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CORRUPTION AND ADMINISTRATIVE INACTION IN ENVIRONMENTAL GOVERNANCE: A CASE STUDY OF INDUSTRIAL LICENSING AND COIR SECTOR REGULATION

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ABSTRACT

This research investigates the pervasive issues of corruption and administrative inaction undermining environmental governance in India, using the coir industry sector in Tamil Nadu as a case study. Despite a robust legal framework—including the Environment (Protection) Act, 1986, Water (Prevention and Control of Pollution) Act, 1974, and judicial doctrines like the precautionary and polluter pays principles—enforcement remains weak due to bureaucratic inefficiencies, corrupt licensing practices, and regulatory failures. Focusing on industrial clusters in Pollachi-Coimbatore, the study highlights environmental degradation from water pollution, groundwater depletion, illegal resource diversion, and waste mismanagement in coir processing. Through doctrinal analysis, historical review, legislative examination, judicial interventions, and comparative insights from the US, EU, and Australia, it identifies institutional gaps exacerbating these problems. Key findings reveal that administrative lapses allow unregulated operations, harming rural communities and ecosystems. Recommendations include enhancing enforcement transparency via digital platforms, inter-agency coordination, stricter anti-corruption measures, public participation, and sustainable practices to bridge the law-implementation divide for effective environmental protection

.Keywords: Environmental governance, Corruption, Administrative inaction, Coir industry, Industrial pollution, Tamilnadu, Groundwater depletion, Judicial activism, Polluter pays principle, Regulatory enforcement

CHAPTER I

INTRODUCTION

Industrialisation and economic development have significantly contributed to the growth of modern societies. However, the expansion of industries has also created serious environmental challenges. In many developing countries, including India, environmental

governance often suffers from weak regulatory enforcement, bureaucratic inefficiency, and corruption within administrative institutions. These challenges undermine the effective implementation of environmental laws and lead to environmental degradation and resource depletion.¹

Environmental governance refers to the system of laws, policies, institutions, and administrative mechanisms designed to regulate human interaction with the environment. Effective environmental governance requires transparency, accountability, and active enforcement of environmental regulations. When corruption and administrative inaction prevail within regulatory authorities, environmental laws become ineffective, allowing industries to operate without proper licensing, environmental clearance, or compliance with pollution control standards.²

One sector that illustrates these challenges is the **coir industry**, a traditional agro-based industry widely prevalent in southern India, particularly in the states of Tamil Nadu and Kerala. The coir industry plays an important role in rural employment, cottage industrial development, and export revenue. Coir products such as ropes, mats, brushes, and coir-pith are widely used in domestic and international markets. Despite its economic benefits, the industry has increasingly raised concerns regarding environmental pollution, groundwater depletion, and misuse of natural resources.³

The processes involved in coir production—including retting, fibre extraction, washing, bleaching, and coir-pith processing—require substantial quantities of water and generate wastewater and solid waste. When these industrial activities occur without adequate regulatory oversight, they lead to water pollution, soil degradation, air pollution, and depletion of groundwater resources. In several regions of Tamil Nadu, especially in the **Pollachi–Coimbatore industrial belt**, clusters of coir industries have been associated with excessive groundwater extraction, illegal diversion of canal water, and environmental contamination.⁴

Although India possesses a comprehensive legal framework for environmental protection, including statutes such as the **Water (Prevention and Control of Pollution) Act, 1974**,

the **Air (Prevention and Control of Pollution) Act, 1981**, and the **Environment (Protection) Act, 1986**, enforcement of these laws often remains inadequate. Corruption within licensing authorities, delays in administrative action, lack of coordination among regulatory departments, and political influence over industrial regulation frequently weaken environmental governance.⁵

In many cases, industries continue to operate without obtaining mandatory environmental licences, land-use approvals, or groundwater extraction permits. Regulatory authorities may fail to conduct inspections, enforce compliance, or impose penalties for violations. Such administrative inaction creates a regulatory vacuum in which environmental harm continues unchecked.⁶

The consequences of weak environmental governance are particularly severe for rural communities. Farmers and residents who depend on groundwater and irrigation canals for agriculture and drinking water face serious challenges when industries exploit these resources without proper regulation. Environmental pollution also affects public health, agricultural productivity, and ecological sustainability.⁷

The judiciary in India has played a critical role in addressing these challenges through judicial activism and public interest litigation. The Supreme Court and High Courts have expanded the interpretation of **Article 21 of the Constitution**, recognising the right to a clean and healthy environment as an integral part of the right to life. Landmark judgments such as **Vellore Citizens' Welfare Forum v. Union of India** and **M.C. Mehta v. Union of India** have introduced important environmental principles including the **precautionary principle**, the **polluter pays principle**, and the concept of **sustainable development**.⁸

Despite these judicial developments, environmental governance continues to face structural challenges. The gap between environmental law and its implementation remains significant. Administrative corruption,

lack of accountability, and weak institutional capacity often prevent effective enforcement of environmental regulations.⁹

This dissertation seeks to examine the issue of **corruption and administrative inaction in environmental governance**, with particular focus on industrial licensing and regulation of the coir sector in Tamil Nadu. The study analyses how failures in administrative oversight contribute to environmental degradation and explores the role of legal frameworks and judicial intervention in addressing these issues.

Footnotes

1. Shyam Divan & Armin Rosencranz, *Environmental Law and Policy in India* (Oxford University Press, 2001).
2. Gurdip Singh, *Environmental Law in India* (Macmillan India, 2005).
3. Government of India, *Coir Board Annual Report*, Ministry of Micro, Small and Medium Enterprises.
4. Tamil Nadu Pollution Control Board, *Environmental Status Report of Tamil Nadu*.
5. The Water (Prevention and Control of Pollution) Act, 1974; The Air (Prevention and Control of Pollution) Act, 1981; The Environment (Protection) Act, 1986.
6. P. Leelakrishnan, *Environmental Law in India* (LexisNexis, 2010).
7. Central Pollution Control Board, *Industrial Pollution Control Guidelines*.
8. *Vellore Citizens' Welfare Forum v. Union of India*, (1996) 5 SCC 647; *M.C. Mehta v. Union of India*, (1987) 1 SCC 395.
9. S.C. Shastri, *Environmental Law* (Eastern Book Company, 2018).

1.1 Literature Review

Environmental governance and industrial pollution have been widely discussed in legal scholarship. Scholars such as **Shyam Divan and**

Armin Rosencranz have emphasised the importance of strong institutional mechanisms for environmental regulation in India. Their work highlights the role of regulatory agencies such as the Central Pollution Control Board and State Pollution Control Boards in enforcing environmental laws.

Similarly, **P. Leelakrishnan** has analysed the evolution of environmental law in India, particularly the role of the judiciary in expanding environmental rights through constitutional interpretation. His work emphasises the importance of judicial doctrines such as the precautionary principle and the polluter pays principle in strengthening environmental governance.

Research studies conducted by government agencies such as the **Central Pollution Control Board (CPCB)** and the **Tamil Nadu Pollution Control Board (TNPCB)** have documented the environmental impact of industrial activities, including water pollution and groundwater depletion. These studies highlight the need for stricter monitoring and enforcement mechanisms. However, there is relatively limited academic research focusing specifically on the role of **administrative corruption and regulatory inaction in the environmental governance of the coir industry**. Most studies treat the coir industry as a traditional or low-polluting sector and do not examine its cumulative environmental impact in industrial clusters.

Therefore, there exists a significant research gap in analysing the intersection of environmental regulation, industrial licensing, and administrative accountability in the context of the coir industry.

1.2 Significance of the Study

This study is significant from legal, environmental, and social perspectives.

From a legal perspective, the study examines the effectiveness of environmental laws and regulatory mechanisms governing industrial activities. It analyses whether existing legal

frameworks adequately address corruption and administrative inaction within environmental governance.

From an environmental perspective, the study highlights the ecological consequences of unregulated industrial activity, particularly groundwater depletion, water pollution, and soil degradation caused by coir industries.

From a social perspective, the research draws attention to the impact of environmental degradation on rural communities, farmers, and workers who depend on natural resources for their livelihoods.

By examining these issues, the study contributes to the broader discourse on sustainable development and environmental justice.

1.3 Aim and Objectives of the Study

Aim

The primary aim of this research is to analyse the role of corruption and administrative inaction in environmental governance, with particular reference to industrial licensing and regulation of the coir industry in Tamil Nadu.

Objectives

1. To examine the environmental impact of the coir industry.
2. To analyse the legal framework governing industrial pollution and environmental protection in India.
3. To study the role of regulatory authorities in enforcing environmental laws.
4. To examine the relationship between administrative corruption and environmental degradation.
5. To suggest legal and policy reforms for improving environmental governance.

1.4 Research Problem

Despite the existence of comprehensive environmental laws and regulatory authorities, environmental degradation continues to occur due to ineffective enforcement. In many cases, industries operate without proper licences,

environmental clearances, or compliance with pollution control standards.

The central research problem addressed in this dissertation is the **failure of environmental governance due to corruption and administrative inaction**, particularly in the licensing and regulation of coir industries in Tamil Nadu.

1.5 Research Questions

This research seeks to answer the following questions:

1. What environmental impacts are associated with the coir industry?
2. How effective are existing environmental laws in regulating industrial pollution?
3. What role does administrative corruption play in weakening environmental governance?
4. How have courts addressed issues of environmental pollution and administrative inaction?
5. What reforms are necessary to strengthen environmental governance in India?

1.6 Hypothesis

The study proceeds on the hypothesis that **environmental degradation caused by industrial activities is primarily the result of weak enforcement of environmental laws due to corruption and administrative inaction within regulatory authorities.**

1.7 Research Methodology

This research adopts a **doctrinal method of legal research**, which involves analysis of primary and secondary legal sources.

Primary sources include constitutional provisions, statutes, judicial decisions, government notifications, and orders of environmental regulatory authorities.

Secondary sources include books, journal articles, government reports, policy documents, and newspaper reports relating to

environmental governance and industrial regulation.

The research focuses primarily on legal analysis rather than empirical data collection.

1.8 Research Gap

Although environmental governance and industrial pollution have been widely studied, there is limited research examining the role of corruption and administrative inaction in environmental regulation, particularly in the context of the coir industry. This study attempts to fill this gap by focusing on regulatory failures and their environmental consequences.

1.9 Research Limitations

This study is limited to doctrinal legal analysis and does not include empirical field research. The geographical scope of the study is limited to the state of Tamil Nadu. The research also focuses primarily on legal and administrative aspects rather than technical environmental assessments.

1.10 Scheme of the Study

The dissertation is divided into seven chapters.

Chapter I introduces the research topic, objectives, methodology, and structure of the study.

Chapter II discusses the historical and theoretical framework of environmental law and governance.

Chapter III analyses the legislative framework governing environmental protection and industrial regulation.

Chapter IV examines the issues and challenges associated with pollution and resource depletion caused by the coir industry.

Chapter V studies the role of the judiciary in addressing environmental governance and regulatory failures.

Chapter VI provides a comparative analysis of environmental laws and regulatory approaches in other countries.

Chapter VII presents the conclusion of the study along with suggestions and recommendations for improving environmental governance.

CHAPTER II

HISTORICAL AND THEORETICAL FRAMEWORK

Environmental protection as a legal discipline has evolved gradually in response to increasing industrialisation and the growing awareness of ecological degradation. In earlier periods, environmental concerns were addressed primarily through laws relating to public nuisance, sanitation, and public health. However, the growth of industrial activity and the exploitation of natural resources created complex environmental problems that required specialised legal regulation.¹

In India, the development of environmental law has been influenced by international environmental movements, constitutional principles, statutory enactments, and judicial interpretation. The regulation of industries such as the coir sector must be understood within this broader historical and theoretical framework.

2.1 Evolution of Environmental Law in India

Environmental regulation in India initially relied on general laws dealing with public nuisance and environmental harm. The **Indian Penal Code, 1860** contained provisions relating to public nuisance and contamination of water resources.² These provisions were used occasionally to address environmental pollution but were insufficient to deal with large-scale industrial pollution.

A major turning point in environmental governance occurred after the **United Nations Conference on the Human Environment held at Stockholm in 1972**.³ The conference emphasised the importance of environmental protection as an international concern and encouraged countries to develop environmental legislation and policies.

Following the Stockholm Conference, India enacted specialised environmental legislation.

One of the earliest statutes was the **Water (Prevention and Control of Pollution) Act, 1974**, which aimed to prevent and control water pollution and maintain the quality of water resources.⁴ The Act also established the **Central Pollution Control Board (CPCB)** and **State Pollution Control Boards (SPCBs)** to monitor pollution levels and regulate industrial discharge.

Subsequently, the **Air (Prevention and Control of Pollution) Act, 1981** was enacted to address air pollution caused by industrial emissions.⁵ This Act empowered pollution control authorities to set emission standards and regulate industries contributing to air pollution.

A major milestone in Indian environmental law was the enactment of the **Environment (Protection) Act, 1986** following the Bhopal Gas Tragedy of 1984.⁶ The Act provides a comprehensive framework for environmental protection and empowers the Central Government to take measures to prevent environmental pollution and regulate industrial activities.

2.2 Constitutional Framework for Environmental Protection

The Constitution of India provides the foundation for environmental protection. Although environmental rights were not explicitly mentioned in the original Constitution, judicial interpretation has expanded constitutional provisions to include environmental protection.

Article 21 of the Constitution, which guarantees the right to life and personal liberty, has been interpreted by the Supreme Court to include the right to a clean and healthy environment.⁷ Environmental pollution that threatens public health or ecological balance is therefore considered a violation of fundamental rights.

The **42nd Constitutional Amendment Act, 1976** introduced important provisions relating to environmental protection. Article 48A directs the State to protect and improve the environment and safeguard forests and wildlife.⁸ Similarly,

Article 51A(g) imposes a fundamental duty on every citizen to protect and improve the natural environment.⁹

These constitutional provisions establish environmental protection as both a governmental responsibility and a civic duty.

2.3 Development of Environmental Doctrines

The Indian judiciary has played a crucial role in developing environmental jurisprudence by introducing important environmental doctrines.

Precautionary Principle

The precautionary principle requires authorities to take preventive measures to protect the environment even when scientific certainty about environmental damage is not fully established.

The Supreme Court recognised the precautionary principle in **Vellore Citizens' Welfare Forum v. Union of India**, where the Court held that the State must anticipate and prevent environmental degradation.¹⁰

Polluter Pays Principle

The polluter pays principle states that industries responsible for pollution must bear the cost of remedying environmental damage.

In **Indian Council for Enviro-Legal Action v. Union of India**, the Supreme Court held that polluting industries are liable to compensate affected communities and bear the cost of environmental restoration.¹¹

Public Trust Doctrine

The public trust doctrine recognises that natural resources such as air, water, forests, and rivers are held by the State in trust for the benefit of the public.

In **M.C. Mehta v. Kamal Nath**, the Supreme Court held that the State cannot transfer public resources for private exploitation if such actions harm public interest.¹²

These doctrines form the theoretical foundation of environmental governance and guide judicial intervention in environmental matters.

2.4 Concept of Environmental Governance

Environmental governance refers to the system of institutions, policies, laws, and administrative processes designed to regulate human interaction with the environment.¹³ Effective environmental governance requires coordination between government authorities, regulatory agencies, industries, and the public.

In India, environmental governance is implemented through institutions such as the **Ministry of Environment, Forest and Climate Change**, the **Central Pollution Control Board**, and various **State Pollution Control Boards**. These bodies are responsible for issuing environmental clearances, monitoring industrial compliance, and enforcing pollution control regulations.

However, the effectiveness of environmental governance depends largely on the efficiency, transparency, and accountability of regulatory institutions.

2.5 Corruption and Administrative Inaction in Environmental Regulation

Corruption within environmental regulatory authorities can severely weaken the enforcement of environmental laws. When officials responsible for granting industrial licences or environmental clearances act corruptly, industries may be allowed to operate without complying with environmental standards.

Administrative inaction is another major problem affecting environmental governance. Regulatory authorities may fail to conduct inspections, ignore pollution complaints, or delay enforcement actions against violating industries.

Such failures may result from bureaucratic inefficiency, political pressure, or institutional corruption. These problems undermine the effectiveness of environmental regulation and allow industries to exploit natural resources without proper accountability.

2.6 Relevance to Coir Industry Regulation

The issues discussed above are particularly relevant to the regulation of the coir industry. The coir industry, though classified as a small-scale or agro-based industry, can have significant environmental impacts when numerous units operate within a limited geographical area.

In regions such as the **Pollachi–Coimbatore belt of Tamil Nadu**, clusters of coir industries have been associated with groundwater depletion, wastewater discharge, and improper disposal of industrial waste. Reports from environmental authorities have highlighted the need for stricter monitoring of such industrial clusters.¹⁴

Administrative failures, corruption in licensing procedures, and weak enforcement mechanisms often allow industries to continue operations without complying with environmental regulations.

2.7 Conclusion

The historical development of environmental law in India demonstrates the growing recognition of environmental protection as a key component of sustainable development. Constitutional provisions, statutory enactments, and judicial doctrines collectively form a strong legal framework for environmental governance.

However, the effectiveness of this framework depends on proper implementation by regulatory authorities. Corruption and administrative inaction can significantly undermine environmental governance and allow environmental degradation to continue.

The theoretical foundations discussed in this chapter provide the basis for analysing the legislative framework governing industrial regulation and environmental protection, which will be examined in the next chapter.

Footnotes

1. Shyam Divan & Armin Rosencranz, *Environmental Law and Policy in India* (Oxford University Press).

2. Indian Penal Code, 1860, Sections 268–290.
3. United Nations Conference on the Human Environment, Stockholm Declaration, 1972.
4. Water (Prevention and Control of Pollution) Act, 1974.
5. Air (Prevention and Control of Pollution) Act, 1981.
6. Environment (Protection) Act, 1986.
7. *Subhash Kumar v State of Bihar* (1991) 1 SCC 598.
8. Constitution of India, Article 48A.
9. Constitution of India, Article 51A(g).
10. *Vellore Citizens' Welfare Forum v Union of India* (1996) 5 SCC 647.
11. *Indian Council for Enviro-Legal Action v Union of India* (1996) 3 SCC 212.
12. *M.C. Mehta v Kamal Nath* (1997) 1 SCC 388.
13. P. Leelakrishnan, *Environmental Law in India* (LexisNexis).
14. Tamil Nadu Pollution Control Board, Environmental Status Report.

CHAPTER III

LEGISLATIVE FRAMEWORK AND ANALYSIS OF EXISTING LAWS

Environmental protection in India is supported by a comprehensive legal framework consisting of constitutional provisions, statutory enactments, administrative regulations, and judicial interpretations. The regulation of industrial activities, including industries such as the coir sector, depends on the effective implementation of these legal instruments. However, the existence of laws alone does not guarantee environmental protection. The effectiveness of environmental governance depends largely on the enforcement mechanisms adopted by regulatory authorities

and the accountability of administrative institutions.

This chapter examines the legislative framework governing environmental protection and industrial regulation in India. It focuses particularly on statutes relating to pollution control, groundwater regulation, environmental governance, and anti-corruption mechanisms that are relevant to industrial licensing and environmental compliance.

3.1 Constitutional Provisions Relating to Environmental Protection

The Constitution of India provides the fundamental legal basis for environmental protection and sustainable development. Although environmental rights were not explicitly mentioned in the original Constitution, judicial interpretation and constitutional amendments have gradually strengthened the environmental protection framework.

Article 21 of the Constitution guarantees the fundamental right to life and personal liberty. Over time, the Supreme Court has expanded the interpretation of Article 21 to include the **right to a clean and healthy environment**. Environmental degradation that threatens public health, ecological balance, or natural resources is therefore considered a violation of fundamental rights.¹

In **Subhash Kumar v State of Bihar**, the Supreme Court held that the right to life includes the right to enjoy pollution-free water and air for the full enjoyment of life.² Similarly, in **M.C. Mehta v Union of India**, the Court emphasised the responsibility of the State to protect the environment and prevent pollution.³

In addition to fundamental rights, the Constitution contains provisions that impose environmental duties on both the State and citizens.

Article 48A, which forms part of the Directive Principles of State Policy, directs the State to protect and improve the environment and safeguard forests and wildlife.⁴ Although Directive Principles are not directly enforceable

in courts, they provide important guidance for government policies and legislation.

Article 51A(g) of the Constitution imposes a fundamental duty on every citizen to protect and improve the natural environment including forests, lakes, rivers, and wildlife.⁵ This provision reflects the collective responsibility of society in protecting environmental resources.

These constitutional provisions establish a strong normative foundation for environmental governance and guide legislative and administrative action in regulating industrial activities.

3.2 The Environment (Protection) Act, 1986

The **Environment (Protection) Act, 1986** is one of the most important environmental statutes in India. It was enacted in the aftermath of the Bhopal Gas Tragedy of 1984, which highlighted the need for comprehensive environmental legislation capable of regulating hazardous industrial activities.

The Act provides a broad legal framework for environmental protection and empowers the Central Government to take measures to protect and improve environmental quality.⁶

The objectives of the Act include:

- Protection and improvement of environmental quality
- Prevention and control of environmental pollution
- Regulation of industrial activities that may harm the environment
- Establishment of standards for emissions and discharge of pollutants

Under Section 3 of the Act, the Central Government has the authority to take all necessary measures to protect and improve environmental quality. This includes the power to regulate industrial location, prescribe pollution standards, and restrict industrial activities in environmentally sensitive areas.

The Act also authorises the government to issue directions to industries, including orders for

closure, prohibition, or regulation of industrial operations.⁷

Several important rules have been framed under this Act, including:

- Environmental Impact Assessment (EIA) Notification
- Hazardous Waste Management Rules
- Coastal Regulation Zone (CRZ) Rules
- Solid Waste Management Rules

These rules provide detailed regulatory mechanisms for environmental protection.

Despite the comprehensive nature of the Environment Protection Act, its effectiveness depends on proper implementation by administrative authorities. Weak enforcement and corruption in environmental licensing procedures can undermine the objectives of the Act.

3.3 The Water (Prevention and Control of Pollution) Act, 1974

The **Water (Prevention and Control of Pollution) Act, 1974** is one of the earliest environmental laws enacted in India to address water pollution. The Act was introduced to prevent and control water pollution and maintain the quality of water resources.

The Act established the **Central Pollution Control Board (CPCB)** and **State Pollution Control Boards (SPCBs)** to regulate pollution and monitor industrial discharge.⁸

The Pollution Control Boards are responsible for:

- Monitoring water pollution levels
- Granting consent for industrial discharge
- Inspecting industrial units
- Taking action against industries violating pollution standards

Under the Act, industries must obtain **Consent to Establish (CTE)** and **Consent to Operate (CTO)** before commencing industrial operations. Failure to obtain such consent can result in penalties and closure of the industrial unit.

Industries such as coir processing units may generate wastewater through washing, retting, bleaching, and dyeing processes. If these effluents are discharged without proper treatment, they can contaminate surface water and groundwater sources.

The Act therefore requires industries to install effluent treatment systems and comply with prescribed pollution standards.

However, in practice, enforcement of the Water Act often faces challenges due to inadequate monitoring, administrative delays, and corruption within regulatory authorities.

3.4 The Air (Prevention and Control of Pollution) Act, 1981

The **Air (Prevention and Control of Pollution) Act, 1981** was enacted to address air pollution caused by industrial emissions and other sources. The Act empowers Pollution Control Boards to regulate industrial emissions and establish air quality standards.

Under this Act, industrial plants are required to obtain consent from the Pollution Control Board before commencing operations in areas designated as **Air Pollution Control Areas**.⁹

Pollution Control Boards are authorised to:

- Monitor air pollution levels
- Inspect industrial plants
- Establish emission standards
- Issue directions to industries violating pollution norms

Although coir industries are generally considered low-polluting industries, certain activities such as fibre drying, dust generation from coir-pith processing, and handling of raw materials can contribute to air pollution.

Proper regulation under the Air Act therefore remains essential to ensure environmental compliance.

3.5 National Green Tribunal Act, 2010

The **National Green Tribunal Act, 2010** established the National Green Tribunal (NGT), a

specialised judicial body for the adjudication of environmental disputes.

The objective of the Act is to provide effective and expeditious disposal of cases relating to environmental protection and conservation of natural resources.¹⁰

The Tribunal has jurisdiction over cases involving several environmental statutes including:

- Environment Protection Act, 1986
- Water Act, 1974
- Air Act, 1981
- Forest Conservation Act, 1980
- Biological Diversity Act, 2002

The NGT has the power to grant relief and compensation to victims of environmental damage and to order restoration of degraded ecosystems.

In several cases, the NGT has directed regulatory authorities to take action against industries violating environmental norms. The Tribunal has also emphasised the importance of sustainable development and environmental accountability.

The establishment of the NGT represents a significant step in strengthening environmental governance in India.

3.6 Groundwater Regulation in Tamil Nadu

Groundwater is an essential natural resource used for drinking, agriculture, and industrial activities. However, excessive extraction of groundwater can lead to depletion of water tables and environmental degradation.

In Tamil Nadu, groundwater regulation is governed through government policies and statutory provisions. Several districts in the state have been identified as **over-exploited groundwater zones** due to excessive extraction.

Industries seeking to extract groundwater for industrial purposes must obtain permission from the relevant authorities and comply with regulatory guidelines.

However, illegal groundwater extraction remains a significant problem in several industrial clusters. Industries may install unauthorised borewells or extract water without proper permission.

Such activities not only violate regulatory provisions but also affect agricultural productivity and drinking water availability in rural areas.

3.7 Industrial Licensing and Environmental Clearance

Industrial licensing and environmental clearance procedures play a crucial role in environmental governance. Industries must obtain several approvals before commencing operations.

These approvals may include:

- Environmental clearance
- Consent from Pollution Control Boards
- Land use approval
- Water extraction permission
- Electricity connection approval

Environmental Impact Assessment (EIA) procedures require industries to assess the environmental consequences of proposed industrial activities before receiving approval.

However, corruption and administrative delays in licensing processes can undermine environmental regulation. In some cases, industrial licences may be issued without proper environmental assessment or compliance with regulatory conditions.

Such failures in administrative oversight contribute to environmental degradation.

3.8 Prevention of Corruption Act, 1988

The **Prevention of Corruption Act, 1988** is an important statute aimed at combating corruption in public administration.

The Act defines corruption offences committed by public servants, including bribery, abuse of official position, and misuse of authority for personal gain."

Corruption within regulatory authorities responsible for environmental licensing and industrial regulation can significantly weaken environmental governance.

For example, if officials accept bribes to grant environmental clearance or ignore environmental violations, industries may continue polluting activities without accountability.

Strict enforcement of anti-corruption laws is therefore essential for ensuring transparency and accountability in environmental governance.

3.9 Analysis of Legislative Framework

India possesses a relatively strong legal framework for environmental protection. Constitutional provisions, environmental statutes, and anti-corruption laws collectively provide mechanisms for regulating industrial activities and protecting natural resources.

However, the effectiveness of this legislative framework depends on proper implementation by administrative authorities.

Several challenges undermine environmental governance in practice:

- Weak enforcement of pollution control laws
- Corruption in licensing procedures
- Lack of coordination among regulatory agencies
- Insufficient monitoring of industrial activities
- Limited public awareness and participation

Addressing these challenges requires strengthening institutional accountability and improving regulatory enforcement mechanisms.

3.10 Conclusion

The legislative framework governing environmental protection in India provides a comprehensive legal structure for regulating industrial activities and preventing environmental pollution.

Statutes such as the Environment Protection Act, Water Act, Air Act, and the National Green

Tribunal Act establish regulatory mechanisms for environmental governance. In addition, anti-corruption laws aim to ensure transparency and accountability in public administration.

However, the presence of corruption and administrative inaction can significantly weaken the effectiveness of these laws. The gap between legal provisions and their implementation remains a major challenge for environmental governance.

The next chapter will examine the practical issues and challenges associated with environmental regulation in the coir industry, particularly in relation to pollution, groundwater depletion, and administrative failures.

Footnotes

1. Constitution of India, Article 21.
2. *Subhash Kumar v State of Bihar* (1991) 1 SCC 598.
3. *M.C. Mehta v Union of India* (1987) 1 SCC 395.
4. Constitution of India, Article 48A.
5. Constitution of India, Article 51A(g).
6. Environment (Protection) Act, 1986.
7. Environment Protection Act, 1986, Section 5.
8. Water (Prevention and Control of Pollution) Act, 1974.
9. Air (Prevention and Control of Pollution) Act, 1981.
10. National Green Tribunal Act, 2010.
11. Prevention of Corruption Act, 1988.

CHAPTER IV

ISSUES, CHALLENGES AND ANALYSIS OF THE SUBJECT MATTER

Industrialisation has contributed significantly to economic development in India by generating employment, increasing exports, and promoting regional development. However, the rapid growth of industrial activities has also created serious environmental challenges. These

challenges become more severe when environmental regulations are weakly enforced or when administrative institutions fail to ensure compliance with environmental standards.

The coir industry, though traditionally regarded as an agro-based and eco-friendly industry, has increasingly been associated with environmental concerns in certain regions. In states such as Tamil Nadu and Kerala, large clusters of coir industries have emerged, particularly in rural and semi-urban areas. While these industries contribute to rural employment and economic growth, their unregulated expansion has led to environmental pollution, groundwater depletion, and misuse of natural resources.

This chapter examines the major issues and challenges associated with the coir industry, focusing on environmental pollution, groundwater exploitation, administrative failures, and corruption in regulatory processes.

4.1 Water Pollution Caused by Coir Processing

One of the most significant environmental problems associated with the coir industry is water pollution. The process of coir production involves several stages such as retting, fibre extraction, washing, bleaching, dyeing, and coir-pith processing. These activities generate wastewater containing organic matter, chemicals, and suspended solids.

If such wastewater is discharged directly into water bodies without proper treatment, it can contaminate surface water sources such as rivers, canals, and ponds. Industrial effluents may also seep into the soil and pollute groundwater sources used for drinking and agricultural purposes.

In several industrial clusters, wastewater generated from coir processing units is released into nearby drainage channels without adequate treatment. This results in deterioration of water quality and adversely affects aquatic ecosystems.¹

Water pollution caused by industrial discharge can also have serious public health

consequences. Communities residing near industrial clusters may experience contamination of drinking water sources, which can lead to various health problems.

The Water (Prevention and Control of Pollution) Act, 1974 requires industries to install effluent treatment systems and obtain consent from Pollution Control Boards before discharging wastewater.² However, lack of proper monitoring and enforcement often results in industries violating these legal requirements.

4.2 Groundwater Depletion and Over-Extraction

Groundwater is one of the most important natural resources used by industries, agriculture, and households. In several regions of Tamil Nadu, industries rely heavily on groundwater for industrial operations due to limited availability of surface water.

Coir processing requires significant quantities of water for washing fibre and processing coir-pith. As a result, many coir industries extract large volumes of groundwater through borewells.

Excessive groundwater extraction can lead to depletion of water tables and long-term environmental consequences. In areas where multiple industries operate within a limited geographical region, the cumulative impact of groundwater extraction can be severe.

In certain regions such as the **Pollachi-Coimbatore belt**, groundwater levels have reportedly declined due to intensive industrial usage combined with agricultural consumption.³ Farmers and local residents have expressed concerns regarding declining water availability for irrigation and domestic use.

Groundwater depletion also affects agricultural productivity and rural livelihoods. When industries extract water without adequate regulation, the burden of resource scarcity is often borne by local communities.

Several states have introduced regulatory mechanisms to control groundwater extraction

by industries. However, enforcement of these regulations remains inconsistent.

4.3 Illegal Diversion of Canal Water

Another important issue associated with industrial operations is the illegal diversion of canal water meant for agricultural irrigation. Irrigation canals are designed to support agricultural activities and ensure water availability for farmers.

However, in some instances industries divert canal water for industrial use without proper authorisation. Such diversion may occur through illegal pumping systems or unauthorised pipelines.

The misuse of irrigation water for industrial purposes can reduce water availability for agriculture and disrupt irrigation schedules. Farmers who depend on canal water for crop cultivation may experience crop losses due to water shortages.

Illegal diversion of canal water may also constitute a criminal offence under provisions of the **Indian Penal Code relating to theft and misappropriation of public resources**.⁴ Despite this, enforcement actions against such violations are often limited.

The lack of coordination between water resource departments and regulatory authorities further complicates enforcement.

4.4 Air Pollution and Occupational Health Hazards

Although coir industries are often categorised as low-polluting industries, certain activities associated with coir processing can contribute to air pollution. Dust particles generated during fibre extraction, drying, and coir-pith processing may increase particulate matter levels in surrounding areas.

Workers employed in coir processing units may be exposed to dust and fibres for prolonged periods. Continuous exposure to such particles can cause respiratory problems and other occupational health hazards.

Studies conducted on workers in fibre-processing industries have indicated that exposure to dust particles may lead to respiratory disorders, allergies, and lung-related illnesses.⁵

In many small-scale industrial units, workplace safety standards and protective equipment for workers are often inadequate. This increases the risk of occupational health problems among workers.

Regulatory authorities responsible for labour welfare and industrial safety must therefore ensure that industries comply with workplace safety regulations.

4.5 Improper Disposal of Industrial Waste

Another environmental issue associated with the coir industry is the disposal of solid waste generated during processing. Coir-pith and fibre residues are common by-products of coir manufacturing.

Although coir-pith can be used as an agricultural soil conditioner and horticultural product, improper disposal practices may result in environmental pollution. Dumping of industrial waste on open land can affect soil quality and surrounding ecosystems.

During heavy rainfall, such waste materials may be washed into nearby water bodies, further contributing to water pollution.

The **Solid Waste Management Rules** and environmental regulations require industries to adopt proper waste management practices. However, lack of awareness and weak enforcement often lead to improper disposal of industrial waste.

4.6 Illegal Conversion of Agricultural Land

Industrial expansion in rural areas has also resulted in the conversion of agricultural land into industrial sites. Land originally designated for agricultural purposes may be converted into industrial land without obtaining proper approvals from regulatory authorities.

Illegal conversion of agricultural land can have long-term consequences for food security and environmental sustainability. Agricultural land plays an important role in maintaining ecological balance, supporting biodiversity, and sustaining rural livelihoods.

When agricultural land is converted for industrial purposes without proper planning, it may lead to environmental degradation and loss of fertile soil.

Land-use regulations and town planning laws require industries to obtain approval before establishing industrial units on agricultural land. However, enforcement of these regulations may be weakened by administrative inefficiency or corruption.

4.7 Misuse of Electricity Subsidies

In several states, electricity subsidies are provided to support agricultural activities. These subsidies aim to assist farmers by reducing the cost of irrigation and agricultural production.

However, in certain cases industrial units may misuse agricultural electricity connections for industrial operations. Such misuse of electricity subsidies results in financial loss to the government and distorts subsidy policies intended to support farmers.

Electricity authorities must therefore monitor electricity consumption patterns and ensure that power connections are used for authorised purposes only.

4.8 Administrative Inaction and Institutional Failures

One of the most critical challenges affecting environmental governance is administrative inaction. Regulatory authorities responsible for enforcing environmental laws may fail to take timely action against industries violating environmental standards.

Administrative failures may occur due to various reasons, including bureaucratic inefficiency, shortage of staff, lack of technical expertise, or political pressure.

In some cases, regulatory authorities may delay inspections, ignore complaints from affected communities, or fail to initiate enforcement proceedings against polluting industries.

Such administrative inaction creates a regulatory environment in which industries may continue environmentally harmful practices without accountability.

4.9 Corruption in Environmental Licensing and Regulation

Corruption within environmental regulatory institutions represents a serious threat to effective environmental governance. Officials responsible for issuing industrial licences, environmental clearances, or pollution control permits may misuse their authority for personal gain.

If industries obtain environmental clearances through corrupt practices, they may operate without complying with environmental standards. Corruption can also lead to manipulation of inspection reports, suppression of environmental violations, and delay in enforcement actions.

The **Prevention of Corruption Act, 1988** criminalises corruption by public servants and provides mechanisms for prosecuting corrupt officials.⁶ However, detection and prosecution of corruption cases often remain difficult due to lack of evidence and institutional constraints.

Strengthening transparency, accountability, and public participation in environmental decision-making processes can help reduce corruption in environmental governance.

4.10 Cumulative Environmental Impact of Industrial Clusters

Environmental impact is often evaluated at the level of individual industrial units. However, when multiple industries operate within a concentrated geographical area, their cumulative environmental impact can be significant.

In industrial clusters such as those found in the coir sector, several small-scale industries may

individually appear environmentally insignificant. However, collectively they may cause substantial environmental degradation through excessive water consumption, waste generation, and pollution.

Environmental impact assessments should therefore consider the cumulative impact of industrial clusters rather than focusing solely on individual units.

4.11 Analysis of the Issues

The issues discussed above demonstrate that environmental challenges associated with the coir industry are not merely technical or environmental problems but also institutional and governance issues.

Environmental laws and regulations exist to prevent pollution and protect natural resources. However, when administrative institutions fail to enforce these laws effectively, environmental degradation becomes inevitable.

The presence of corruption, bureaucratic inefficiency, and lack of coordination among regulatory authorities significantly weakens environmental governance.

Addressing these challenges requires strengthening regulatory institutions, improving transparency in environmental decision-making, and enhancing accountability of public officials.

4.12 Conclusion

The coir industry plays an important role in rural economic development and employment generation. However, the rapid and unregulated expansion of coir industries in certain regions has resulted in environmental challenges such as water pollution, groundwater depletion, air pollution, and improper waste disposal.

Administrative failures and corruption within regulatory institutions further exacerbate these environmental problems by allowing industries to operate without proper compliance with environmental regulations.

Effective environmental governance therefore requires not only strong legal frameworks but also efficient and transparent administrative institutions capable of enforcing environmental laws.

The next chapter will examine the **role of the judiciary in addressing environmental pollution and administrative failures through judicial intervention and environmental jurisprudence.**

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5. International Labour Organisation, *Occupational Health in Fibre Industries*.
6. Prevention of Corruption Act, 1988.

CHAPTER V

ROLE OF JUDICIARY IN THE SUBJECT MATTER

The judiciary in India has played a pivotal role in the development and enforcement of environmental law. In situations where administrative authorities have failed to implement environmental regulations effectively, courts have intervened to protect environmental rights and ensure accountability of public authorities. Through judicial interpretation of constitutional provisions, development of environmental doctrines, and adjudication of public interest litigation, the judiciary has significantly strengthened environmental governance in India.

Judicial intervention has been particularly important in addressing issues such as industrial pollution, environmental degradation, groundwater depletion, and administrative inaction. The courts have expanded the scope of fundamental rights under the Constitution

and recognised environmental protection as an integral component of the right to life.

This chapter examines the role of the judiciary in shaping environmental governance in India and analyses important judicial decisions relevant to environmental protection and industrial regulation.

5.1 Expansion of Environmental Rights under Article 21

One of the most significant contributions of the Indian judiciary to environmental protection is the expansion of the interpretation of **Article 21 of the Constitution**, which guarantees the right to life and personal liberty.

The Supreme Court has repeatedly held that the right to life includes the right to live in a clean and healthy environment. Environmental pollution that threatens public health and ecological balance therefore constitutes a violation of fundamental rights.

In **Subhash Kumar v State of Bihar**, the Supreme Court observed that the right to life includes the right to enjoy pollution-free water and air.¹ The Court emphasised that environmental pollution directly affects human health and quality of life.

Similarly, in **Virender Gaur v State of Haryana**, the Court held that environmental protection is an essential component of the right to life and that the State has a duty to ensure ecological balance.²

These decisions established the constitutional foundation for environmental jurisprudence in India.

5.2 Public Interest Litigation and Environmental Protection

Another important development in environmental law has been the emergence of **Public Interest Litigation (PIL)**. PIL allows citizens, environmental activists, and social organisations to approach courts for the protection of public rights, including environmental rights.

The Supreme Court and High Courts have used PIL as an effective tool to address environmental issues such as pollution, deforestation, industrial hazards, and misuse of natural resources.

In **M.C. Mehta v Union of India**, a series of PIL cases filed by environmental activist M.C. Mehta resulted in significant judicial interventions in environmental matters.³ The Court issued directions to control pollution caused by industries, regulate hazardous activities, and protect natural resources.

Through PIL, courts have ensured that environmental issues affecting large sections of society receive judicial attention even when affected communities lack the resources to approach courts individually.

5.3 Development of Environmental Doctrines through Judicial Decisions

The judiciary has also contributed to environmental governance by developing important legal doctrines that guide environmental regulation and policymaking.

Precautionary Principle

The precautionary principle requires authorities to take preventive measures to protect the environment even in cases where scientific certainty regarding environmental harm is not fully established.

The Supreme Court recognised this principle in **Vellore Citizens' Welfare Forum v Union of India**, where the Court held that environmental protection must anticipate and prevent environmental damage rather than merely responding after harm has occurred.⁴

The Court also declared that the precautionary principle forms part of the environmental law of India.

Polluter Pays Principle

The polluter pays principle requires industries responsible for environmental pollution to bear the cost of environmental restoration and compensation for affected communities.

In **Indian Council for Enviro-Legal Action v Union of India**, the Supreme Court held that polluting industries are absolutely liable for environmental damage caused by their activities.⁵

The Court emphasised that the financial burden of environmental restoration should not fall on society but on the polluting industry.

Public Trust Doctrine

The public trust doctrine recognises that certain natural resources such as air, water, forests, and rivers are held by the State in trust for the benefit of the public.

In **M.C. Mehta v Kamal Nath**, the Supreme Court held that the State cannot transfer public resources for private commercial exploitation if such actions harm public interest.⁶ The Court emphasised that natural resources must be preserved for future generations.

These doctrines have become fundamental principles guiding environmental governance in India.

5.4 Judicial Intervention in Industrial Pollution Cases

Courts have played a crucial role in addressing environmental pollution caused by industries. Judicial intervention has often been necessary when regulatory authorities failed to enforce environmental laws effectively.

In **Oleum Gas Leak Case (M.C. Mehta v Union of India)**, the Supreme Court evolved the principle of **absolute liability** for hazardous industries.⁷ The Court held that industries engaged in hazardous activities are absolutely liable for any damage caused by their operations.

This principle strengthened the legal framework for holding industries accountable for environmental damage.

In **Vellore Citizens' Welfare Forum v Union of India**, the Court addressed pollution caused by tanneries in Tamil Nadu and directed industries to adopt pollution control measures.⁸ The Court

emphasised the importance of sustainable development and environmental protection.

Judicial intervention in such cases has helped enforce environmental regulations and ensure accountability of polluting industries.

5.5 Role of the National Green Tribunal

The establishment of the **National Green Tribunal (NGT)** under the National Green Tribunal Act, 2010 marked an important development in environmental governance in India.

The NGT was created as a specialised tribunal to handle environmental disputes and ensure speedy resolution of environmental cases.⁹

The Tribunal has jurisdiction over matters relating to environmental protection and conservation of natural resources. It has the authority to order compensation for environmental damage and direct restoration of degraded ecosystems.

The NGT has played an active role in addressing issues such as industrial pollution, illegal mining, deforestation, and groundwater exploitation.

In several cases, the NGT has directed regulatory authorities to take action against industries violating environmental norms and has imposed penalties on polluting industries.

The establishment of the NGT has therefore strengthened environmental enforcement mechanisms in India.

5.6 Judicial Response to Administrative Inaction

In many environmental cases, courts have intervened because regulatory authorities failed to enforce environmental laws effectively.

Administrative inaction may occur due to bureaucratic inefficiency, political influence, corruption, or lack of institutional capacity.

Courts have therefore used their constitutional powers to direct regulatory authorities to perform their statutory duties.

For example, in **A.P. Pollution Control Board v Prof. M.V. Nayudu**, the Supreme Court emphasised the importance of scientific expertise in environmental decision-making and highlighted the responsibility of regulatory authorities to prevent environmental harm.¹⁰

Through such decisions, the judiciary has ensured that environmental governance mechanisms function effectively.

5.7 Impact of Judicial Activism on Environmental Governance

Judicial activism has played a crucial role in strengthening environmental governance in India. Courts have expanded environmental rights, developed important legal doctrines, and held industries accountable for environmental damage.

Judicial intervention has also increased public awareness about environmental protection and encouraged greater participation of civil society in environmental governance.

However, reliance on judicial intervention alone cannot solve environmental problems. Effective environmental governance requires strong administrative institutions capable of enforcing environmental laws without the need for constant judicial supervision.

5.8 Conclusion

The judiciary has played a transformative role in the development of environmental law in India. Through interpretation of constitutional provisions, development of environmental doctrines, and adjudication of public interest litigation, courts have strengthened environmental governance and protected environmental rights.

Judicial decisions have ensured that industries and regulatory authorities remain accountable for environmental protection. However, sustainable environmental governance ultimately requires effective implementation of environmental laws by administrative institutions.

The next chapter will examine **comparative environmental governance approaches in other countries and analyse how foreign legal frameworks address issues of industrial pollution and environmental regulation.**

Footnotes

1. *Subhash Kumar v State of Bihar* (1991) 1 SCC 598.
2. *Virender Gaur v State of Haryana* (1995) 2 SCC 577.
3. *M.C. Mehta v Union of India* (1987) 1 SCC 395.
4. *Vellore Citizens' Welfare Forum v Union of India* (1996) 5 SCC 647.
5. *Indian Council for Enviro-Legal Action v Union of India* (1996) 3 SCC 212.
6. *M.C. Mehta v Kamal Nath* (1997) 1 SCC 388.
7. *M.C. Mehta v Union of India (Oleum Gas Leak Case)* (1987) 1 SCC 395.
8. *Vellore Citizens' Welfare Forum v Union of India* (1996) 5 SCC 647.
9. National Green Tribunal Act, 2010.
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CHAPTER VI

COMPARATIVE ANALYSIS OF LAWS WITH OTHER COUNTRIES

Comparative legal analysis plays an important role in understanding how different jurisdictions address similar environmental challenges. By examining the environmental regulatory frameworks of other countries, it is possible to identify best practices and evaluate whether such approaches can be adapted within the Indian legal system.

Environmental governance is not limited to domestic legal systems; it is influenced by international environmental agreements, global environmental movements, and comparative legal developments. Countries around the world

have developed different regulatory mechanisms to control industrial pollution, regulate the use of natural resources, and ensure sustainable development.

This chapter compares the environmental regulatory framework in India with selected jurisdictions, including the **United States**, the **European Union**, and **Australia**. These jurisdictions have been chosen because they possess relatively well-developed environmental regulatory systems and provide useful insights into environmental governance practices.

6.1 Importance of Comparative Environmental Law

Comparative environmental law helps policymakers and scholars evaluate the effectiveness of domestic environmental regulations by analysing how similar issues are addressed in other legal systems.

Several environmental problems such as air pollution, water pollution, climate change, and depletion of natural resources are global in nature. Countries therefore often learn from the experiences of other jurisdictions when developing environmental policies.

Comparative legal analysis also helps identify innovative regulatory mechanisms, stronger enforcement models, and improved administrative practices that may enhance environmental governance.

For countries such as India, where enforcement of environmental laws often faces administrative challenges, studying foreign regulatory systems can provide valuable lessons for strengthening environmental governance.

6.2 Environmental Regulation in the United States

The United States has one of the most comprehensive environmental regulatory frameworks in the world. Environmental regulation in the United States is primarily

governed by federal legislation implemented by the **Environmental Protection Agency (EPA)**.

One of the most important environmental statutes in the United States is the **Clean Water Act (1972)**, which regulates the discharge of pollutants into water bodies and establishes water quality standards.¹ Industries are required to obtain permits before discharging pollutants into water bodies.

Similarly, the **Clean Air Act (1970)** regulates air pollution by establishing national air quality standards and emission limits for industries.² Industries that emit pollutants into the atmosphere must comply with strict regulatory standards.

Another important law is the **National Environmental Policy Act (NEPA), 1969**, which requires environmental impact assessments before the approval of major industrial or infrastructure projects.³

The United States also follows a strong enforcement mechanism. Regulatory authorities have the power to impose heavy penalties, initiate legal proceedings against polluting industries, and require environmental remediation.

Compared to India, environmental regulation in the United States emphasises strict monitoring, transparent regulatory procedures, and strong enforcement mechanisms.

6.3 Environmental Regulation in the European Union

The European Union has developed an integrated environmental governance system that applies to all member states. Environmental regulation in the European Union is guided by principles such as sustainable development, precautionary principle, and polluter pays principle.

One of the most significant environmental policies in the European Union is the **Water Framework Directive (2000)**, which establishes a comprehensive framework for protecting water resources across member states.⁴ The

directive requires countries to maintain good water quality and regulate industrial pollution.

The European Union also has strict regulations regarding industrial emissions under the **Industrial Emissions Directive**, which requires industries to adopt best available technologies to minimise environmental pollution.

Environmental impact assessment is mandatory for major industrial projects under the **Environmental Impact Assessment Directive**. This ensures that environmental consequences are considered before approving industrial activities.

Public participation is another key feature of environmental governance in the European Union. Citizens and environmental organisations are encouraged to participate in environmental decision-making processes.

Compared to India, the European Union demonstrates a higher level of regulatory integration and stronger environmental monitoring systems.

6.4 Environmental Governance in Australia

Australia has also developed a comprehensive environmental regulatory framework, particularly due to concerns regarding water scarcity and environmental conservation.

The **Environment Protection and Biodiversity Conservation Act, 1999** is the primary environmental legislation governing environmental protection in Australia.⁵ The Act regulates activities that may significantly impact the environment, including industrial projects.

Australia also places strong emphasis on **water resource management**. Due to limited water availability in several regions, strict regulations govern the extraction and use of groundwater resources.

Industrial water usage is monitored through licensing systems, and industries must obtain permits before extracting water resources. Authorities also impose limits on groundwater

extraction to ensure sustainable use of water resources.

These regulatory practices provide useful insights for countries like India where groundwater depletion has become a major environmental concern.

6.5 Comparative Analysis with India

India has developed a relatively strong environmental legal framework through statutes such as the **Environment Protection Act, Water Act, Air Act, and National Green Tribunal Act**. In addition, the judiciary has strengthened environmental governance through landmark judgments and development of environmental doctrines.

However, several challenges continue to affect environmental governance in India, including:

- Weak enforcement of environmental laws
- Administrative delays and bureaucratic inefficiency
- Corruption in environmental licensing procedures
- Lack of coordination among regulatory agencies
- Limited monitoring of industrial activities

In contrast, countries such as the United States and members of the European Union have developed stronger enforcement mechanisms and more transparent regulatory procedures.

For example, environmental regulatory agencies in these jurisdictions often have greater autonomy and stronger enforcement powers. Heavy penalties and strict monitoring systems create stronger deterrence against environmental violations.

India can learn from these international experiences by strengthening regulatory institutions, improving transparency in environmental decision-making, and enhancing enforcement of environmental laws.

6.6 Adaptation of International Best Practices

Although legal systems vary across countries, several international best practices may be

adapted to strengthen environmental governance in India.

These include:

- Strengthening environmental impact assessment procedures
- Improving transparency in environmental licensing processes
- Enhancing monitoring and inspection mechanisms
- Promoting public participation in environmental decision-making
- Increasing penalties for environmental violations

Adopting such practices can help improve environmental governance and ensure more effective regulation of industrial activities.

6.7 Conclusion

Comparative analysis demonstrates that effective environmental governance depends not only on the existence of environmental laws but also on strong enforcement mechanisms and transparent regulatory institutions.

Countries such as the United States, the European Union, and Australia have developed regulatory systems that emphasise strict enforcement, public participation, and scientific monitoring of environmental conditions.

While India possesses a comprehensive legal framework for environmental protection, improving enforcement mechanisms and strengthening institutional accountability remain essential for addressing environmental challenges.

The next chapter will present the **conclusion of the study along with suggestions and recommendations for improving environmental governance and strengthening regulatory mechanisms in India**.

Footnotes

1. Clean Water Act, 1972 (United States).
2. Clean Air Act, 1970 (United States).
3. National Environmental Policy Act, 1969 (United States).

4. Water Framework Directive, 2000 (European Union).
5. Environment Protection and Biodiversity Conservation Act, 1999 (Australia).

CHAPTER VII

CONCLUSION AND SUGGESTIONS / RECOMMENDATIONS

7.1 Conclusion

Environmental protection has emerged as one of the most critical concerns in modern governance. Rapid industrialisation and economic development have significantly improved living standards and economic opportunities, but they have also contributed to environmental degradation and depletion of natural resources. The challenge faced by governments today is to balance economic development with environmental sustainability.

This research has examined the issue of **corruption and administrative inaction in environmental governance**, with particular focus on industrial licensing and regulation of the coir industry in Tamil Nadu. The study demonstrates that while the coir industry plays an important role in rural employment and economic development, its unregulated expansion can result in environmental challenges such as water pollution, groundwater depletion, and improper disposal of industrial waste.

The study also highlights that India possesses a comprehensive legal framework for environmental protection. Constitutional provisions, environmental statutes such as the **Environment Protection Act, Water Act, and Air Act**, and the establishment of specialised institutions such as the **National Green Tribunal** collectively provide strong legal mechanisms for environmental governance.

However, the effectiveness of these laws depends largely on proper implementation by regulatory authorities. In many instances, environmental degradation occurs not because of the absence of laws but because of **weak**

enforcement, bureaucratic inefficiency, and corruption within administrative institutions.

The research findings indicate that environmental governance often suffers from several institutional weaknesses. These include inadequate monitoring of industrial activities, lack of coordination among regulatory authorities, delays in environmental licensing procedures, and failure to take timely action against environmental violations.

The study also highlights the important role played by the **judiciary in strengthening environmental governance in India**. Through judicial interpretation of constitutional provisions and development of environmental doctrines such as the precautionary principle, polluter pays principle, and public trust doctrine, the courts have expanded the scope of environmental rights and ensured greater accountability of industries and regulatory authorities.

Judicial activism and public interest litigation have played a crucial role in addressing environmental issues, particularly in cases where administrative authorities failed to enforce environmental regulations effectively.

Despite these developments, environmental governance in India continues to face challenges related to corruption, administrative inefficiency, and lack of transparency in environmental decision-making processes.

The comparative analysis conducted in this study shows that countries such as the United States, members of the European Union, and Australia have developed stronger enforcement mechanisms and regulatory systems that ensure better compliance with environmental standards.

India can benefit from adopting certain best practices from these jurisdictions, particularly in relation to environmental monitoring, transparency in regulatory procedures, and accountability of regulatory authorities.

Ultimately, effective environmental governance requires a combination of **strong legal**

frameworks, efficient administrative institutions, active judicial oversight, and public participation.

The protection of environmental resources is not only a legal obligation but also a moral responsibility towards present and future generations.

7.2 Key Findings of the Study

Based on the analysis conducted in this dissertation, several important findings emerge:

1. The coir industry, although traditionally considered environmentally friendly, can contribute to environmental pollution when industrial operations are not properly regulated.
2. Water pollution and groundwater depletion are among the most significant environmental issues associated with coir processing industries.
3. Environmental laws in India provide a comprehensive regulatory framework for controlling industrial pollution and protecting natural resources.
4. Administrative inaction and corruption within regulatory authorities significantly weaken the effectiveness of environmental laws.
5. Judicial intervention has played an important role in strengthening environmental governance through interpretation of constitutional provisions and development of environmental doctrines.
6. Comparative analysis indicates that stronger enforcement mechanisms and transparent regulatory systems are essential for effective environmental governance.

7.3 Suggestions and Recommendations

Based on the findings of the study, the following recommendations are proposed to improve

environmental governance and strengthen regulatory mechanisms in India.

1. Strengthening Environmental Enforcement

Regulatory authorities such as Pollution Control Boards must strengthen monitoring and enforcement mechanisms to ensure compliance with environmental standards. Regular inspections of industrial units should be conducted, and strict action should be taken against industries violating environmental regulations.

2. Improving Transparency in Environmental Licensing

Environmental licensing procedures should be made more transparent and accountable. The use of digital platforms for environmental clearances and monitoring can reduce opportunities for corruption and improve efficiency in regulatory processes.

3. Strengthening Institutional Coordination

Environmental governance often involves multiple regulatory authorities such as Pollution Control Boards, water resource departments, and local administrative bodies. Improved coordination among these institutions is necessary to ensure effective regulation of industrial activities.

4. Regulating Groundwater Extraction

Groundwater extraction by industries should be strictly regulated, particularly in regions facing water scarcity. Industries should be encouraged to adopt water recycling technologies and efficient water management practices.

5. Promoting Sustainable Industrial Practices

Industries should be encouraged to adopt environmentally sustainable practices such as waste recycling, pollution control technologies, and efficient use of natural resources. Government incentives may be provided to industries adopting eco-friendly technologies.

6. Strengthening Anti-Corruption Measures

Strict enforcement of anti-corruption laws is essential to ensure transparency and

accountability in environmental governance. Regulatory authorities responsible for issuing environmental clearances should be subject to regular audits and oversight mechanisms.

7. Increasing Public Participation

Public participation in environmental decision-making can improve transparency and accountability. Local communities should be given opportunities to participate in environmental impact assessment processes and monitoring of industrial activities.

8. Enhancing Environmental Awareness

Environmental education and awareness programs can play an important role in promoting responsible environmental practices among industries and communities.

7.4 Final Observations

Environmental governance is a complex and evolving field that requires continuous improvement in legal frameworks, regulatory mechanisms, and institutional capacity. The protection of natural resources is essential not only for environmental sustainability but also for economic development and social welfare.

Industrial development must therefore be pursued in a manner that respects environmental limits and ensures responsible use of natural resources.

Strengthening environmental governance, promoting transparency in regulatory processes, and encouraging sustainable industrial practices will be essential for addressing environmental challenges in the future.

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LIST OF ABBREVIATIONS

Abbreviation	Full Form
CPCB	Central Pollution Control Board
TNPCB	Tamil Nadu Pollution Control Board
NGT	National Green Tribunal
IPC	Indian Penal Code
PIL	Public Interest Litigation
EP Act	Environment (Protection) Act, 1986
Water Act	Water (Prevention and Control of Pollution) Act, 1974
Air Act	Air (Prevention and Control of Pollution) Act, 1981
RTI	Right to Information Act
CVC	Central Vigilance Commission

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