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Legal Roadblocks in Achieving India's Net Zero Target by 2070: An Assessment of Climate Policies and Enforcement Mechanisms

HARSH KUMAR SINGH[1]

ABSTRACT

India has committed to cutting its carbon footprint down to zero by 2070. It is a major step in combating climate change. However, numerous legal and policy issues can prevent us from doing so. This paper examines the legislation India currently has, such as the Environment Protection Act (1986), Energy Conservation Act (2001), and the Air Pollution Act (1981). It indicates that these laws are not as powerful or functioning well. The essay also describes why we require better laws, tighter enforcement, and new concepts to assist India in transitioning to clean energy and curb pollution smoothly and equitably.

Keywords*: Environment, Pollution, Legal Policy, Protection, Climate Change.*

I. INTRODUCTION

India, being the world's third-largest emitter of greenhouse gases, has a major role to play in combating climate change. Climate change is today one of the most urgent problems of our age, impacting the environment as well as human health, agriculture, and the economy. India's pledge to reach net-zero emissions by 2070, made at the 26th United Nations Climate Change Conference of the Parties (COP26) in Glasgow, is a milestone in the climate approach of the country. The net zero target is a promise to equalize the volume of greenhouse gases that are released with the volume that is taken out of the air by 2070, basically cutting its carbon footprint to none.

Nevertheless, even with this ambitious goal, India has several challenges to achieve net-zero emissions. The nation's energy production is dependent on coal, a low-cost and highly available source of energy, which contributes a significant percentage of its carbon footprint. Switching to alternative sources like solar, wind, and hydropower demands significant investment and infrastructural upgradation. India is also industrially and urbanistically developing, further

[1] Author is a LL.M. Student at Khwaja Moinuddin Chishti Language University, Lucknow, India.

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raising its emissions.

Besides economic and technological hurdles, India's policy and legal frameworks are weak and dispersed to facilitate effective climate action. Although there exist numerous environmental legislations, including the Environment Protection Act (1986), the Energy Conservation Act (2001), and the Air Pollution Control Act (1981), they are weakly enforced and lack a single, integrated, comprehensive approach to deal with climate change. The legal landscape is still developing, and an urgent requirement is a stronger, more complete, and detailed legislation that can lead India to fulfill its climate goals.

This article will critically examine the current legal structures and identify the primary hurdles in attaining India's net-zero goal. The article will delve into gaps in enforcement, regulation, and the lack of an integrated climate law. The article will also highlight the role of judicial activism and legislative amendments in formulating a unified legal and policy structure capable of confronting climate change.

II. INDIA'S NET ZERO COMMITMENT: CONTEXT AND CHALLENGES

(A) COP26 and India's Climate Pledge

India took a firm commitment towards net-zero emissions by 2070 at COP26 in Glasgow. This commitment is one of those made by India to lower its carbon footprint and help mitigate global climate change. Despite the noble intentions behind the commitment, there are several issues facing it. India's emissions continue to increase because of expanding energy demand from its expanding economy and population. The transition to renewable sources of energy needs massive investments, and it might take years to eliminate the dependency on fossil fuels, particularly coal, which is India's main source of energy.

(B) Sectoral Emissions: Energy, Transportation, Industry

India's biggest emission sources are its energy sector, transport, and industries. The largest source of carbon emissions in the nation is the energy sector, particularly the generation of electricity from coal. Transportation, such as road vehicles and aviation, is another large source, and it will increase as the population and economy of India increase. The industrial sector is also an important source, mainly heavy industries like cement, steel, and chemicals. All these industries will have to make drastic adjustments to lower their emissions, which is an enormously challenging task on the way to net zero in the country.

(C) Economic and Developmental Constraints

India remains a developing nation, and it is not easy to balance economic growth with

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sustainability. One of the greatest challenges is making sure that emission-cutting efforts do not affect the economic development of the country. India boasts a high population that demands jobs, low-cost energy, and industrial development. A move towards a green economy can perhaps entail a transformation in industries and labor markets, hence potentially giving rise to near-term issues such as unemployment in specific industries. The government must, therefore, proceed with prudent measures to see to it that a shift towards a low-carbon economy does not adversely affect the economic development and growth of the country.

III. LEGAL FRAMEWORK GOVERNING CLIMATE ACTION IN INDIA

(A) Environment Protection Act, 1986

The Environment Protection Act, 1986, is one of the most significant laws of India aimed at conserving the environment. It authorizes the government to act to enhance the environment, avoid pollution, and regulate natural resources. The law is essential in safeguarding ecosystems, biodiversity, and human health. It also addresses the control of industrial processes that have adverse effects on the environment. While this Act offers a broad outline of environmental protection, it does not address climate change by name. Consequently, it lacks specific provisions for curtailing the emissions of greenhouse gases or addressing the global effects of climate change. More importantly, this Act has been unevenly enforced, with several issues in making people comply. To effectively contribute to combating climate change, the Act must be revised with more concise instructions on carbon emissions reduction and implementing penalties against infringement.

(B) Energy Conservation Act, 2001

The Energy Conservation Act, 2001, was established to support energy efficiency and conservation in India. It aims at minimizing energy use and promoting energy-efficient technologies. Under this act, the *Bureau of Energy Efficiency (BEE)* was established to formulate and implement energy-saving policies for industries, buildings, transport, and households. The act also promotes the use of energy-saving measures, including the use of energy-efficient appliances and technologies. But whereas the law assists in making energy more efficient, it does not directly solve the problem of carbon emissions or the shift to cleaner, renewable energy sources such as solar or wind power. The target of net-zero emissions by 2070 calls for a more holistic strategy that is more than just energy conservation, such as the shift to sustainable energy sources and carbon emission reduction.

(C) Air (Prevention and Control of Pollution) Act, 1981

The Air (Prevention and Control of Pollution) Act, 1981, was passed to regulate air pollution

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and enhance the quality of air in India. The legislation gives power to the government to establish standards for the level of air pollution that industries, vehicles, and other entities can release. It also makes provisions for establishing pollution control boards at the national and state levels to monitor and regulate pollution. Although the Act has been effective in curbing some air pollution in some parts of the country, it does not consequently provide for the issue of climate change or carbon emissions, which are the major causes of global warming. The legislation must be revised to address the matter of climate change by providing for the increasing emissions of greenhouse gases, including carbon dioxide, that are leading to increasing temperatures and more frequent cases of extreme weather conditions. To meet India's international obligations for climate targets, this law has to be revised to specifically address carbon emissions and intensified enforcement.

(D) National Action Plan on Climate Change (NAPCC) and State Action Plans

The National Action Plan on Climate Change (NAPCC) was introduced in 2008 as India's primary framework to tackle climate change. The NAPCC comprises eight missions that aims at promoting clean energy, improving energy efficiency, sustainable agriculture, water conservation, and other climate-related objectives. These missions inform India's climate policies but do not have binding legal implications for states or sectors. Consequently, although the NAPCC is a sound basis, its execution has been patchy, and it lacks specific goals for emissions reduction or climate action at the state level. States have also developed climate action plans of their own, but these tend to struggle with coordination, finance, and implementation. Most states do not have the capacity and resources to implement their plans in full. In order to achieve tangible progress towards the net-zero goal, what is required is greater coordination between the central government and the states, and a more binding national structure that consists of defined legal targets and commitments.

The NAPCC and state-level action plans are crucial first steps, but must be supplemented by making sure that all economic sectors and geographic regions are accountable for their shares of climate-altering activities. There must be more coordination and definite legal authority to spur end-to-end, across-the-country, comprehensive, and long-term action.

IV. CRITICAL GAPS IN THE EXISTING FRAMEWORK

Despite the presence of various laws and policies, there are several gaps in India’s legal framework when it comes to tackling climate change. These gaps make it harder to achieve the country’s net-zero emissions target by 2070. Below are the gaps in detail:

(A) Lack of a Comprehensive Climate Law

One of the biggest gaps is the absence of a single, comprehensive law dedicated to climate change. India has multiple laws that touch on environmental protection, energy conservation, and pollution control. However, there is not a unified climate law that addresses all aspects of climate change in a coordinated manner. This makes it harder to have a clear direction and unified approach.

For example, India's current laws focus on individual problems like air pollution or energy use, but they do not bring all the issues together, such as carbon emissions, climate change adaptation, and renewable energy, under one legal framework.

(B) Weak Enforcement and Regulatory Overlaps

Another major issue is the weak enforcement of existing laws. Many laws are in place, but they are not always followed properly due to a lack of strict monitoring and accountability. Different government bodies are responsible for enforcing these laws, but their efforts sometimes overlap or conflict with each other. This causes confusion and inefficiency.

For instance, the *Central Pollution Control Board (CPCB)* and state pollution boards are both tasked with controlling pollution, but they may not always work together effectively. As a result, even if there are laws to reduce pollution, enforcement is weak, and the laws don't always achieve their intended results.

Case Study: Air Pollution in Delhi

Delhi, the capital of India, has faced severe air pollution for many years, especially during the winter months. The government has put laws in place to control air pollution, such as restricting the burning of crop stubble and controlling emissions from vehicles. However, enforcement of these laws has often been weak. Despite the measures, Delhi's air quality continues to decline. This shows that while there are laws, the lack of strong enforcement and coordination between different authorities is a major barrier to solving the problem.

(C) Inadequate Data Transparency and Monitoring

For laws to be effective, there needs to be a clear understanding of how much pollution is being generated, where it is coming from, and what impact it is having. Unfortunately, there is a lack of adequate data transparency in India. The available information is often not accurate or up-to-date, making it difficult to measure progress or hold polluters accountable.

For example, while India tracks emissions data, it is often not detailed enough to pinpoint specific sources of pollution, or it is not available in real-time. Without proper data, it is hard to

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plan and implement effective solutions.

Case Study: Climate Data Gaps in Indian States

In many states, local authorities struggle to gather and share data about the effects of climate change, such as changes in temperature, rainfall patterns, and crop production. In the state of Maharashtra, for instance, the lack of comprehensive climate data has made it difficult for the government to create targeted policies to help farmers adapt to changing weather patterns. Without reliable data, it's almost impossible to measure how well current policies are working or to make adjustments to improve them.

(D) Judicial Intervention and its Limitations

Judicial intervention is an important tool for ensuring that environmental laws are followed. Courts can order government bodies to take action or hold violators accountable. However, the judiciary in India is often faced with a huge backlog of cases, which delays decisions on climate-related matters. Additionally, there may be limitations in terms of expertise in climate science, making it hard for judges to make informed decisions on complex environmental issues.

For example, while there have been cases where courts have stepped in to tackle air pollution or illegal mining activities, the slow pace of legal proceedings means that the damage is already done by the time a verdict is reached.

Case Study: Narmada River Case

The Narmada River case in India involved disputes over the construction of large dams on the river. The Supreme Court of India played a role in determining the legality of the dams and whether they would cause irreversible harm to the environment. While the court ruled in favor of the projects, many environmental activists argued that the judgment did not fully consider the long-term ecological impacts. The case highlights the challenges that the judiciary faces in balancing development needs with environmental protection and how delays in judicial decisions can have lasting negative effects on the environment.

In conclusion, while India has a framework of laws and policies to address climate change, there are significant gaps that need to be addressed. A unified climate law, stronger enforcement, better data transparency, and more effective judicial interventions are needed to ensure that India can meet its net-zero target by 2070.

V. COMPARATIVE ANALYSIS

To gain a better sense of how India might enhance its climate legislation and policy, it is useful to examine how other nations, especially in Europe, have crafted and enacted their climate

legislation. Through an examination of their triumphs and setbacks, India can gain important insight and adopt best practices for enhancing its climate action.

(A) Climate Laws in the EU and the UK

The United Kingdom (UK) and the European Union (EU) have established some of the world's most innovative climate legislation. The EU has established a goal to be climate-neutral by 2050, in that it wants to achieve zero net greenhouse gas emissions. To meet this goal, the EU has established an overarching legal system known as the European Climate Law, where the 2050 goal is made legally binding for each member state. This legislation incorporates precise steps for lowering emissions in industries such as energy, transportation, and agriculture, along with transparent rules for tracking progress and penalties for violations.

In the same manner, the UK enacted the Climate Change Act of 2008, which provides legally binding carbon budgets that place a cap on how much carbon dioxide the nation can emit in the future. The legislation also mandates periodic review to gauge progress by the UK toward climate objectives and prescribes a system of government action.

These pieces of legislation are exceptional in being clear, transparent, and enforceable. By establishing legally enforceable targets and mandating reviews on a regular basis, these nations make sure that their climate objectives are not mere promises—they are tangible commitments supported by legislation.

For instance, the Climate Change Act in the UK has worked. It was the world's first legally binding climate legislation, and it has assisted the UK in cutting carbon emissions considerably. Over the period from 1990 to 2019, the UK reduced its emissions by 43%, mainly because of the transparent, binding character of the Act that pressured the government into making tangible measures towards curbing emissions. Periodic reviews enabled the government to make policy changes when necessary to keep on course.

(B) Lessons for India: Legal Mandates, Climate Budgets, and Independent Oversight Bodies

India can pick up some important lessons from the EU and UK climate legislation:

- **Legal Mandates:** India would do well to adopt legally binding emission targets for every sector, e.g., energy, transport, and agriculture. This will establish unambiguous responsibility and will compel the government to act in a structured, time-specific fashion. With concrete, legally binding objectives, India could have a far more defined road map towards emission reduction.

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- **Climate Budgets:** A "climate budget," such as the one implemented in the UK, would be an excellent addition to India's climate policy. This budget would impose a cap on the overall amount of carbon emissions India can emit within a certain timeframe. This would keep the government within the emissions cap and work towards the net-zero goal.
- **Independent Oversight Bodies**: Both the UK and the EU have independent oversight bodies to track progress towards their climate objectives. For example, the UK has the Committee on Climate Change that reports on the government's climate policies and advises improvements. India would be wise to establish an independent body with similar functions of tracking progress, proposing improvements, and holding the government accountable for climate action. It would assist in implementing climate policies well and ensuring the government stays on course to fulfill its targets.

The European Union's Green Deal is another similar case. The EU's Green Deal seeks to make Europe a climate-neutral continent by 2050. The plan has defined targets for greenhouse gas emission cuts, the boost of renewable energy, and raising energy efficiency. The Green Deal also puts an emphasis on the transition towards a low-carbon economy being just and inclusive, particularly for the communities and laborers who could be impacted by the transformation. This emphasis on justness and inclusiveness is particularly critical to India, where combating climate change has to also meet poverty reduction and social equity needs in addition to environmental objectives.

(C) Comparative Insights for India

While India's climate policies are ongoing, there are several areas where the country can learn from the EU and the UK:

- **Legislative Framework:** India can learn from establishing a single, overall climate law that spells out a clear, binding roadmap for net-zero emissions. The law must address all major sectors, define definite emissions reduction targets, and comprise stringent enforcement provisions.
- **Strengthened Implementation and Monitoring:** To guarantee progress, India requires stronger mechanisms to track emissions reductions. This may involve establishing an independent body, such as the UK's Committee on Climate Change, to review the government's progress and make public reports on the success of climate policies. Transparency is the key to guaranteeing that climate policies are effective and that the government is held accountable for its promises.

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- **Public Participation and Transparency:** Climate action needs to be backed by public participation and transparency. Public participation is encouraged by the EU's Green Deal, with opportunities for citizens and organizations to get involved in decision-making. India can also do the same by engaging communities, industries, and local governments in the climate policy process. It would ensure policies are inclusive and address the requirements of different sectors of society.

In summary, the EU and UK experiences are useful lessons for India regarding legally binding climate targets, developing a comprehensive legal framework, and stronger monitoring and public participation. Implementing these measures will enable India to enhance its climate action efforts and come closer to realizing its net-zero goal by 2070.

VI. PATH FORWARD: LEGAL AND INSTITUTIONAL REFORMS

India has made a significant step by committing to becoming a net-zero carbon emitter by 2070. But turning this dream into reality requires robust laws, robust institutions, improved planning, and public support. This section describes what India must do next to correct the loopholes in its legal and policy framework and move aggressively towards a cleaner, greener future.

(A) Need for a Climate Change Act

India currently has no single law that specifically addresses climate change. The laws that do exist, such as the Environment Protection Act or Energy Conservation Act, address only some aspects of the issue. India needs a special climate change law—a distinct, focused, and strong law that integrates everything.

Such a new law should:

- Establish clear targets and timelines for pollution reduction and the adoption of clean energy.
- Share responsibilities among the central government, state governments, industry, and other sectors.
- Ensure that there is accountability—so if someone is not obeying the law, there are consequences.
- Ensure that there is a proper system of monitoring progress and changing actions if targets are not being achieved.

A good Climate Change Act will provide India with a legal backbone to combat climate change seriously and at all times.

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(B) Strengthening Regulatory Institutions (CPCB, BEE, State Pollution Boards)

Organizations such as the Central Pollution Control Board (CPCB), Bureau of Energy Efficiency (BEE), and State Pollution Control Boards contribute significantly to the conservation of the environment. But at times, they lack the power, manpower, or funding to perform their tasks efficiently.

To strengthen them:

- These organizations should receive enhanced funding, technical equipment, and trained personnel.
- There should be proper coordination among the central and state-level organizations so that there is no delay and confusion.
- The functions of each agency should be well spelled out to prevent duplication and facilitate work.
- Independent audits should be conducted periodically to verify that these bodies are functioning effectively.

When our institutions are robust, they can better enforce the rules and help us meet our climate targets quickly.

(C) Implementing Climate Budgeting and Carbon Pricing

India needs to implement smart economic instruments to regulate pollution and promote greener methods.

Climate Budgeting refers to allocating a part of the state and national budgets on climate-related work such as renewable energy projects, disaster preparedness, tree plantation, etc. Each ministry—such as transport, industry, or housing—ought to plan its budget, keeping in mind its contribution to the climate.

Carbon Pricing refers to charging for pollution. The concept is straightforward: the more you pollute, the more you pay. This will encourage businesses to use clean technologies and lower emissions. It can be achieved through:

- Carbon tax – charging money directly for polluting.
- Cap-and-trade system – enabling companies to trade pollution limits, such as credits.

These fiscal instruments can make the economy cleaner while raising money for climate work.

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(D) Increasing Public Involvement and Climate Literacy

Combat against climate change is not solely the government's duty—it's everyone's responsibility. People must be educated and engaged.

- Schools and universities must educate students about climate change simply and practically.
- Awareness campaigns must be conducted to enlighten common citizens about how small actions in their daily lives, such as saving electricity, staying away from plastic, and taking public transport, can benefit the environment.
- Local populations, particularly those residing in flood- or drought-hit or pollution-hit areas, must be engaged in designing climate action programs.
- Particular care must be taken in rural populations, tribal populations, and weaker sections, ensuring that they are not left behind and are integrated into decision-making.

When people are aware of the issue and feel a part of the solution, change is more rapid and stronger.

Briefly put, India's net-zero objective requires more than empty assurances. It requires effective new legislation, empowered institutions, intelligent expenditure of money, and the active engagement of all its citizens. Through these changes, India can construct a more secure and sustainable future for all.

VII. CONCLUSION

India's commitment to becoming a net-zero carbon emitter by 2070 is a crucial step towards safeguarding the environment and combating climate change. It indicates that India is willing to take charge and lead the world towards a cleaner and secure future. But a promise is not enough—strong actions and appropriate systems are needed to deliver.

Currently, India does have some legislation that addresses the environment and pollution. However, these laws are outdated, incomplete, and are not functioning very effectively in the current changing world. Various departments and institutions function independently without coordination. This hinders controlling pollution and curbing carbon emissions in an effective manner.

To address this, India requires a fresh and strong climate change law dedicated solely to combating climate change. Such a law must articulate well what has to be done, who should do it, and what will happen if one violates the law. We must also strengthen our government

institutions so that they can better regulate pollution and take stern action when necessary.

Besides legal changes, it's equally crucial to induct individuals into the process. Citizens, students, industries, farmers, and workers alike must realize climate change and contribute towards its solution. If made aware and included, they can contribute towards saving energy, utilizing clean technology, and conserving nature in their respective means.

Simply put, if India wishes to realistically achieve its net-zero goal by 2070, then it has to:

- Make more and improved climate legislation.
- Make government institutions stronger and more effective.
- Apply new concepts such as climate budgeting and carbon pricing.
- Educate and engage the public.

With good legislation, firm action, and support from all citizens, India can lead on climate action and create a healthy future for generations to come.

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