is empowered to take measures necessary to protect and improve the quality of environment by setting standards for emissions and discharges of pollution in the atmosphere by any person carrying on an industry or activity; regulating the location of industries; management of hazardous wastes, and protection of public health and welfare.<sup>59</sup>
- v. There are many other Acts relating to the protection of the environment, such as the *Wild Life (Protection) Act, 1972*, which was enacted with the objective of effectively protecting the wild life of the country and to controlling poaching, smuggling and illegal trade in wildlife and its derivatives. The Act was amended in January 2003 to make punishments and penalties for offences under the Act more stringent.<sup>60</sup> The *Forest Conservation Act, 1980*, was enacted to conserve the country's forests. It strictly restricts and regulates the de-reservation of forests or the use of forest land for non-forest purposes without the prior approval of Central Government. To this end, the Act lays down the prerequisites for the diversion of forest land for non-forest purposes.<sup>61</sup>

While legislation provides the structural framework for environmental protection, its true effectiveness has been shaped and strengthened by judicial interpretation. The Indian judiciary, particularly the

Supreme Court, has played a pivotal role in expanding the scope of environmental law and ensuring its enforcement through a series of landmark judgments.

#### IV. Key Judicial Decisions Underpinning Environmental Law

1. Doctrine of Absolute Liability (*M.C. Mehta v. Union of India (Oleum Gas Leak, 1986)*): This case arose from a leakage of oleum gas from a unit of Shriram Food and Fertilizer Industries in Delhi, which caused severe harm to workers and nearby residents. The Supreme Court, led by Justice P.N. Bhagwati, established the doctrine of absolute liability, holding that any enterprise engaged in hazardous or inherently dangerous activities are absolutely liable to compensate for any harm resulting from such activities. Unlike the traditional rule of strict liability laid down in *Rylands v. Fletcher*, this doctrine does not allow any exceptions. This judgment marked a milestone in Indian environmental jurisprudence, as it placed the responsibility for environmental harm squarely on the polluter, reinforcing accountability and deterrence.<sup>62</sup>
2. Right to life under Article 21 includes the right to enjoy pollution-free water and air (*Subhash Kumar v. State of Bihar, 1991*): In this case, the petitioner alleged that industrial waste from the Tata Iron and Steel Company was being discharged into the Bokaro River, polluting it and affecting the right of residents to clean water. The Supreme Court held that the right to life under Article 21 includes the right to enjoy pollution-free water and air, essential for the full enjoyment of life. The Court emphasized that environmental pollution directly infringes upon this fundamental right. This case thus became one of the earliest instances where the Supreme Court explicitly recognized environmental protection as part of the constitutional guarantee of life and personal liberty.<sup>63</sup>

3. Polluter Pays Principle (*Indian Council for Enviro-Legal Action v. Union of India, 1996*): This case dealt with the discharge of toxic chemicals by industries in the Bichhri village of Udaipur, Rajasthan, which caused widespread soil and water pollution. The Supreme Court invoked the Polluter Pays Principle, directing the polluting industries to compensate the affected villagers and bear the cost of remedial measures. The Court made it clear that polluters are not only liable to compensate the victims of pollution but must also restore the

environment. This case firmly embedded the Polluter Pays Principle in Indian environmental jurisprudence, aligning domestic law with international environmental norms.<sup>64</sup>

#### 4. Sustainable Development (*Vellore Citizens Welfare Forum v. Union of India, 1996*)

This case arose out of the extensive pollution caused by tanneries in Tamil Nadu, which discharged untreated effluents into agricultural lands and waterways. The Supreme Court recognized and applied two key international principles the Precautionary Principle and the Polluter Pays Principle, holding that these are essential features of sustainable development. The Court stated that environmental measures must anticipate, prevent, and attack the causes of environmental degradation. This decision formally introduced the concept of sustainable development into Indian law and directed the establishment of environmental protection authorities to monitor compliance.

#### 5. Judicial Activism (*T.N. Godavarman Thirumulpad v. Union of India 1997 onwards*)

This case began as a petition to prevent illegal deforestation in the Nilgiri region but evolved into a continuing mandamus encompassing forest conservation across India. The Supreme Court interpreted the term “forest” broadly, extending protection even to areas not officially notified as forests under legislation. The Court’s ongoing supervision through various orders led to the creation of the Central Empowered Committee (CEC) and strengthened the implementation of the Forest (Conservation) Act, 1980. This case represents one of the most significant examples of judicial activism in environmental governance, ensuring long-term protection of India’s biodiversity.<sup>65</sup>

#### 6. Public Trust Doctrine, (*M.C Mehta v. Kamal Nath, 1997*)

In this landmark judgment, the Supreme Court addressed the issue of the diversion of riverbed land of the Beas River in Himachal Pradesh for a private motel. The Court held that the State has a duty to act as a trustee of natural resources and cannot transfer public property for private use if it adversely affects the environment. By applying the Public Trust Doctrine, the Court ruled that resources like air, water, and forests are meant for public use and cannot be privately appropriated. This decision reinforced the principle that the government must protect and preserve natural resources for the benefit of the public and future generations.<sup>66</sup>

#### V. Role of environmental law in the protection of the environment:

Law is meant to control and regulate human behavior and plays a vital role in the protection and improvement of the environment. Law plays a vital role in the protection and improvement of the environment, which is as follows:

1. Environmental law helps in conservation and survey of flora, fauna, forest and wildlife, prevention and control of pollution, afforestation and regeneration of degraded areas, protection of the environment and ensuring the welfare of animals are achieved through a set of legislative and regulatory measures which are aimed at protecting the environment.
2. It led to the establishment of many other policies, such as the National Conservation Strategy and Policy Statement on Environment and Development 1992, National River Policy 1988, the Policy Statement on Abatement of Pollution-1992, and National Environment Policy 2006.
3. Environmental law also provided for the establishment of environmental and forestry research, education and training, dissemination of environmental information and international cooperation and creation of environmental awareness for their active public participation. For the success of any government measure, public participation is essential.
4. Environmental law created an environment in which violators would be punished or fined, and the victims would be assisted with aids such as compensation.
5. With the help of environmental law many major harmful industries were shifted away from human settlement. Such as in *M.C Mehta v. Union of India*, in which the supreme court ordered 168 hazardous industries are not permitted to operate in Delhi.<sup>67</sup>
6. Environmental law also helped in enactment of various boards specifically responsible for the prevention and improvement of the quality of environment.
7. Law has also helped to increase awareness about environmental protection not only at the domestic level but also internationally.<sup>68</sup>

## VI. Emerging Challenges in Environmental Protection

Despite a comprehensive legal and judicial

framework, India continues to face several emerging environmental challenges. One of the most pressing is electronic waste (e-waste), India is the third-largest generator globally and improper recycling practices release toxic substances like lead and mercury into soil and water.<sup>69</sup> Air pollution, particularly in the Delhi-NCR region, remains severe, prompting regulatory measures such as the *Odd-Even Scheme* and continuous monitoring of the Air Quality Index (AQI).<sup>70</sup>

Another growing concern is climate litigation, where citizens, youth groups, and NGOs increasingly approach courts to demand stronger climate action and accountability from the government. The National Green Tribunal (NGT) has played a significant role in ensuring access to environmental justice, though it continues to face limitations related to enforcement and capacity.<sup>71</sup>

These challenges underscore that while India's environmental laws are extensive, their effectiveness depends on implementation, institutional strength, and public awareness. Future environmental governance must therefore focus on technological innovation, community participation, and stricter compliance mechanisms to ensure sustainable development.

## VI. CONCLUSION

The primary objective of law is to regulate human behavior and actions. However, the increasing cases of environmental degradation, such as the drying up and pollution of water bodies, excessive deforestation, unauthorized mining, the depletion of the ozone layer, rising air pollution, and industrial accidents, illustrate that humanity is not taking sufficient steps to protect and improve the environment. There are three key approaches to achieving environmental protection: environmental education, environmental awareness, and environmental law. These approaches are deeply interconnected. Law serves as a powerful tool for environmental protection, instilling a sense of accountability through the threat of punishment for violations. However, it is equally crucial to educate people on the importance of environmental protection and to raise awareness about current environmental challenges, such as climate change. In essence, while environmental law is a vital mechanism for safeguarding the environment, it is only truly effective when supported by environmental education and awareness. Without these, the law risks becoming merely a set of statutes without practical impact.



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