

The background of the journal cover features a top-down view of a desk. On the left, a pair of black leather brogue shoes is partially visible. In the center, an open notebook with lined pages and a silver pen lies on a light-colored wooden surface. To the right, a black leather bag with a zipper and a black leather watch with a silver face are also visible. A large, semi-transparent white rectangular box is centered over the image, containing the journal's title and ISSN information.

INTERNATIONAL LAW  
JOURNAL

---

**WHITE BLACK  
LEGAL LAW  
JOURNAL**  
**ISSN: 2581-  
8503**

*Peer - Reviewed & Refereed Journal*

The Law Journal strives to provide a platform for discussion of International as well as National Developments in the Field of Law.

[WWW.WHITEBLACKLEGAL.CO.IN](http://WWW.WHITEBLACKLEGAL.CO.IN)

## DISCLAIMER

No part of this publication may be reproduced, stored, transmitted, translated, or distributed in any form or by any means—whether electronic, mechanical, photocopying, recording, scanning, or otherwise—without the prior written permission of the Editor-in-Chief of *White Black Legal – The Law Journal*.

All copyrights in the articles published in this journal vest with *White Black Legal – The Law Journal*, unless otherwise expressly stated. Authors are solely responsible for the originality, authenticity, accuracy, and legality of the content submitted and published.

The views, opinions, interpretations, and conclusions expressed in the articles are exclusively those of the respective authors. They do not represent or reflect the views of the Editorial Board, Editors, Reviewers, Advisors, Publisher, or Management of *White Black Legal*.

While reasonable efforts are made to ensure academic quality and accuracy through editorial and peer-review processes, *White Black Legal* makes no representations or warranties, express or implied, regarding the completeness, accuracy, reliability, or suitability of the content published. The journal shall not be liable for any errors, omissions, inaccuracies, or consequences arising from the use, interpretation, or reliance upon the information contained in this publication.

The content published in this journal is intended solely for academic and informational purposes and shall not be construed as legal advice, professional advice, or legal opinion. *White Black Legal* expressly disclaims all liability for any loss, damage, claim, or legal consequence arising directly or indirectly from the use of any material published herein.

## ABOUT WHITE BLACK LEGAL

*White Black Legal – The Law Journal* is an open-access, peer-reviewed, and refereed legal journal established to provide a scholarly platform for the examination and discussion of contemporary legal issues. The journal is dedicated to encouraging rigorous legal research, critical analysis, and informed academic discourse across diverse fields of law.

The journal invites contributions from law students, researchers, academicians, legal practitioners, and policy scholars. By facilitating engagement between emerging scholars and experienced legal professionals, *White Black Legal* seeks to bridge theoretical legal research with practical, institutional, and societal perspectives.

In a rapidly evolving social, economic, and technological environment, the journal endeavours to examine the changing role of law and its impact on governance, justice systems, and society. *White Black Legal* remains committed to academic integrity, ethical research practices, and the dissemination of accessible legal scholarship to a global readership.

## AIM & SCOPE

The aim of *White Black Legal – The Law Journal* is to promote excellence in legal research and to provide a credible academic forum for the analysis, discussion, and advancement of contemporary legal issues. The journal encourages original, analytical, and well-researched contributions that add substantive value to legal scholarship.

The journal publishes scholarly works examining doctrinal, theoretical, empirical, and interdisciplinary perspectives of law. Submissions are welcomed from academicians, legal professionals, researchers, scholars, and students who demonstrate intellectual rigour, analytical clarity, and relevance to current legal and policy developments.

The scope of the journal includes, but is not limited to:

- Constitutional and Administrative Law
- Criminal Law and Criminal Justice
- Corporate, Commercial, and Business Laws
- Intellectual Property and Technology Law
- International Law and Human Rights
- Environmental and Sustainable Development Law
- Cyber Law, Artificial Intelligence, and Emerging Technologies
- Family Law, Labour Law, and Social Justice Studies

The journal accepts original research articles, case comments, legislative and policy analyses, book reviews, and interdisciplinary studies addressing legal issues at national and international levels. All submissions are subject to a rigorous double-blind peer-review process to ensure academic quality, originality, and relevance.

Through its publications, *White Black Legal – The Law Journal* seeks to foster critical legal thinking and contribute to the development of law as an instrument of justice, governance, and social progress, while expressly disclaiming responsibility for the application or misuse of published content.

# **A CRITICAL STUDY ON BIODIVERSITY CONSERVATION IN INDIA: LEGAL FRAMEWORK, JUDICIAL TRENDS AND IMPLEMENTATION CHALLENGES**

AUTHORED BY - S.MURASOLI MANI<sup>1</sup> & MS.GLADYS MARY ANDRADY<sup>2</sup>

## **ABSTRACT**

Biodiversity constitutes the foundation of ecological stability and sustainable development, encompassing the diversity of life forms and ecosystems that support human existence. India, recognized as one of the world's mega-diverse countries, possesses a vast array of biological resources, ranging from unique flora and fauna to complex ecosystems. However, rapid industrialization, urban expansion, deforestation, and climate change have significantly threatened biodiversity across the nation. This study critically examines the legal framework governing biodiversity conservation in India, focusing on constitutional provisions, statutory enactments, and institutional mechanisms. It further explores the proactive role played by the judiciary through landmark judgments such as *M.C. Mehta v. Union of India*<sup>3</sup> and *T.N. Godavarman Thirumulpad v. Union of India*<sup>4</sup>, which have contributed to the evolution of environmental jurisprudence in India. Additionally, the research highlights implementation challenges, including administrative inefficiencies, legal ambiguities, socio-economic conflicts, and lack of awareness among stakeholders. The paper concludes by suggesting reforms aimed at strengthening enforcement, enhancing community participation, and integrating technological tools to ensure effective biodiversity conservation.

## **KEYWORDS**

Biodiversity, Conservation, Environmental Law, India, Judicial Activism, National Biodiversity Authority, Sustainable Development, ABS Mechanism

---

<sup>1</sup> V B.A.LL.B, Vels Institute of Science Technology and Advanced Studies, Chennai-600117.

<sup>2</sup> Assistant Professor of Law, Vels Institute of Science Technology and Advanced Studies, Chennai-600117

<sup>3</sup> *M.C. Mehta v. Union of India*

<sup>4</sup> *T.N. Godavarman Thirumulpad v. Union of India*

## **INTRODUCTION**

Biodiversity, broadly understood as the variability among living organisms from all sources, including terrestrial, marine, and aquatic ecosystems, plays a crucial role in maintaining ecological balance and supporting life on Earth. It provides essential services such as food security, climate regulation, medicinal resources, and cultural value. India, due to its diverse geographical features ranging from the Himalayan mountain ranges to coastal ecosystems and tropical forests, is endowed with immense biological richness. Despite this natural advantage, the country faces significant challenges in preserving its biodiversity due to increasing anthropogenic pressures such as industrialization, urbanization, over-exploitation of natural resources, and environmental degradation. Recognizing the importance of biodiversity conservation, India has developed a comprehensive legal and institutional framework, influenced by international commitments such as the Convention on Biological Diversity. However, the effectiveness of these measures largely depends on their implementation and enforcement. This study aims to critically analyze the legal mechanisms, judicial trends, and practical challenges associated with biodiversity conservation in India, while also suggesting measures for improvement.

## **MEANING AND CONCEPT OF BIODIVERSITY**

Biodiversity refers to the variety and variability of life forms within a given ecosystem, region, or the entire planet. It encompasses genetic diversity, species diversity, and ecosystem diversity, each of which contributes significantly to ecological balance and sustainability. Genetic diversity ensures adaptability and resilience among species, enabling them to survive environmental changes. Species diversity reflects the richness and abundance of different species within a habitat, while ecosystem diversity highlights the variety of ecosystems such as forests, wetlands, deserts, and marine environments. The importance of biodiversity lies in its ability to maintain ecological stability, regulate climate, support food chains, and provide resources for human survival, including medicines, agriculture, and industry. Historically, biodiversity conservation gained prominence with the rise of environmental awareness in the late twentieth century, particularly after global initiatives such as the Rio Earth Summit of 1992. International agreements such as the Convention on Biological Diversity, the Cartagena Protocol on Biosafety, and the Nagoya Protocol have played a significant role in shaping conservation policies worldwide. In India, biodiversity is particularly significant due to its status as one of the seventeen mega-diverse countries, hosting several biodiversity hotspots

such as the Western Ghats and the Himalayas. Indigenous and tribal communities have historically contributed to conservation through traditional knowledge and sustainable practices, making them integral stakeholders in biodiversity governance. The objectives of this study include analyzing the effectiveness of legal frameworks, examining judicial contributions, and identifying key challenges in implementation. The research adopts a doctrinal and analytical methodology, relying on statutes, case laws, and secondary sources, while acknowledging limitations such as the exclusion of scientific and empirical analysis.

## **LEGAL FRAMEWORK FOR BIODIVERSITY CONSERVATION IN INDIA**

The legal framework for biodiversity conservation in India is rooted in constitutional provisions, statutory enactments, and policy initiatives. The Constitution of India provides a strong foundation for environmental protection through Article 48A, which directs the State to protect and improve the environment, and Article 51A(g), which imposes a fundamental duty on citizens to safeguard natural resources. Furthermore, the judiciary has expanded the scope of Article 21, which guarantees the right to life, to include the right to a clean and healthy environment, as established in cases like *M.C. Mehta v. Union of India*<sup>5</sup>. Among the key legislations, the Biological Diversity Act, 2002<sup>6</sup> stands as a comprehensive law aimed at conserving biological diversity, promoting sustainable use, and ensuring equitable sharing of benefits arising from biological resources. The Act establishes institutional bodies such as the National Biodiversity Authority, State Biodiversity Boards, and Biodiversity Management Committees to regulate access and implement conservation measures. Other important laws include the Wildlife Protection Act, 1972<sup>7</sup>, which focuses on the protection of endangered species, the Forest Conservation Act, 1980<sup>8</sup>, which restricts deforestation, and the Environment Protection Act, 1986<sup>9</sup>, which serves as an umbrella legislation for environmental governance. The Access and Benefit Sharing (ABS) mechanism is a crucial aspect of the legal framework, ensuring that local communities receive fair compensation for the use of biological resources and traditional knowledge. Additionally, policies such as the National Biodiversity Action Plan and the National Forest Policy provide strategic guidance for conservation efforts. Despite the

---

<sup>5</sup> *M.C. Mehta v. Union of India*.

<sup>6</sup> Convention on Biological Diversity; Biological Diversity Act, 2002

<sup>7</sup> Wildlife Protection Act, 1972

<sup>8</sup> Forest Conservation Act, 1980

<sup>9</sup> Environment Protection Act, 1986

existence of a comprehensive legal framework, challenges remain in coordination among institutions and effective enforcement of laws.

## **JUDICIAL TRENDS IN BIODIVERSITY CONSERVATION**

The Indian judiciary has played a transformative role in advancing biodiversity conservation through judicial activism and progressive interpretation of environmental laws. Public Interest Litigation (PIL) has emerged as a powerful tool enabling citizens and organizations to approach courts for environmental protection. Landmark cases such as T.N. Godavarman Thirumulpad v. Union of India<sup>10</sup> have significantly contributed to forest conservation by expanding the definition of forests and imposing restrictions on deforestation. Similarly, Vellore Citizens Welfare Forum v. Union of India<sup>11</sup> established the precautionary principle and polluter pays principle as essential components of environmental law in India. Another important case, Indian Council for Enviro-Legal Action v. Union of India, reinforced the principle of liability for environmental damage. The establishment of the National Green Tribunal under the National Green Tribunal Act, 2010 marked a significant development in environmental adjudication, providing a specialized forum for speedy resolution of environmental disputes. The judiciary has also introduced innovative doctrines such as intergenerational equity and the public trust doctrine, emphasizing the responsibility of the State to protect natural resources for future generations. Through these interventions, the judiciary has filled gaps in legislation and strengthened environmental governance.

## **IMPLEMENTATION CHALLENGES IN BIODIVERSITY CONSERVATION**

Despite the presence of a robust legal framework, biodiversity conservation in India faces numerous implementation challenges that hinder its effectiveness. Administrative challenges include weak enforcement mechanisms, inadequate funding, and lack of coordination among various authorities responsible for environmental governance. Legal challenges arise from overlapping laws, ambiguities in statutory provisions, and delays in judicial processes. Socio-economic factors further complicate conservation efforts, as there is often a conflict between development projects and environmental protection, leading to displacement of tribal and indigenous communities who depend on natural resources for their livelihood. Environmental

---

<sup>10</sup> T.N. Godavarman Thirumulpad v. Union of India

<sup>11</sup> Vellore Citizens Welfare Forum v. Union of India

threats such as deforestation, climate change, pollution, and habitat loss continue to degrade ecosystems and reduce biodiversity. The implementation of Access and Benefit Sharing mechanisms remains inadequate due to lack of awareness among stakeholders and limited participation of local communities. Additionally, the role of the corporate sector in contributing to biodiversity loss through industrial activities highlights the need for stronger corporate accountability and sustainable business practices. Case studies such as the conservation challenges in the Western Ghats and issues related to forest diversion illustrate the complexities involved in balancing ecological preservation with economic development.

## **KEY FINDINGS**

The study reveals that India possesses a comprehensive and well-structured legal framework for biodiversity conservation, supported by constitutional mandates, statutory provisions, and institutional mechanisms<sup>12</sup>. Provisions such as Articles 48A and 51A(g) of the Constitution establish both state responsibility and citizen duty toward environmental protection, while judicial interpretation of Article 21 has expanded the right to life to include the right to a clean and healthy environment, as recognized in cases like *M.C. Mehta v. Union of India*<sup>13</sup>. Furthermore, legislations such as the Biological Diversity Act, 2002, along with institutions like the National Biodiversity Authority, demonstrate India's commitment to fulfilling its obligations under international agreements like the Convention on Biological Diversity<sup>14</sup>. However, despite this robust legal architecture, the study finds a significant gap between law and practice, primarily due to weak enforcement mechanisms, inadequate coordination among authorities, and lack of effective monitoring systems<sup>15</sup>. Judicial intervention has played a crucial role in bridging these gaps, particularly through landmark decisions such as *T.N. Godavarman Thirumulpad v. Union of India*, which strengthened forest governance, and *Vellore Citizens Welfare Forum v. Union of India*, which introduced key environmental principles into Indian jurisprudence<sup>16</sup>. Nevertheless, socio-economic challenges, including conflicts between development and conservation, marginalization of indigenous communities, and insufficient public awareness, continue to hinder effective biodiversity conservation<sup>17</sup>. The study also finds that mechanisms such as Access and Benefit Sharing remain underutilized due

---

<sup>12</sup> P. Leelakrishnan, *Environmental Law in India* (LexisNexis, 5th ed.).

<sup>13</sup> *M.C. Mehta v. Union of India*.

<sup>14</sup> Convention on Biological Diversity; Biological Diversity Act, 2002

<sup>15</sup> Shyam Divan & Armin Rosencranz, *Environmental Law and Policy in India*

<sup>16</sup> *T.N. Godavarman Thirumulpad v. Union of India*; *Vellore Citizens Welfare Forum v. Union of India*

<sup>17</sup> Ministry of Environment, Forest and Climate Change, Government of India Reports

to lack of awareness and institutional inefficiencies, while increasing environmental threats such as climate change, deforestation, and pollution further exacerbate biodiversity loss<sup>18</sup>

## **SUGGESTIONS AND REFORMS**

In light of the findings, the study suggests that strengthening the implementation of biodiversity laws should be prioritized through improved coordination among central, state, and local authorities, along with enhanced accountability mechanisms<sup>19</sup>. There is a need to empower institutions such as the National Biodiversity Authority and State Biodiversity Boards with adequate financial and technical resources to effectively carry out their functions<sup>20</sup>. Legal reforms should focus on reducing overlaps between existing environmental laws and clarifying ambiguities to ensure better enforcement<sup>21</sup>. Additionally, community participation must be significantly enhanced, particularly by recognizing and integrating the traditional knowledge of indigenous and tribal communities into conservation strategies,<sup>22</sup> thereby ensuring inclusive and sustainable governance. The effective implementation of Access and Benefit Sharing mechanisms requires awareness programs and capacity-building initiatives to ensure that local stakeholders receive equitable benefits from biological resources<sup>23</sup>. The study also recommends the adoption of modern technologies such as Geographic Information Systems (GIS), remote sensing, and artificial intelligence to monitor biodiversity and detect environmental violations in real time<sup>24</sup>. Furthermore, corporate accountability should be strengthened by enforcing stricter environmental compliance standards and promoting sustainable industrial practices<sup>25</sup>. Environmental education and awareness campaigns should be intensified to foster a culture of conservation among citizens<sup>26</sup>. Learning from international best practices, India can adopt community-based conservation models and decentralized governance approaches to improve biodiversity management.

---

<sup>18</sup> UNEP, Global Biodiversity Outlook Report

<sup>19</sup> National Biodiversity Action Plan, Government of India

<sup>20</sup> National Biodiversity Authority Annual Reports

<sup>21</sup> Environmental Protection Act, 1986

<sup>22</sup> Convention on Biological Diversity, Traditional Knowledge Provisions

<sup>23</sup> Biological Diversity Act, 2002 (Access and Benefit Sharing Provisions)

<sup>24</sup> FAO, Use of GIS in Environmental Monitoring

<sup>25</sup> OECD Environmental Compliance Guidelines

<sup>26</sup> UNESCO Environmental Education Reports.

## **CONCLUSION**

In conclusion, biodiversity conservation in India stands at a critical juncture where strong legal foundations coexist with persistent implementation challenges<sup>27</sup>. While the country has made significant progress in establishing a comprehensive legal and institutional framework, the effectiveness of these measures is undermined by administrative inefficiencies, socio-economic pressures, and environmental threats.<sup>28</sup> The proactive role of the judiciary, particularly through cases such as *M.C. Mehta v. Union of India*, has been instrumental in advancing environmental protection and shaping ecological jurisprudence.<sup>29</sup> However, long-term sustainability requires a shift from reactive judicial intervention to proactive governance and effective policy implementation<sup>30</sup>. Biodiversity conservation must be approached as an integral component of sustainable development, balancing ecological preservation with economic growth and social equity<sup>31</sup>. The future of biodiversity in India depends on a collaborative approach involving government authorities, local communities, the private sector, and civil society, supported by technological innovation and strong legal enforcement. Only through such a holistic and integrated strategy can India ensure the protection of its rich biological heritage for present and future generations.<sup>32</sup>

## **REFERENCES**

### **Books**

- Shyam Divan & Armin Rosencranz, *Environmental Law and Policy in India*
- P. Leelakrishnan, *Environmental Law in India*

### **Articles & Journals**

- Indian Journal of Environmental Law
- Journal of Environmental Policy

### **Government Reports**

- Reports of National Biodiversity Authority
- Ministry of Environment, Forest and Climate Change

### **Legal Documents**

- Biological Diversity Act, 2002

---

<sup>27</sup> National Biodiversity Authority Publications

<sup>28</sup> IPCC Climate Change Reports

<sup>29</sup> *M.C. Mehta v. Union of India*

<sup>30</sup> Indian Journal of Environmental Law.

<sup>31</sup> Sustainable Development Goals (UN, 2030 Agenda)

<sup>32</sup> World Bank Environmental Governance Report

- Wildlife Protection Act, 1972
- Forest Conservation Act, 1980
- Environment Protection Act, 1986

**International Instruments**

- Convention on Biological Diversity
- Nagoya Protocol

