

**THE ROLE OF LAW IN ADDRESSING CLIMATE CHANGE: INSIGHTS FROM
THE INDIAN CONTEXT**

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Abstract

Climate change refers to long-term and measurable shifts in weather patterns that occur over several decades or longer. These changes may appear as variations in average temperatures, rainfall, or in the frequency of extreme events. In India, human activities such as rapid industrial growth, deforestation, and high levels of greenhouse gas emissions are major contributors to global warming. The impacts of climate change are interconnected and affect multiple sectors. For example, droughts reduce agricultural productivity and affect public health, while floods increase the spread of diseases and damage ecosystems, homes, and critical infrastructure. These effects also influence food security, economic stability, and overall human well-being.

Climate change has become one of the most urgent issues of our time, and India is experiencing its impacts on a large and unprecedented scale—from unpredictable monsoons to rising sea levels and more frequent natural disasters. Without timely action, the cost of adapting to these changes will increase significantly. In this context, law plays an essential role in shaping the country's response to climate challenges. This paper explores how India's legal framework addresses climate change by examining environmental protection laws, constitutional principles, human rights perspectives, institutional mechanisms, and key judicial decisions of courts and tribunals. The study highlights how environmental law and human rights approaches are becoming increasingly interconnected in India's efforts to manage and reduce the impacts of climate change.

Keywords: *Climate Change, Environmental Law, Human Rights, India, Judicial Framework.*

I. INTRODUCTION

CLIMATE CHANGE is the defining issue of our times, which threatens the existing way of human life. Climate change will substantially alter the human situation and affect almost all the aspects of human life from food security and availability of water to energy sources and biodiversity. While discussing the issue of climate change one uses the terminology of emissions, carbon footprint, temperature rise, low-carbon economy/technology etc, i.e., we talk in technical terms of ecology and technology. The study of climate change is interdisciplinary in the most fundamental sense of the term i.e., it spans across disciplines of law; economics;

science; international relations; as well as ethics and philosophy. The equity dimension of climate change policy should become the centre of all the discussions of tackling climate change.

Climate change is closely linked to several Sustainable Development Goals (SDGs), most notably **SDG 13 (Climate Action)**, which directly calls for urgent efforts to combat climate change and its impacts. Other interconnected goals include **SDG 7 (Affordable and Clean Energy)**, promoting a transition to renewable energy; **SDG 11 (Sustainable Cities and Communities)**, addressing urban resilience and pollution control; and **SDG 12 (Responsible Consumption and Production)**, which supports sustainable industrial practices. **SDG 15 (Life on Land)** and **SDG 14 (Life Below Water)** are crucial for conserving ecosystems vulnerable to climate change, while **SDG 6 (Clean Water and Sanitation)** highlights water scarcity and quality issues exacerbated by climate shifts. Finally, **SDG 17 (Partnerships for the Goals)** emphasizes the importance of global collaboration, climate finance, and technology transfer to effectively implement climate action. Together, these SDGs form a comprehensive framework for integrating climate considerations into law, policy, and governance.

The **Stockholm Declaration of 1972** was the first global initiative under the United Nations to address environmental issues, aiming to safeguard human health and the environment from harmful pollutants, including persistent organic substances. India actively participated in this conference, with **Prime Minister Indira Gandhi** representing the country. Following this, the **42nd Amendment of the Indian Constitution in 1976** incorporated environmental concerns. It introduced **Article 48-A**, which directs the State to protect and improve the environment, and **Article 51-A(g)**, which imposes a duty on citizens to preserve and enhance natural resources such as rivers, lakes, forests, and wildlife. Additionally, **Article 47** emphasizes the State's responsibility to improve nutrition, public health, and the standard of living of its people.

Several key legislations have since been enacted to ensure environmental protection in India. The **Wildlife Protection Act, 1972**, which came into effect on 9 September 1972, provides legal measures for safeguarding wild animals, birds, and plants. The Act categorizes species into schedules based on their level of endangerment. For example, **Schedule I** includes critically endangered species like tigers, lions, and leopards, which are granted the highest protection with strict penalties for hunting or poaching.

The **Water (Prevention and Control of Pollution) Act, 1974** aims to prevent and control water pollution and maintain the purity of water. It also provides for the establishment of boards at the central and state levels with powers to enforce these measures. The **Environment Protection Act, 1986** offers a comprehensive framework for environmental conservation, empowering the government to take necessary steps to prevent environmental degradation. The **Biological Diversity Act, 2002** focuses on conserving biodiversity and ensuring the sustainable and equitable use of biological resources.

The **National Green Tribunal (NGT) Act, 2010** established the NGT for speedy and effective resolution of environmental disputes. The Tribunal has exclusive authority to handle cases

concerning environmental protection, forest and wildlife conservation, and the awarding of compensation or injunctions for environmental harm. Its decisions are appealable only before the Supreme Court, making it a specialized body for environmental justice.

Together, these constitutional provisions and legislations provide the foundation for environmental governance in India. They reflect the country's commitment to sustainable development, pollution control, biodiversity conservation, and the protection of natural resources for current and future generations.

II. METHODOLOGY

This study adopts a **doctrinal legal research** methodology, focusing on the analysis of statutes, constitutional provisions, judicial decisions, and policy documents to evaluate the role and effectiveness of legal mechanisms in addressing climate change in India. The approach is qualitative and interpretive in nature.

Sources of Data

a. Primary Sources:

- **Constitutional provisions:** Articles 14, 21, 48A, 51A(g)
- **Environmental statutes:** Environment (Protection) Act, 1986; Forest (Conservation) Act, 1980; National Green Tribunal Act, 2010; Biological Diversity Act, 2002; etc.
- **Judicial decisions:** Landmark judgments from the Supreme Court and National Green Tribunal such as M.C. Mehta cases, Vellore Citizens Welfare Forum, M.K. Ranjitsinh case (2024), etc.
- **International instruments:** UNFCCC, Paris Agreement, IPCC reports etc..

b. Secondary Sources:

- Scholarly articles, law review journals, government reports, expert committee documents, and environmental law textbooks.

Method of Analysis

- **Statutory and Constitutional Analysis:** Interpretation of the environmental and climate-related laws in light of constitutional guarantees and duties.
- **Case Law Analysis:** Critical examination of judicial pronouncements to trace the development of climate jurisprudence and assess their impact on governance and public policy.
- **Doctrinal Synthesis:** Identification of key legal principles such as the precautionary principle, polluter pays, absolute liability, and public trust doctrine, and their evolution in Indian case law.
- **Policy Review:** Evaluation of policy documents like the National Action Plan on Climate Change (NAPCC), State Action Plans (SAPCCs), and India's Nationally Determined Contributions (NDCs).

Scope and Limitations

- **Scope:** Focused on the Indian legal and judicial response to climate change; includes both central and state-level mechanisms and their interface with international commitments.
- **Limitations:**
 - Absence of an explicit climate change statute restricts analysis to general environmental law and judicial creativity.
 - Implementation challenges and regional variations in climate governance are acknowledged but not studied empirically.
 - The study is limited to publicly available legal and policy texts; it does not include field data or interviews.

III. DEFINITION OF CLIMATE AND CLIMATE CHANGE

(A) **Climate:** The climate is defined as the general or average weather conditions of a certain region, including temperature, rainfall, and wind. For example, the climate of Hawaii is generally sunny and warm, while the climate of Antarctica is extremely cold and freezing. Similarly, during summer, temperatures in Delhi, the capital city of India, can reach up to 48°C. In contrast, Arunachal Pradesh in the Northeastern part of India may experience much cooler temperatures, around 12°C at the same time. Earth's climate is the overall average of all these different regional climates around the world.

(B) **Climate change:** A temperature variation in the Earth's climate is normally referred to as climate change. It represents variations in the atmosphere's variability or average condition across time periods ranging from decades to millions of years. Climate change is a long-term shift in a place's temperature and usual weather patterns. Climate change can relate to a specific region or the entire globe. Weather patterns may become less predictable as a result of climate change. Because predicted temperature and rainfall levels can no longer be depended upon, these unpredictable weather patterns might make it difficult to sustain and produce crops in farming dependent regions. Other destructive weather occurrences linked to climate change include more frequent and more violent hurricanes, floods, downpours, and snow storms.

IV. CAUSES OF CLIMATE CHANGE

The emission of gases, especially Carbon Dioxide is primarily due to the excessive burning of fossil fuels like coal and oil which in turn have increased the temperature of the earth's surface. It is also observed that the global mean surface is now about 1° Celsius warmer than pre-industrial times. These gases are released into the air and when sunlight passes through the earth's atmosphere and some amount of heat produced by the sunlight gets trapped; the planet gets warmer resulting in the "Greenhouse Effect". It is not only human activities that are the cause of climate change. There are some natural causes and some other causes that might affect climate adversely in the future. Various organizations such as UNICEF, Intergovernmental Panel on Climate Change (IPCC), UN Environment Programme (UNEP) and World

Meteorological Organization (WMO), UNFCCC, and other international organizations have listed the causes of climate change.

NATURAL CAUSES

Greenhouse Gas Effect is termed to be the main cause of Climate Change. Greenhouse does not only have a local impact on the environment but it is a global cause „positive radiative forcing” meaning thereby, when Earth receives more energy from sunlight in comparison to the energy received in Space. As per World Meteorological Organization and Global Climate Indicators 2018 was observed to be the fourth warmest year on record for the past four years that is 2015-2018 stating that levels of carbon dioxide emissions are the key drivers for climate change. The Sea Level is drastically increasing every year. The gases such as carbon dioxide emitted get dissolved in the seawater, decreasing the oceans' pH level known Ocean Heat and Acidification leads to ocean warming and deoxygenating which is observed to be ten times

MAN MADE CAUSES

Man-made causes for the change in climate include the burning of fossil fuels; which has led to an upward trend in emissions of carbon dioxide, methane, and other greenhouse gasses, deforestation in tropical areas and other areas; leads to anthropogenic carbon dioxide emissions and disturbance in livestock, crop production, land uses and most importantly high use of Nitrogen Oxide Concentrations as fertilizers increasing chemical content in food crops, industrialization; which is the main cause of air pollution, water pollution, and noise pollution further degrading the environment and aerosols; which are the particles that are suspended in the atmosphere due to high emissions of Chlorofluorocarbons (CFCs).

V. IMPACTS OF CLIMATE CHANGE

1. IMPACT OF CLIMATE CHANGES ON WORLD AT LARGE:

Climate Change has been adversely affected for a while now which is clear from the weather patterns to rising sea levels and much more.

- **Socio-Economic Changes for Humans:** The impact of Climate Change has led to substantial disruption in the areas of agriculture, water, and energy supplies, and most importantly food and human health. Due to climate change, there is a change in rainfall patterns which has led to a disturbance in the agricultural ecosystem. Such changes also affect hydrology which includes underground water level leading to saline and brackish water, increase in variability of precipitation, degradation in water quality of lakes, rivers, marshes, etc. According to the analysis of the average and lowest temperatures in January, for 12 years from 1987 to 1998, done for the study on winter barley cultivation regions following global warming by the National Academy of Agricultural Science, the safe zone for winter barley cultivation has shifted far north.
- **Behavioural Changes:** The impact of climate change has forced not only individuals, corporate firms, government but also the economy at large as climate change is on the verge of destroying the environment. Probably life on earth comes to a pause by 2030. The behavioural

change requires a study on macro as well as a micro level including extreme weather events, air and soil pollution, interpersonal and intergroup conflict, and possibly psychological distress increase with rising temperature.

IMPACT ON WILDLIFE: Climate Change has affected wildlife from both polar and tropical areas. The habitats are relocating because of change in climate as the climate has become less suitable because of warmer temperature in polar areas, less or uneven precipitation in tropical areas, drying of water bodies, etc. Statistics state that species living on the land are moving an average of more than 10 miles per decade, while marine species are moving four times faster. Some individual species are moving far more quickly. Similarly, in West Greenland, the mortality of young caribou is rising because the plants that mothers eat in calving season are no longer abundant enough.

VI. LEGAL CHECK ON CLIMATE CHANGE

With the ongoing destruction and harm to the climate, formulating a legal check would play a crucial role in the governance of such damage. Legal Provisions would ensure that an act harming the environment/climate change is strictly prohibited and rules and regulations for the same are formulated. It is not one nation's duty to protect or work towards the protection of climate change, but the whole world needs to join hands together and formulate and profess laws. Generally, every nation governs Climate Change through:

Provision in Indian Constitution related to environment protection

1. According to the preamble of the Indian Constitution, our country is founded on a "socialist" model of society in which the state is responsible for social problems rather than private concerns. The primary objective of socialism is to provide a decent standard of life for all people, which demands a clean environment. Pollution is a rising problem in today's modern world, and it is contributing to climate change. As a result, the state must pay greater attention to this by enacting appropriate legislation and working toward a just social order.
2. The Indian Constitution's Article 14 can be utilised as a powerful weapon against government decisions that endanger the environment. It is used to overturn arbitrary official sanctions in environmental concerns based on a breach of Article 14 of the Constitution.
3. The most important provision of Indian constitution is Article 21. It is one of our Constitution's ever-evolving provisions. When state takes away a person's life or personal liberty as described in Article 12, Article 21 comes into picture. The right to life is, without a doubt, the most fundamental of all rights. All other rights enhance the quality of life and are predicated on the existence of life itself. The right to life should come first, since without it, none of the other rights would be worth anything.
4. The State's environmental responsibilities are outlined in Article 48-A of our Constitution, which says that State should strive to conserve and enhance the environment, as well as protect the country's forests and wildlife.
5. Indian Constitution clearly imposes duty on every citizen to protect environment under Article 51-A (g) which says that "It shall be duty of every citizen of India to protect and improve the

natural environment including forests, lakes, rivers and wild life and to have compassion for living creatures."

6. According to Article 253, "Parliament has the authority to make law for whole country or any part of the country in order to carry out any treaty, agreement, or convention with any other country." The application of Article 253 by Parliament to establish the Air Act and the Environment Protection Act supports this viewpoint. These Acts were passed to put the conclusions made at the Stockholm Conference into effect.
7. Air (prevention and control of pollution) Act 1981 The purpose of this Act is to address air pollution prevention, control, and abatement. At the United Nations Conference on the Human Environment, which India attended in Stockholm in June 1972, decisions were made to protect air quality and limit pollution. In 1981, India passed the Air (Prevention and Control of Pollution) Act. Fines and penalties will be imposed if the act's provisions are not met. Through this legislation, India tried to safeguard air quality and reduce pollution.
8. Wildlife Protection Act, 1972 "Wildlife" refers to any animal that is part of an ecosystem, including bees, butterflies, fish and moths, as well as any aquatic or terrestrial plant. According to the Wildlife (Protection) Amendment Act of 2002, "the State Government may not modify the boundaries of a National Park or Sanctuary unless the National Board for Wildlife (NBWL) recommends it. as per Supreme Court Order of November 13, 2000, state administrations must get Supreme Court approval before filing a petition for forest land diversion in National Park sanctuaries. A standing committee reviews the forest application for any hydro project that impacts any part of a Wildlife Sanctuary or National Park. On the recommendation of the NBWL Standing Committee, the Hon'ble Supreme Court confirmed the proposal.
9. Indian Forest Act, 1927 The 1927 Indian Forest Act was largely founded on the earlier British era. The act's primary goal was to protect places of forest cover or substantial wildlife. It also lays out the steps for designating an area as a Reserved Forest, a Protected Forest, or a Village Forest.
10. Indian Forest Act, 1980 The Forest (Conservation) Act, 1980, was established by Parliament to prevent future deforestation and forest conservation, as well as to address other issues. The Act gives the Central Government the authority to form a committee to advise it on any subject related to forest protection that the Central Government refers to it.
11. Environment Protection Act, 1986 The Environment Protection Act of 1986 is a law passed by the Indian Parliament. Following the Bhopal tragedy, the Indian government passed the Environment Protection Act of 1986, which was enacted under Article 253 of the Constitution. It was passed in March 1986 and went into effect on November 19, 1986. The major objective of the Act is to protect and improve environment, as well as to address environmental issues. It acts as a deterrent for those who pollute the environment.
12. Biological Diversity Act, 2002 Because biological variety is a country's national asset, biodiversity protection is more important. The act's primary goals are to: 1) preserve biological diversity. 2) Biodiversity components are used in a sustainable manner. 3) A fair and equal distribution of the advantages derived from the exploitation of biological diversity. The Biodiversity Act of 2002 established a national biodiversity authority.

13. National Green Tribunal Act 2010 This Act establishes a National Green Tribunal for the effective and timely resolution of disputes involving environmental preservation, forest conservation, and other natural resource conservation, as well as the enforcement of any legal right pertaining to the environment. This Act establishes a National Green Tribunal to hear disputes involving environmental preservation, forest conservation, and other natural resource conservation, as well as the enforcement of any environmental legal claim

Constitutional Foundation

Article 21 (Right to Life): The Supreme Court has explicitly recognised the “right to be free from adverse effects of climate change” as part of the right to life, and also connected it to Article 14’s equality guarantee

Article 48A & Article 51A(g): These provisions impose a duty on the State (to protect environment) and citizens (to have compassion for all living creatures), forming a constitutional basis for environmental/climate litigation.

Core Legal Principles

- **Precautionary Principle:** Emphasised in Delhi HC in Vellore Citizens Welfare (1996)
- **Polluter Pays Principle:** Applied in *M.C. Mehta (Taj Trapezium Case)* and Indian Council for Enviro-Legal Action.
- **Absolute Liability & Deep Pockets Principle:** Established in *M.C. Mehta v. Union of India* (Shiram Oleum gas case, 1987).
- **Public Trust Doctrine:** Applied in *M.C. Mehta v. Kamal Nath* (1996), reaffirmed in Vedanta/Niyamgiri — government must protect resources like forests, rivers.

The Supreme Court of India has laid down several important principles to guide environmental protection. Under the **Polluter Pays Principle**, industries responsible for environmental damage are required to bear the cost of restoring the environment and compensating the affected communities. The **Precautionary Principle** emphasizes that industries must take proactive measures and implement safety protocols to prevent harm to the environment rather than addressing it only after damage occurs. Through the **Public Trust Doctrine**, the Court has clarified that natural resources are held by the government in trust for the public, and it is the State’s duty to protect these resources from misuse or exploitation by private entities. Finally, the Court has reinforced the concept of **sustainable development**, which requires using natural resources to satisfy the needs of the present generation while ensuring that future generations can also meet their needs. Together, these principles form the foundation of environmental governance in India, balancing economic development with ecological protection.

VII. EVOLUTION OF INTERNATIONAL CLIMATE LAW

The foundations of international climate change law were laid with the United Nations Framework Convention on Climate Change (UNFCCC), adopted in 1992 during the Earth Summit in Rio de Janeiro. The UNFCCC acknowledged that climate change is a shared concern

of humankind and established a global framework for mitigating GHG emissions and adapting to climate impacts. It introduced the critical principle of “common but differentiated responsibilities and respective capabilities” (CBDR-RC), recognizing the varying contributions and capacities of developed and developing countries.

The Kyoto Protocol (1997), the first legally binding treaty under the UNFCCC, required developed countries to reduce their emissions according to specific targets. However, its effectiveness was limited due to the non-participation of key emitters like the United States and the lack of obligations for developing nations.

The Paris Agreement (2015) marked a major shift in global climate governance. Unlike the Kyoto Protocol, it applies to all countries and aims to limit global temperature rise to “well below 2°C” above pre-industrial levels, while pursuing efforts to limit it to 1.5°C. The Paris Agreement introduced Nationally Determined Contributions (NDCs), where each country sets its own emission reduction targets, subject to periodic review and increased ambition over time.

Other Relevant International Agreements

While the UNFCCC, Kyoto Protocol, and Paris Agreement form the backbone of international climate law, other instruments support and intersect with climate goals:

- The Montreal Protocol (1987), originally aimed at phasing out ozone-depleting substances, has indirectly contributed to climate mitigation by reducing powerful greenhouse gases like hydrofluorocarbons (HFCs).
- The Sendai Framework for Disaster Risk Reduction (2015–2030) emphasizes resilience and adaptation, crucial components of climate response.
- The Convention on Biological Diversity (CBD) acknowledges the interlinkages between climate change and biodiversity loss.

Key Principles of International Climate Law

Several principles of international environmental law guide the global response to climate change:

- Common but Differentiated Responsibilities (CBDR): Developed nations, having contributed most to historical emissions, bear a greater responsibility in combating climate change.
- Precautionary Principle: States should take preventive action even if scientific certainty is not complete.
- Polluter-Pays Principle: Countries and corporations responsible for emissions must bear the costs of damage and mitigation.
- Sustainable Development: Climate policies must balance economic, environmental, and social goals.
- Intergenerational Equity: Present actions must not compromise the ability of future generations to meet their needs.

India, as a developing country with significant climate vulnerability, actively participates in global climate negotiations. It emphasizes climate equity, CBDR, and the need for financial and technological support from developed countries. India's updated **NDCs** commit to reducing emissions intensity and increasing renewable energy capacity. The country also spearheads initiatives like the **International Solar Alliance (ISA)** and **Coalition for Disaster Resilient Infrastructure (CDRI)**, demonstrating leadership in clean energy and adaptation.

VIII. LANDMARK CASE LAWS

1. M. C. Mehta v. Union of India – Oleum Gas Leak Case (1986)

Following a gas leak from a factory in Delhi, the Court established the principle of **absolute liability**. Unlike the traditional rule of strict liability, absolute liability holds industries responsible for any harm caused by hazardous activities, regardless of any negligence. This case became a cornerstone in India's environmental jurisprudence, reinforcing the **polluter-pays principle** and improving accountability.

2. M. C. Mehta v. Kamal Nath (1996)

This case involved the illegal diversion of river flow by a private resort. The Supreme Court invoked the **public trust doctrine**, declaring that natural resources such as air, water, and forests are held in trust by the State for public use. It emphasized that no one, not even the government, has the right to misuse these resources for private gain.

3. Vellore Citizens' Welfare Forum v. Union of India (1996)

This landmark case marked the formal adoption of several important environmental principles in Indian law: **sustainable development**, **precautionary principle**, and **polluter-pays principle**. The Court emphasized that economic development must be balanced with environmental protection and held polluting industries accountable for environmental damage.

4. M. C. Mehta v. Union of India – Taj Trapezium Case (1996)

To protect the Taj Mahal from pollution, the Supreme Court directed the closure of industries using coal and coke in the Taj Trapezium Zone (TTZ). It ordered a switch to cleaner fuels and continuous environmental monitoring. This case showcased the judiciary's commitment to protecting not only natural resources but also cultural heritage from the impacts of environmental degradation.

5. Rural Litigation and Entitlement Kendra (RLEK) v. State of Uttar Pradesh (1988)

One of the earliest environmental PILs in India, this case led to the closure of limestone quarries in the ecologically sensitive Doon Valley. The Court emphasized the need to preserve fragile ecosystems and ordered afforestation to reverse the damage. It showed how judicial intervention can act decisively to protect the environment.

6. Ridhima Pandey v. Union of India (2017)

A nine-year-old girl filed a petition in the National Green Tribunal (NGT) arguing that the government was not fulfilling its obligations under the **Paris Climate Agreement**. Though the

petition was dismissed, it highlighted the growing importance of **climate justice** and the rights of future generations. It set a precedent for youth-led climate action in India.

7. M. K. Ranjitsinh & Ors. v. Union of India (2021–2024)

In a groundbreaking move, the Supreme Court recognized the constitutional right to be free from the adverse effects of climate change under Articles 14 and 21. While dealing with the protection of the endangered Great Indian Bustard, the Court balanced species conservation with the need for renewable energy infrastructure. This judgment is a milestone in integrating climate rights into constitutional law.

IX. CLIMATE CHANGE ADAPTATION AND COMMUNITY RESILIENCE

Climate change is impacting communities across India through floods, droughts, heatwaves, landslides, and changing rainfall patterns. The severity and type of impact vary across regions due to geography, environment, and socio-economic conditions. Since climate risks cannot be entirely avoided, adaptation has become a critical part of India's response, complementing mitigation efforts that aim to reduce greenhouse gas emissions. Adaptation involves adjustments in natural or human systems to reduce harm, while resilience refers to the ability of communities and ecosystems to absorb shocks and recover quickly. Legal frameworks guide these processes by shaping policies, protecting vulnerable groups, and promoting sustainable development.

At the national level, adaptation is guided by policy frameworks like the National Action Plan on Climate Change (NAPCC), which includes missions addressing agriculture, water, Himalayan ecosystems, and climate knowledge. Each state has its State Action Plan on Climate Change (SAPCC) to address local vulnerabilities—for instance, floods and landslides in the Northeast, glacial changes in Himalayan states, and cyclone preparedness in coastal areas. Local governance institutions, such as Panchayati Raj bodies and municipal authorities, play a vital role in implementing adaptation programs, including water conservation, sustainable agriculture, disaster preparedness, and climate-resilient infrastructure. Traditional and tribal governance systems also contribute, particularly in forest, water, and land management.

Indian laws support vulnerable communities through measures like the Forest Rights Act (2006), Panchayats (Extension to Scheduled Areas) Act (1996), and Disaster Management Act (2005), which strengthen community rights, promote conservation practices, and provide frameworks for disaster preparedness. Adaptation spans sectors such as agriculture, water management, forests, biodiversity, and health, with measures like climate-resilient crops, watershed development, and early warning systems. Examples from Northeast, Himalayan, and coastal states illustrate how combining legal frameworks with local knowledge enhances resilience.

Challenges remain in implementation, coordination, funding, and conflicts with development projects. Strengthening legal enforcement, integrating traditional knowledge, promoting community participation, and increasing financial resources are crucial for building long-term

resilience. Overall, adaptation and resilience, supported by law and governance, are essential for protecting communities and ecosystems and preparing India for future climate impacts.

Key Environmental Laws and Policies in India

The **Coastal Regulation Zone (CRZ) Notification, 2018** aims to promote sustainable development while addressing environmental risks, including sea-level rise caused by climate change. It seeks to protect coastal ecosystems, safeguard wildlife, and preserve the livelihoods of local communities, particularly fishermen, by regulating development activities along India's coastline. The notification balances ecological conservation with the socio-economic needs of coastal populations.

The **National Green Tribunal (NGT) Act, 2010** established a specialized judicial body to address environmental disputes and provide timely remedies to victims of pollution and ecological damage. Formed under the guidance of the Supreme Court, the Law Commission, and India's international environmental obligations, the NGT handles multidisciplinary environmental issues, including forest and natural resource protection. Its decisions are binding and can award compensation to affected communities. The NGT supports **Article 21 of the Constitution**, which guarantees citizens the right to a healthy environment, and has become a central institution in achieving environmental justice and promoting environmental law in India.

The **Wildlife (Protection) Amendment Bill, 2021**, introduced by the Ministry of Environment, Forest and Climate Change, seeks to enhance the protection of wildlife species and strengthen the legal framework for biodiversity conservation. Key provisions include the creation of **Standing Committees of State Wildlife Boards** to manage and authorize wildlife-related projects independently of the National Board for Wildlife (NBWL). The Bill reduces the number of wildlife schedules under the Act from six to four, simplifying categorization. Additionally, it incorporates **Wildlife Management Plans** for national parks into the Act, ensuring that these protected areas are better conserved. The proposals have been approved through executive orders, reflecting a proactive approach to wildlife and habitat protection.

Together, these legislations demonstrate India's commitment to environmental protection, sustainable development, and climate resilience. By combining regulatory frameworks, judicial mechanisms, and strengthened wildlife laws, the country seeks to safeguard ecosystems, support vulnerable communities, and ensure effective enforcement of environmental rights.

X. CONCLUSION

India until now has been reactive or responsive to the climate change concerns. But it is high time that all these concerns have to be dealt with by comprehensive norms and plans. It has to be dealt with under the aegis of a legislative enactment to make it more effective and result oriented. India needs to chart out a roadmap for itself in the light of the report on climate change. Climate change can be mitigated in many ways, such as improving the efficiency of - intensive devices, vehicles and buildings, all of which involve direct and indirect gas emissions. Developing countries like India must adopt new - efficient technologies. Fuel - efficient

vehicles, hybrid vehicles, affordable and safe public transport, green technologies such as solar system.

India's legal system is evolving into a critical tool in the climate response, creatively leveraging constitutional principles, statutory instruments, and judicial innovation. However, to move from fragmented and reactive interventions to a proactive and coherent climate governance regime, dedicated legislation and systemic institutional reform are essential. As climate risks deepen, the role of law must transition from protection to transformation—ensuring sustainability, equity, and resilience for current and future generations.

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