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ABOUT US

WHITE BLACK LEGAL is an open access, peer-reviewed and refereed journal provide dedicated to express views on topical legal issues, thereby generating a cross current of ideas on emerging matters. This platform shall also ignite the initiative and desire of young law students to contribute in the field of law. The erudite response of legal luminaries shall be solicited to enable readers to explore challenges that lie before law makers, lawyers and the society at large, in the event of the ever changing social, economic and technological scenario.

With this thought, we hereby present to you

ENVIRONMENTAL RESPONSIBILITY: STRENGTHENING ACCOUNTABILITY THROUGH LAW

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ABSTRACT

Every single individual living in this world is responsible and accountable towards environment and play an important role in sustainable development. Still many countries in the world, even after having extensive legal framework, lack in environmental degradation which is a serious matter also exposes the lack of intention or efficiency to obey the existing laws. If we talk about Indian Constitution, it has a vast history and provisions of environment protection such as Article 48A and Article 51A(g) are there to ensure that the state and citizens, safeguard the environment. The Environment Protection Act, 1986; the Air (Prevention and Control of Pollution) Act, 1981; the Water (Prevention and control of Pollution Act, 1974 and the Forest Conservation Act, 1980 are such legislation in India which provide complete guidelines for environmental governance. In addition to that, Judicial Activism with principles of sustainable development, public trust further fortified environmental jurisprudence. Even after all such provisions, the enforcement of environmental protection remains a significant challenge for regulatory agencies such as Central and State Pollution Control Boards. The reason behind the same lies in some agencies responsible for the same such as the executing bodies of law – administrators, law abiding firms and industries who majorly cause pollution in the form of air water and, people who have lack of environment protection sense also lack of strict judicial intention towards environment protection which leads to laziness of people at broad levels. The bureaucratic inefficiency, political interference are at some way or the other, hindering the efficiency of the agencies who take care of the environment that affects proper implementation of environmental laws. Additionally, the economic interest of many industries often neglects environmental concerns rather than proactive approach. This research article highlights the pressing needs for strengthening accountability mechanisms with legal framework. It not only

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advocates for reforms like developing legal mechanisms to fix individual responsibility, streamlining judicial processes and integrating environmental responsibility. By addressing these gaps, India can transition from a reactive to a preventive and participatory approach towards environment protection.

Keywords: Environmental Governance, Sustainable Development, Environmental Awareness, Judicial Activism, Accountability Mechanisms, Indian Environmental Laws.

Introduction

Healthy environment is an important element to exhibit developmental ideology followed by acts that can help in growing a country at a worldclass level. India a developing country since ages; where clean and healthy environment is a long-term dream. Whenever we organized any national or international event, it becomes evident that the additional attention is paid in removing unnecessary waste from the streets and other places; whereas if we were doing it in our daily routine; this extra activity could have been eliminated. The problem of pollution in India is growing day by day. with population Environmental degradation is a pervasive global issue characterized by the depletion of natural resources, loss of biodiversity, pollution, and climate change, which collectively threaten the balance of ecosystems and human survival. Human activities such as deforestation, industrialization, overexploitation of resources, and unsustainable agricultural practices have accelerated this degradation. In the political diaspora, it is always being a commitment that the environmental protection will be given much preference but the reality lies in the roads and in the minds of people who less care about cleanliness; resulting dirty roads, drainage system, weak management that causes sufferings of people in natural calamities like heavy rain, tsunami etc. In international jurisprudence, the *Stockholm Declaration (1972)* emphasized that humans have a "fundamental right to freedom, equality, and adequate conditions of life in an environment of a quality that permits a life of dignity and well-being." This principle laid the groundwork for sustainable development as a core global agenda. Sustainable development, defined by the *Brundtland Report (1987)* as development that meets the needs of the present without compromising the ability of future generations to meet their own needs, represents a holistic approach to addressing environmental challenges while fostering economic growth and social equity. Meanwhile all rights come with expressed and implied duties to maintain a balance between what is needed and what is being

done. The Brundtland Report stated that critical global environmental problems were primarily the result of the enormous poverty of the South and the non-sustainable patterns of consumption and production in the North. It called for a strategy that united development and the environment – described by the now-common term “sustainable development”; which is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Globally, the *Paris Agreement (2015)* and the United Nations’ Sustainable Development Goals (SDGs) provide blueprints for combating environmental degradation. It is a legally binding global agreement aimed at combating climate change by limiting global warming to well below 2°C above pre-industrial levels, with an ambition to limit warming to 1.5°C. It requires countries to submit and update Nationally Determined Contributions (NDCs) every 5 years, outlining their plans for reducing greenhouse gas emissions and adapting to climate change. Indian law incorporates sustainable development and environmental protection within its constitutional and legislative framework. Article 48A of the Constitution of India directs the State to protect and improve the environment, while Article 51A(g) imposes a fundamental duty on citizens to safeguard natural resources. In *M.C. Mehta v. Union of India (1987)*, the Supreme Court interpreted these provisions as imposing obligations on both the State and citizens to ensure environmental sustainability. The principle of public trust, reaffirmed in *M.C. Mehta v. Kamal Nath (1997)*, emphasizes that the State acts as a trustee of natural resources, which are held for public use and enjoyment. This is a strong foundation; enforcement remains a critical challenge. In *Vellore Citizens Welfare Forum v. Union of India (1996)*, the Supreme Court acknowledged the adverse effects of industrial pollution and adopted the precautionary principle and the polluter pays principle as essential facets of sustainable development. The Court recognized the severity of pollution from tanneries in Tamil Nadu, particularly their discharge of untreated effluent into the Palar River, and directed the central government to establish an authority to assess environmental damage, recover compensation from polluters, and implement pollution control measures. However, inadequate regulatory mechanisms and bureaucratic inefficiency often undermine these principles. The Central and State Pollution Control Boards frequently encounter political interference and lack of resources, as highlighted in *T.N. Godavarman Thirumulpad v. Union of India (2006)*, where the Supreme Court observed the ineffectiveness of administrative agencies in preventing deforestation and ecological damage. In this case the Supreme Court of India also expanded the definition of "forest" under the Forest Conservation Act, 1980 to include all areas that are legally recognized as forests,

regardless of ownership or classification. This ruling had a significant impact on forest conservation efforts in India.

Scholars like *Nanda and Pring*, in their seminal work *International Environmental Law and Policy for the 21st Century*, argue that Earth faces “global” environmental problems including anthropogenic climate change, stratospheric ozone depletion, nitrogen loading, species extinction, biodiversity loss, ocean pollution, natural areas destruction, deforestation, desertification, topsoil loss, declining food production, depleted fish stocks, grinding poverty, spiralling population, and grave human health problems (such as the AIDS pandemic, international tobacco sales, and lack of safe drinking water and sanitation for billions of people). Similarly, *Justice P.N. Bhagwati*, a pioneer in judicial activism in India, emphasized in his judgments the need for proactive measures to enforce environmental laws and create a culture of environmental stewardship.

However, honourable Supreme Court of India, in a case of *Subhash Kumar v. State of Bihar & Ors, (1991)*, held that the right to a pollution free environment is a fundamental right under Article 21 of the Constitution of India.

In many judicial proceedings, zoning and town planning have been recognized as an important aspect of sustainable development that forms a subset of the right to a pollution-free environment. (*Milk Producers Association, Orissa & Ors. V. State of Orissa & Ors, (2006)*).

The interpretation of statutes also plays a critical role in addressing environmental concerns. Courts have increasingly adopted a purposive approach to interpreting environmental laws, focusing on the intent and broader objectives of legislation rather than adhering strictly to the literal text. This approach is evident in *Indian Council for Enviro-Legal Action v. Union of India (1996)*, where the Supreme Court held industries liable for environmental damage caused by hazardous waste, emphasizing the need for stringent application of the polluter pays principle.

In *MC Mehta v. Union of India (1987)*, the Supreme Court established the polluter pays principle following the Oleum gas leak from Shriram Industries in Delhi. The principle states that any entity causing environmental damage must bear the full cost of cleanup and restoration, compensate affected parties and implement preventive measures. Honourable court emphasized that industries engaged in hazardous activities have absolute liability as they have no exception for reasonable care or lack of negligence and they need to pay compensation for

potential damage. This judgment fundamentally shaped Indian environmental law by placing financial responsibility for environmental damage directly on polluting entities.

In *SP Gupta v. Union of India (1981)* The Supreme Court revolutionized environmental litigation by introducing Public Interest Litigation (PIL) through this landmark case. The Court significantly relaxed the traditional rule of 'locus standi' by allowing any member of the public to approach the court for legal remedy, not just the person directly affected. This case established that any citizen can file a petition on behalf of those who cannot approach the court due to social, economic, or other disabilities. This judgment democratized access to justice, particularly benefiting environmental causes where damage often affects entire communities rather than specific individuals. The Court emphasized that environmental rights are collective rights, and their protection shouldn't be limited by technical procedural requirements.

In *Rural Litigation and Entitlement Kendra v. State of UP (1985)* case, also known as the Dehradun Quarrying Case, was the first environmental case requiring environmental impact assessment in India. The Supreme Court addressed the environmental degradation in the Dehradun valley caused by limestone quarrying operations. The Court ordered the closure of several limestone quarries that were causing severe environmental damage to the Mussoorie hills. Importantly, the judgment balanced environmental protection with economic considerations by allowing some mines to continue operation under strict regulations. The Court established a monitoring committee to oversee the rehabilitation of the affected areas and introduced the concept of sustainable development in Indian environmental jurisprudence. This case demonstrated the Court's willingness to take bold steps for environmental protection, even when it meant economic losses for private enterprises.

Ultimately, achieving sustainable development requires a shift from reactive measures to preventive and participatory governance. While international frameworks and judicial activism provide a foundation, robust enforcement mechanisms, public awareness, and a commitment to environmental ethics are essential for addressing the complex challenges of environmental degradation.

Importance of accountability in achieving environmental goals

Environmental accountability not only makes a person duty bound but also needs active mental

element to ensure that what has been said and required, need to be done properly and on time. People living in any demographical area can manage to live pollution free and clean atmosphere if they feel that their surrounding is as much important as their own house; also, each state government not only just appoint cleanliness volunteers but it must make sure that the volunteers and their supervisor are duty bound and doing their task well. In this way accountability is key to ensuring that environmental goals are met, as it not only involves each and every individual but holds both governments and corporations responsible for their environmental impacts. Additionally, a strong legal framework that mandate environmental protection is essential in driving compliance and promoting transparency. India has a significant body of environmental laws and international agreements that demonstrate its commitment to environmental responsibility and sustainability.

The field of environmental accountability has been examined through diverse theoretical lenses and stakeholder perspectives. Research has explored how various market participants engage with environmental responsibility, revealing complex dynamics between institutional frameworks and ecological outcomes (Burritt, 2012; Jepson, 2005; Lund-Thomsen, 2005). Environmental degradation has been linked to inadequate accountability structures within governance systems. Young (2010) demonstrated how grassroots activism and civil society organizations serve as crucial mechanisms for compelling both governmental bodies and corporations to accept responsibility for environmental impacts. This bottom-up pressure represents a significant force in environmental governance, particularly when formal regulatory systems prove insufficient.

Systemic obstacles to environmental accountability have been identified through various theoretical frameworks. Using capture theory as an analytical tool, Noah et al. (2021) identified three primary impediments: insufficient political commitment, regulatory agency misconduct, and corruption among elite stakeholders. These findings suggest that environmental accountability failures often stem from institutional rather than technical deficiencies. The role of cultural belief systems in shaping environmental accountability has received attention in recent scholarship. Birkin et al. (2021) employed cognitive change models and systems theory to investigate how traditional Chinese philosophical frameworks influence contemporary corporate environmental practices. Their research revealed that accounting professionals with strong cultural connections to traditional Chinese beliefs demonstrate enhanced environmental ethical orientations, which subsequently strengthens organizational accountability for

ecological impacts.

Despite growing attention to environmental accountability, several paradoxes have emerged in practice. A significant disconnect exists between accountability processes and environmental outcomes, where regulatory enforcement may occur without corresponding improvements in ecological conditions. Furthermore, environmental protection agencies and related organizations often prioritize the occurrence of accountability measures over the assessment of actual environmental improvements following such interventions (Kramarz & Park, 2016). This suggests a need for more outcome-focused approaches to environmental governance that bridge the gap between procedural accountability and substantive environmental progress.

Constitutional and Legislative Framework for Environmental Protection in India

India has a strong constitutional and legislative framework to protect the environment. This framework includes provisions within the Constitution as well as a series of legislative enactments aimed at regulating and managing environmental issues. Part IV of the constitution of India provides Directive Principles of State Policy (DPSP); under which Article 48A directs the State to protect and improve the environment and to safeguard the forests and wildlife of the country. It emphasizes the need for sustainable development and environmental conservation. In Addition to the Same; Article 51A(g) lays a fundamental duty on citizens to protect and improve the natural environment, including forests, lakes, rivers, and wildlife.

On the other hand, the legislative framework includes so many Acts and agreements at National and International levels such as

- 1. The Environment Protection Act, 1986:** This is one of the most important pieces of legislation in India that allows the government to take steps for protecting and improving the environment. It provides a framework for the control of pollution and environmental protection in India.
- 2. The National Green Tribunal Act, 2010:** The National Green Tribunal (NGT) Act was enacted to provide for the establishment of a specialized environmental court to handle cases relating to environmental protection and the enforcement of environmental laws.

3. **The Air (Prevention and Control of Pollution) Act, 1981:** This Act deals with the control of air pollution in India. It empowers the central and state pollution control boards to regulate the discharge of air pollutants into the atmosphere.
4. **The Water (Prevention and Control of Pollution) Act, 1974:** This Act aims to prevent and control water pollution by setting standards for the quality of water and by regulating the discharge of pollutants into water bodies. Gurdip Singh (2000) in his work comments that the discharge of pollutants, which are potentially harmful, must be controlled, even in the absence of specific data concerning it. Honourable High Court of Andhra Pradesh in *Pollution Control Board vs. MV Nayadu (1999)* held that environment protection involves apprehension of environmental harm and taking up of effective measures to avoid it or choosing less environmentally harmful activity. In a book by *Rosalind Malcolm (1994)* it was stated that however complete prevention is not possible and the chances to restore the prior condition of a river regarding pollution is not possible but the pollution should be controlled at primary level.
5. **India and the Paris Agreement (2015):** India is a signatory to the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC). This agreement aims to limit global warming to below 2°C, with efforts to limit the increase to 1.5°C. India has committed to achieving a substantial reduction in carbon emissions intensity, expanding renewable energy capacity, and implementing sustainable development practices.
6. **The Biodiversity Act, 2002:** The Biological Diversity Act of 2002 was enacted to conserve India's biological diversity and ensure sustainable use of its biological resources. It also facilitates fair and equitable sharing of benefits arising from the use of biological resources.
7. **The Forest (Conservation) Act, 1980:** This law restricts the diversion of forest land for non-forest purposes, ensuring the protection and conservation of India's forest resources.
8. **The International Convention on Biological Diversity (CBD), 1992:** India is a signatory to the Convention on Biological Diversity (CBD), which aims to conserve biodiversity, ensure the sustainable use of its components, and fairly share the benefits arising from the use of genetic resources.

These legal frameworks and international agreements help to strengthen India's commitment to environmental protection and the implementation of sustainable practices. By adhering to such agreements and strengthening national laws, India can better fulfil its environmental

responsibilities and meet its international obligations if such enforcement agencies and concerned people work with active mental and physical participation.

Challenges in Enforcement of Environmental Laws

Environmental law enforcement faces numerous interconnected challenges that hinder effective protection of our ecosystem. Regulatory bodies struggle with inadequate resources, expertise, and infrastructure for monitoring compliance. The legal framework itself presents obstacles through overlapping legislation, weak penalties, and lengthy court proceedings that delay justice. These issues are compounded by institutional problems like poor coordination between agencies and jurisdictional conflicts that create enforcement gaps. Political interference and industrial lobbying often weaken implementation, while limited public awareness and high litigation costs restrict citizen participation in environmental protection.

The *Swachh Bharat Abhiyan (SBA)*, launched in 2014, represents a comprehensive approach to addressing India's sanitation challenges. The initiative has achieved remarkable progress, constructing over 100 million toilets and significantly increasing sanitation coverage from 39% to 98% between 2014 and 2019. Through focused efforts on infrastructure development, waste management, and behavioural change campaigns, SBA has successfully declared over 4,000 cities Open Defecation Free (ODF). However, the program faces ongoing challenges in maintaining these achievements. Key issues include ensuring the sustainability of ODF status, maintaining constructed facilities, overcoming resistance to behavioural change, and securing consistent funding for upkeep. Despite these challenges, SBA has positively impacted public health, enhanced dignity (particularly for women), and raised nationwide awareness about sanitation. The program's success highlights both the potential and limitations of large-scale environmental initiatives, demonstrating that while infrastructure development can be achieved relatively quickly, sustaining behavioural and systemic changes requires long-term commitment and continuous community engagement.

Weak Penalties and Lack of Personal Accountability: One of the critical structural issues in addressing various societal problems, including environmental degradation or corporate malfeasance, is the insufficiency of penalties. Weak penalties fail to deter individuals and organizations from engaging in harmful practices. In many cases, the penalties for violating laws or regulations are either too lenient or not rigorously enforced, allowing wrongdoers to

avoid meaningful consequences. The absence of personal accountability exacerbates the issue, as individuals in positions of power or decision-making are often shielded from responsibility. This lack of accountability can result in repeated violations, as there are minimal incentives to change harmful behaviours or adopt sustainable practices.

Economic Interests vs. Environmental Sustainability: Another structural issue arises from the conflict between economic interests and environmental sustainability. Often, businesses and governments prioritize short-term economic gains over the long-term health of the environment. The pursuit of profit or growth frequently leads to practices that exploit natural resources, contribute to pollution, or damage ecosystems, sometimes at the expense of future generations. Economic considerations, such as maintaining industry competitiveness or job creation, often overshadow the urgent need for sustainable practices, creating a barrier to adopting environmentally friendly solutions. This tension underscores the need for stronger policies and incentives that align economic activities with environmental preservation.

Need for Strengthening Accountability Mechanisms: To address the above issues effectively, it is crucial to strengthen accountability mechanisms across different sectors. This involves creating more robust enforcement frameworks, ensuring that penalties for violations are proportionate and meaningful, and holding individuals and organizations accountable for their actions. Additionally, enhancing transparency and promoting corporate social responsibility can encourage ethical behaviour and deter harmful practices. Strengthening accountability requires the active involvement of regulatory bodies, governments, and civil society to ensure that laws are not only passed but also effectively implemented, with clear consequences for non-compliance. Only by reinforcing these mechanisms can we ensure long-term sustainability and responsible governance in all sectors.

Literature Review

The literature on environmental governance in India reveals complex interconnections between legal frameworks, institutional mechanisms, and environmental challenges. Scholarly works by *Divan and Rosencranz (2022)* and *Chatterjee (2022)* critically examine environmental law and policy, highlighting systemic gaps in implementation. *Rajamani (2024)* provides in-depth analysis of climate change law, while *Padel (2018)* explores ecological perspectives on sustainable development.

In 1968, Indira Gandhi, as prime minister, led India's delegation to the fourteenth General Congress of UNESCO. Her speech, in which she proposed a programme called 'Man and His Environment: A Design for Living', was among the first attempts made by an Indian politician at an international forum on the topic of the biosphere. She continued in this vein four years later in a speech in New Delhi. She began with a very enlightening statement about the desirable condition of human societies in general, arguing, in essence, that there was no setting back the clock or a return to 'a simplistic natural state'. Moreover, the future of humanity should no longer be 'divided into those who condition and those who are conditioned'. Instead, she said, 'We want thinking people, capable of spontaneous self-directed activity, people who are interested and interesting, and who are imbued with compassion and concern for others.

There are various landmark judgments that show importance of public right as well as public participation vs awareness regarding environment protection. One of such landmark cases is *Vellore Citizens' Welfare Forum v. Union of India (1996)* which established the principle of public trust doctrine in India, recognizing the public's right to a healthy environment. Likewise, *T.N. Godavarman Thirumulkpuram v. Union of India (2012)* case highlighted the need for effective enforcement of environmental laws and regulations, particularly in the context of forest conservation. The *Rajeev Suri v. Union of India (2024)* case emphasized the importance of public participation in environmental decision-making and the need for effective monitoring and enforcement of environmental laws. The *Bhopal Gas Tragedy (1984)* disaster highlighted the need for effective environmental regulation and enforcement in India. The *Narmada Dam Project (1980s-1990s)* was criticized for its lack of environmental impact assessment and public participation. Additionally, *The Vedanta Aluminum Plant (2005)* plant was shut down due to environmental concerns, highlighting the importance of environmental impact assessment and public participation. Empirical research by *Khosravi, Fischer, & Jha-Thakur (2019)* in the *Journal of Environmental Management* demonstrates the critical relationship between governance structures and environmental protection.

Economic dimensions are explored by *Ciecierska-Holmes, Jørgensen, Ollier & Raghunandan (2019)* who critically analysed the intersection of economic liberalization and environmental challenges.

Theoretical frameworks by *Gadgil and Guha (1994)* critically examine ecological equity and environmental conflicts. *Nikhil Deb (2024)* contributes significant insights into environmental

justice and public trust doctrine.

Additionally, rapid industrialization and developmental pressures often lead to environmental regulations being sidestepped in favour of economic growth, particularly in sectors such as mining, construction, and manufacturing (Kumar & Reddy, 2022). Corruption within regulatory agencies also impedes environmental protection efforts, as industries may bypass regulations through unethical means. The limited capacity and funding of agencies like the State Pollution Control Boards (SPCBs) further constrain their ability to implement environmental standards effectively (Narain, 2022).

In line with these academic perspectives, efforts at the national level—such as the Swachh Bharat Abhiyan—reflect an attempt to engage citizens in environmental responsibility. Prime Minister Narendra Modi has urged every citizen to pledge their commitment to cleanliness and sustainable practices (Clean India Journal, I Pledge)

“I take this pledge that I will remain committed towards cleanliness and devote time for this. I will devote 100 hours per year—that is two hours per week—to voluntary work for cleanliness. I will neither litter nor let others litter. I will initiate the quest for cleanliness with myself, my family, my locality, my village and my work place. I believe that the countries of the world that appear clean are so because their citizens don’t indulge in littering nor do they allow it to happen.

With this firm belief, I will propagate the message of Swachh Bharat Mission in villages and towns. I will encourage 100 other persons to take this pledge which I am taking today. I will endeavor to make them devote their 100 hours for cleanliness. I am confident that every step I take towards cleanliness will help in making my country clean.”—Narendra Modi, Prime Minister, India.

The literature collectively demonstrates the complex challenges in environmental governance, emphasizing the need for comprehensive, integrated approaches to environmental protection and sustainable development in India.

Research Problem

Despite the existence of an extensive legal and constitutional framework for environmental protection in India—including directives under the Constitution, comprehensive statutes, and active judicial intervention—serious challenges persist in the effective enforcement and

implementation of these protections. The persistent problem of environmental degradation, despite established policy and legal mandates, underscores systemic deficiencies not only in the operation of regulatory agencies but also in the adherence and accountability of individuals, industries, and administrators.

Key factors contributing to these challenges include bureaucratic inefficiency, political interference, insufficient judicial urgency, and widespread lack of environmental consciousness. Additionally, economic interests often override environmental priorities, and mechanisms for fixing individual and institutional responsibility remain underdeveloped. The existing enforcement approach tends to be reactive rather than preventive and participatory, limiting the effectiveness of environmental governance.

This research seeks to critically examine the underlying gaps in India's environmental accountability mechanisms within the broader legal framework. It aims to analyse how shortcomings in administrative will, industry compliance, public participation, and judicial processes impede the intended outcomes of environmental laws. The study also explores potential legal and institutional reforms needed to enhance accountability, promote proactive environmental protection, and ensure a sustainable and participatory governance model.

Hypothesis

Research Hypothesis (H₁): "There is a significant association between strengthening individual and institutional accountability through legal reforms and awareness and effective enforcement of environmental protection laws in India."

Null Hypothesis (H₀): "There is no association between strengthening accountability (through legal reforms and awareness) and the enforcement of environmental protection laws in India."

Research Design

In this research both qualitative and quantitative empirical research designs have been employed; in which methodologies of non-doctrinal legal research and qualitative content analysis of secondary sources have been used. The method used are aligned with the topic to fix environmental responsibility; also, critically examine the need for instant awareness regarding environment protection. Many adult male and female people of different age groups have been selected for the collection of primary data source which is based on a questionnaire

prepared using google form.

The secondary data source deals with relevant legal provisions, such as the legal provisions in the form of local, national and international laws, rules and bylaws. These sources provide a complete interpretation and awareness at one place about all the legal provisions. To provide a comprehensive theoretical understanding, the study will engage with academic literature, including peer-reviewed journals, online contents and books on environment protection.

Sampling Method

In selecting the sample of this study, an ideology has been followed that ensures correct representation of the subject matter. The method used for this study is “Observation method of Descriptive Research methodology” with the sample size of 30 graduate people from various spheres of life. The observation method is a research technique where researchers systematically collect data by directly watching and documenting behaviours, interactions, or phenomena in their natural environment. It involves carefully examining subjects without manipulating their context, enabling researchers to gather first-hand information through structured or unstructured approaches.

Data Collection

The collected data was further used for quantitative as well as qualitative analysis. This research uses both primary and secondary data sources. For primary data source the method of data collection of this research is questionnaire method to cover all the importance and required aspects of this study. To collect original data as primary data source, a questionnaire is created using google form and it is sent to the subjects. It was taken care that all the subjects must hold graduation degree so that they can flawlessly participate in the research, understand the nature of questions and respond with their knowledge, awareness and demand.

The secondary sources of the study incorporate review of literature that is legal interpretations, case laws, reports, commentaries, guidelines issued by high courts and supreme court of India and reports by various commissions. An in-depth analysis was done on the basis of primary and secondary data source of the study to find out what the law says and what kind of changes it needs personal behaviour and settings also. This dual approach allows for a thorough investigation of both the current legal framework and practical realities, aiming to provide insights into potential

reforms in the juvenile justice system, particularly regarding standardized preliminary assessment procedures.

Data Analysis

The primary data of this study was analysed with the help of a questionnaire created specifically for this study; by using a google form and it was sent to the subjects randomly with a request to fill it out observantly. As soon as the forms were filled out, the data automatically stored in an excel sheet which was further statistically calculated, interpreted and analysed using observation method in which both qualitative and quantitative approaches have been used.

In this study, data analysis was conducted to systematically interpret the quantitative and qualitative responses from participants. The process began with a thorough content analysis, where each response was examined to identify recurring themes and patterns relevant to the research objectives. For instance, statements highlighting the necessity for "stricter laws" or "greater public awareness" were categorized under the broader analytical theme of "Support for Stronger Laws/Awareness". Similarly, responses discussing the success or shortcomings of law enforcement were classified as "Satisfaction with Enforcement". Following this thematic categorization, responses were further synthesized into two principal analytical variables:

- **Support for Stronger Laws/Awareness** (Yes/No)
- **Satisfaction with Enforcement** (Satisfied/Not Satisfied)

Each participant's input was systematically evaluated and assigned to one of these analytical categories based on the substance of their remarks. This structured analytical approach enabled the transformation of qualitative data into a quantitative format, making it suitable for statistical examination such as the Chi-square test.

Based on thematic analysis, participant responses were summarized as follows:

| Support for Stronger Laws/Awareness | Satisfied with Enforcement | Not Satisfied with Enforcement | Total |
|-------------------------------------|----------------------------|--------------------------------|-------|
| Yes | 16 | 6 | 22 |
| No | 2 | 6 | 8 |
| Total | 18 | 12 | 30 |

Calculation of Expected Frequencies:

The expected frequency for each cell is calculated as:

$$E_{ij} = \frac{(\text{Row Total}_i) \times (\text{Column Total}_j)}{N}$$

Where:

- E_{ij} = Expected frequency for cell in row i , column j
- N = Total sample size

Calculations:

- $E_{11} = \frac{22 \times 18}{30} = 13.2$
- $E_{12} = \frac{22 \times 12}{30} = 8.8$
- $E_{21} = \frac{8 \times 18}{30} = 4.8$
- $E_{22} = \frac{8 \times 12}{30} = 3.2$

4. Chi-square Test Statistic Formula

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where-

O = Observed Frequency

E = Expected Frequency

Calculation of X^2 Value

| Responses | O | E | $(O - E)^2 / E$ |
|--------------------|----|------|--------------------------------|
| Yes, Satisfied | 16 | 13.2 | $(16 - 13.2)^2 / 13.2 = 0.595$ |
| Yes, Not Satisfied | 6 | 8.8 | $(6 - 8.8)^2 / 8.8 = 0.891$ |
| No, Satisfied | 2 | 4.8 | $(2 - 4.8)^2 / 4.8 = 1.633$ |
| No, Not Satisfied | 6 | 3.2 | $(6 - 3.2)^2 / 3.2 = 2.45$ |

$$X^2 = 0.595 + 0.891 + 1.633 + 2.45 = 5.569$$

Degrees of Freedom

$$df = (r - 1) \times (c - 1)$$

Where r = number of rows, c = number of columns.

$$df = (2 - 1) \times (2 - 1) = 1$$

Critical Value and p-value

Critical Value (df = 1, $\alpha = 0.05$): 3.84

Calculated Chi-square (χ^2): 5.569

p-value: approximately 0.018

since χ^2 calculated = 5.569 > 3.84 (critical value),

p-value (0.018) < 0.05, thus the null hypothesis is rejected.

Result and Discussion

This study examined the association between support for stronger laws and awareness, and satisfaction with enforcement. The statistical analysis using the chi-square test indicates a significant association between these variables, with the test result ($\chi^2 = 5.569$, $p = 0.018$) demonstrating that satisfaction with current enforcement is linked to increased support for enhanced legislative and awareness initiatives.

The results suggest that individuals who are satisfied with the enforcement mechanisms are more likely to advocate for further strengthening of laws and increased awareness measures, whereas those dissatisfied with enforcement are less likely to express such support. This pattern highlights the potential impact of enforcement satisfaction on public attitudes towards legal reform and policy development.

In the context of legislative reform, these findings underscore the importance of ensuring effective and satisfactory enforcement practices as part of comprehensive legislative strategies. Improving enforcement may not only address immediate compliance issues but may also foster broader societal backing for more robust legal frameworks and public education efforts.

It is important to note the limitations of this study, including the sample size and the scope of variables considered. Further research involving diverse and larger populations would enhance the robustness of these conclusions and clarify the implications for legislative practice and policy-making.

Conclusion

In conclusion, this study emphasizes how important institutional and legal accountability are

in strengthening environmental protection in India. Despite the existence of numerous environmental laws and regulatory agencies, systemic obstacles include ineffective bureaucracy, a lack of transparency, little public involvement, and insufficient legal frameworks make enforcement difficult. The nation's attempts to combat environmental deterioration and accomplish sustainable development goals are seriously hampered by these problems. The study backs up the idea that environmental protection may be made much more effective by raising public awareness and implementing comprehensive legal reforms that strengthen both individual and institutional accountability.

In order to achieve this, the study promotes creative changes such as the creation of impartial environmental monitoring organizations, more stringent enforcement strategies, more transparent legislative requirements, and easier access to environmental justice. Additionally, encouraging civic participation and environmental knowledge can enable people to actively participate in environmental decision-making processes and hold institutions accountable. In order to prevent marginalized communities from being disproportionately affected by environmental harms or excluded from environmental benefits, legal reforms must also prioritize interagency coordination and take a rights-based approach to environmental protection.

Overall, it is imperative that the environmental governance structure transform to one that is more open, inclusive, and responsible. Long-term environmental sustainability and more rigorous enforcement can result from bridging the gap between policy and practice through strengthening environmental responsibility at the individual and institutional levels. Given India's ongoing environmental problems, these reforms are not only vital but also urgently needed to create a resilient future that strikes a balance between ecological integrity and prosperity.

Suggestions for Future Researchers

Even with India's strong constitutional and legislative protections for the environment, major gaps remain in putting these laws into practice. Issues such as bureaucratic hurdles, weak accountability, political interference, and a focus on economic over environmental interests continue to hinder real progress. Given these challenges, future research should focus on finding practical ways to strengthen accountability and make environmental governance in

India more effective and inclusive. The following suggestions point to key areas for further study.

1. Identify which types of information and delivery methods lead to better compliance with environmental laws.
2. Identify models from other countries where strong inter-agency collaboration has led to better outcomes.
3. Investigate the impact of greater community and local governance involvement in environmental monitoring, reporting, and decision-making.

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3. Vellore Citizens Welfare Forum v. Union of India, (1996) 5 SCC 647.
4. T.N. Godavarman Thirumulpad v. Union of India, (2006) 1 SCC 1.
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7. S.P. Gupta vs Union of India & another on 30 December, 1981
8. Rural Litigation and Entitlement Kendra v. State of U.P., 8209 & 8821 of 1983 (India)
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12. A.P. Pollution Control Board vs Prof. M. V. Nayadu (Retd.) & Others on 27 January, 1999
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