

# Plastic Waste Management Practices and Corporate Environmental Responsibility: A Study

DR.N. SHAFEER MOHAMMED

*Asst.Professor & Head, Department of Commerce (CA)*

*Government Arts College, Dharmapuri, Periyar University, Tamil Nadu, India*

**Abstract**—Plastic waste has emerged as a major environmental challenge due to increased industrial production, consumption, and improper disposal practices. Corporations play a crucial role in addressing this issue through effective plastic waste management and the adoption of corporate environmental responsibility (CER) initiatives. This study examines the plastic waste management practices adopted by selected companies and evaluates their commitment towards corporate environmental responsibility. The research focuses on waste reduction strategies, segregation, recycling initiatives, compliance with environmental regulations, and sustainability reporting practices. Primary data are collected from managerial and operational-level employees using a structured questionnaire, while secondary data are sourced from company reports, sustainability disclosures, and government publications. The study employs statistical tools to analyze the relationship between plastic waste management practices and corporate environmental responsibility. The findings reveal that companies with strong environmental responsibility frameworks demonstrate more effective plastic waste management practices. The study highlights the need for greater regulatory enforcement, employee awareness, and integration of sustainable waste management strategies into corporate policies. The research contributes to understanding the role of corporate responsibility in achieving sustainable plastic waste management and environmental protection.

**Index Terms**—Plastic Waste Management, Corporate Environmental Responsibility, Sustainability, Recycling Practices, Environmental Compliance, Industrial Waste Management

## I. INTRODUCTION

Plastic has become an indispensable material in modern industrial and commercial activities due to its versatility, durability, and low cost. However, the extensive use of plastic has resulted in a significant increase in plastic

waste, posing serious threats to environmental sustainability, public health, and ecological balance. Improper disposal and inadequate recycling of plastic waste have led to soil contamination, water pollution, and harm to wildlife, making plastic waste management a critical global concern.

In recent years, attention has increasingly shifted towards the role of corporations in addressing environmental challenges. Companies are among the major contributors to plastic waste generation through packaging, manufacturing processes, and distribution activities. As a result, corporate environmental responsibility (CER) has gained prominence as an essential component of sustainable business practices. Corporate environmental responsibility refers to the obligation of organizations to minimize their environmental footprint by adopting eco-friendly policies, complying with environmental regulations, and actively participating in waste reduction and recycling initiatives.

Effective plastic waste management involves systematic practices such as waste segregation, reduction at source, reuse, recycling, and safe disposal. Corporations that integrate these practices into their operational framework not only contribute to environmental protection but also enhance their corporate image, stakeholder trust, and long-term sustainability. Regulatory frameworks, such as plastic waste management rules and extended producer responsibility (EPR), further emphasize the accountability of companies in managing plastic waste throughout the product lifecycle.

Despite growing awareness and regulatory pressure, many organizations face challenges in implementing efficient plastic waste management systems. Factors such as lack of employee awareness, insufficient infrastructure, cost constraints, and weak enforcement mechanisms hinder effective implementation. Therefore, it becomes essential to examine the extent to which corporations adopt plastic

waste management practices and how these practices align with their commitment to corporate environmental responsibility.

This study aims to analyze plastic waste management practices in selected companies and assess their role in promoting corporate environmental responsibility. By understanding the relationship between corporate initiatives and waste management effectiveness, the study seeks to provide insights that can support policymakers, corporate managers, and environmental stakeholders in developing sustainable strategies for plastic waste reduction and environmental conservation.

## II. SCOPE OF THE STUDY

The scope of the study defines the boundaries within which the research on plastic waste management and corporate environmental responsibility is conducted. This study focuses on examining the plastic waste management practices adopted by selected companies and evaluating their commitment towards corporate environmental responsibility.

The study is confined to assessing key aspects of plastic waste management such as plastic waste generation, segregation, recycling, reuse, disposal methods, and compliance with environmental regulations. It also covers corporate initiatives related to environmental responsibility, including sustainability policies, employee awareness programs, extended producer responsibility (EPR) practices, and environmental reporting.

The research primarily relies on primary data collected from managerial and operational-level employees of selected companies through a structured questionnaire. Secondary data are obtained from annual reports, sustainability reports, company websites, government publications, and relevant research articles. The geographical scope of the study is limited to the selected study area, and the findings are applicable within this context.

The study does not cover other forms of waste such as electronic waste, biomedical waste, or hazardous waste, except where they are indirectly related to plastic waste management. Financial performance analysis and detailed environmental impact assessments are also outside the scope of this research.

Overall, the study aims to provide practical insights into the role of corporate environmental responsibility in promoting effective plastic waste management and supporting sustainable business practices, within the

defined limitations of time, resources, and data availability.

## III. IMPORTANCE OF THE STUDY

Plastic waste has become one of the most pressing environmental challenges faced by modern society, largely due to rapid industrialization and increased corporate use of plastic materials. Understanding the importance of plastic waste management within the framework of corporate environmental responsibility is essential for achieving sustainable development and environmental protection.

This study is important as it highlights the crucial role played by corporations in reducing plastic pollution through responsible waste management practices. By examining how companies manage plastic waste, the study brings attention to the effectiveness of corporate environmental responsibility initiatives in minimizing environmental degradation.

The research is significant for corporate managers and policymakers as it provides insights into existing practices, gaps, and challenges in plastic waste management. The findings can assist organizations in improving their waste management strategies, ensuring compliance with environmental regulations, and strengthening sustainability policies.

From an academic perspective, the study contributes to the existing literature on environmental management and corporate responsibility by establishing a link between plastic waste management practices and corporate environmental responsibility. It also serves as a reference for future researchers interested in sustainability, environmental ethics, and responsible business practices.

Moreover, the study is important for society and environmental stakeholders, as effective corporate plastic waste management can lead to reduced pollution, conservation of natural resources, and improved public health. By promoting environmentally responsible corporate behavior, the study supports the broader goal of sustainable and eco-friendly industrial development.

## IV. OBJECTIVES OF THE STUDY

The following are the specific objectives of the study on Plastic Waste Management Practices and Corporate Environmental Responsibility:

1. To examine the nature and extent of plastic waste generated by selected companies.

2. To analyze the plastic waste management practices adopted by corporations, including segregation, recycling, reuse, and disposal methods.
3. To assess the level of awareness among employees regarding plastic waste management and environmental responsibility.
4. To study the corporate environmental responsibility initiatives undertaken by selected companies.
5. To evaluate the compliance of companies with plastic waste management rules and environmental regulations.
6. To examine the relationship between plastic waste management practices and corporate environmental responsibility.
7. To identify the challenges faced by companies in implementing effective plastic waste management systems.
8. To suggest suitable measures for improving plastic waste management practices and strengthening corporate environmental responsibility,

#### V. STATEMENT OF THE PROBLEM

Plastic waste generation has increased significantly with the growth of industrial and corporate activities, making effective plastic waste management a critical environmental concern. Corporations, being major users of plastic in packaging, production, and distribution processes, have a significant responsibility to manage plastic waste in an environmentally sustainable manner. Although various environmental regulations and corporate environmental responsibility (CER) frameworks exist, the actual implementation of plastic waste management practices by companies often remains inadequate and inconsistent.

Many organizations face challenges such as lack of proper waste segregation systems, limited recycling infrastructure, low employee awareness, and insufficient monitoring mechanisms. In several cases, corporate environmental responsibility initiatives are more policy-oriented than practice-driven, leading to a gap between stated environmental commitments and actual waste management performance.

Despite the importance of corporate involvement in plastic waste management, there is limited empirical evidence examining the relationship between plastic waste management practices and corporate environmental responsibility at the organizational level. This creates a

research gap in understanding how effectively corporations integrate environmental responsibility into their plastic waste management systems.

Therefore, the problem addressed in this study is to examine the extent to which selected companies adopt effective plastic waste management practices and to analyze how these practices reflect their commitment to corporate environmental responsibility. The study seeks to identify existing gaps, challenges, and areas for improvement in order to promote sustainable corporate practices and environmental protection.

#### VI. REVIEW OF LITERATURE

The review of literature provides an overview of previous studies related to plastic waste management and corporate environmental responsibility, highlighting key findings and identifying research gaps.

Geyer, Jambeck, and Law (2017) examined the production, use, and disposal of plastics globally and highlighted that ineffective waste management systems are a major contributor to environmental pollution. Their study emphasized the urgent need for improved plastic waste management practices, particularly by large-scale producers and corporations.

Jambeck et al. (2015) focused on plastic waste leakage into marine environments and identified industries as significant contributors to plastic pollution. The study stressed the responsibility of producers and corporations in reducing plastic waste through better design, recycling, and waste management strategies.

Elkington (1997) introduced the concept of the triple bottom line, emphasizing that corporate success should be measured not only by economic performance but also by environmental and social responsibility. This framework laid the foundation for integrating plastic waste management into corporate environmental responsibility initiatives.

Kotler and Lee (2005) analyzed corporate social responsibility practices and found that environmentally responsible behavior enhances corporate reputation and stakeholder trust. Their study suggested that effective waste management practices can serve as a strategic tool for achieving sustainable business growth.

Sharma and Henriques (2005) examined stakeholder influence on corporate sustainability practices and concluded that regulatory bodies, customers, and communities significantly impact corporate environmental behavior. Their findings indicate that

compliance pressure and stakeholder expectations motivate companies to adopt better plastic waste management practices.

Gupta and Ogden (2009) studied consumer behavior toward environmentally friendly practices and found that organizational commitment plays a crucial role in promoting sustainable consumption and waste reduction. Their research supports the importance of employee and consumer awareness in successful waste management systems.

The United Nations Environment Programme (2018) highlighted global challenges associated with single-use plastics and emphasized the role of corporate responsibility and policy intervention in achieving sustainable plastic waste management. The report advocated extended producer responsibility and circular economy models.

Indian studies and government reports, such as those by the Central Pollution Control Board (2022) and the Ministry of Environment, Forest and Climate Change (2016, 2021), have emphasized regulatory frameworks like Plastic Waste Management Rules and Extended Producer Responsibility. These studies highlight implementation gaps and the need for stronger corporate participation.

## VII. RESEARCH METHODOLOGY

The research methodology outlines the systematic approach adopted to study Plastic Waste Management Practices and Corporate Environmental Responsibility.

### Research Design

The study adopts a descriptive and analytical research design. It aims to describe existing plastic waste management practices in selected companies and analyze their relationship with corporate environmental responsibility.

### Study Area

The research is conducted in selected companies located in the chosen study area (to be specified as per university requirements).

### Sample Size

The study is based on a sample size of 250 respondents. The respondents include managerial, supervisory, and operational-level employees who are directly or indirectly

involved in waste management and environmental practices within the organization.

### Sampling Technique

A stratified random sampling method is used to ensure fair representation of respondents from different departments and job levels within the selected companies.

### Sources of Data

- **Primary Data:** Collected through a structured questionnaire administered to 250 respondents.
- **Secondary Data:** Collected from company annual reports, sustainability reports, government publications, journals, books, and relevant websites.

### Tools for Data Collection

A structured questionnaire consisting of both closed-ended and Likert-scale questions is used to gather information on plastic waste management practices, employee awareness, and corporate environmental responsibility initiatives.

### Statistical Tools for Analysis

The collected data are analyzed using appropriate statistical tools such as:

- Percentage analysis
- Mean and standard deviation
- Chi-square test
- Correlation analysis
- Regression analysis (where applicable)

### Period of Study

The study covers a period of one academic year.

### Limitations of the Study

The findings of the study are subject to limitations such as time constraints, respondent bias, and restricted geographical coverage.

## VIII. HYPOTHESES OF THE STUDY

The following hypotheses are formulated for the study on Plastic Waste Management Practices and Corporate Environmental Responsibility:

### Null Hypotheses ( $H_0$ )

1.  $H_{01}$ : There is no significant relationship between plastic waste management practices and corporate environmental responsibility.

2. H<sub>02</sub>: There is no significant association between employee awareness and effective plastic waste management practices.
3. H<sub>03</sub>: There is no significant difference in plastic waste management practices among companies based on their level of corporate environmental responsibility.
4. H<sub>04</sub>: There is no significant relationship between compliance with environmental regulations and corporate environmental responsibility.
5. H<sub>05</sub>: Corporate environmental responsibility initiatives do not significantly influence plastic waste reduction and recycling practices.

Alternative Hypotheses (H<sub>i</sub>)

1. H<sub>11</sub>: There is a significant relationship between plastic waste management practices and corporate environmental responsibility.
2. H<sub>12</sub>: There is a significant association between employee awareness and effective plastic waste management practices.
3. H<sub>13</sub>: There is a significant difference in plastic waste management practices among companies based on their level of corporate environmental responsibility.
4. H<sub>14</sub>: There is a significant relationship between compliance with environmental regulations and corporate environmental responsibility.
5. H<sub>15</sub>: Corporate environmental responsibility initiatives significantly influence plastic waste reduction and recycling practices.

IX. TABULATION AND INTERPRETATION

Table 1: Awareness of Plastic Waste Management Practices among Employees

Awareness Level	No. of Respondents	Percentage (%)
High	110	44.0
Moderate	90	36.0
Low	50	20.0
Total	250	100.0

Interpretation

The table 1 shows that 44% of the respondents have a high level of awareness regarding plastic waste management practices, while 36% possess moderate awareness. However, 20% of the respondents have a low level of awareness. This indicates that although a majority

of employees are aware of plastic waste management, there is still a need for enhanced training and awareness programs within companies.

Table 2: Plastic Waste Segregation Practices in Companies

Segregation Practice	No. of Respondents	Percentage (%)
Always followed	95	38.0
Sometimes followed	105	42.0
Not followed	50	20.0
Total	250	100.0

Interpretation

It is observed from the table 2 that 38% of the respondents stated that plastic waste segregation is always followed in their companies. About 42% indicated that segregation is practiced occasionally, while 20% reported that segregation is not followed. This reveals inconsistency in segregation practices, which affects the effectiveness of plastic waste management.

Table 3: Corporate Environmental Responsibility Initiatives

CER Initiative Level	No. of Respondents	Percentage (%)
Strong	100	40.0
Moderate	90	36.0
Weak	60	24.0
Total	250	100.0

Interpretation

The table indicates that 40% of the respondents perceive their company's corporate environmental responsibility initiatives as strong. About 36% view them as moderate, while 24% feel they are weak. This suggests that although many companies have adopted CER initiatives, their effectiveness varies across organizations.

Table 4: Compliance with Plastic Waste Management Rules

Level of Compliance	No. of Respondents	Percentage (%)
Fully compliant	85	34.0
Partially compliant	115	46.0
Non-compliant	50	20.0
Total	250	100.0

Interpretation

The table reveals that only 34% of the companies are fully compliant with plastic waste management rules, while

46% are partially compliant. A significant 20% are non-compliant. This indicates gaps in regulatory adherence and highlights the need for stricter enforcement and corporate accountability.

Table 5: Relationship between Plastic Waste Management and Corporate Environmental Responsibility

Opinion	No. of Respondents	Percentage (%)
Strong relationship	120	48.0
Moderate relationship	85	34.0
No relationship	45	18.0
Total	250	100.0

**Interpretation**

Nearly half of the respondents (48%) believe there is a strong relationship between plastic waste management practices and corporate environmental responsibility. About 34% perceive a moderate relationship, while 18% feel there is no relationship. This clearly indicates that effective plastic waste management is closely associated with corporate environmental responsibility.

**Overall Interpretation**

The analysis reveals that companies demonstrating higher corporate environmental responsibility tend to adopt better plastic waste management practices. However, gaps exist in employee awareness, segregation practices, and regulatory compliance. Strengthening corporate commitment, employee training, and enforcement mechanisms can significantly improve plastic waste management outcomes.

**X. FINDINGS**

Based on the analysis and interpretation of data collected from 250 respondents, the following major findings were identified:

1. A majority of respondents reported moderate to high awareness of plastic waste management practices, indicating growing environmental consciousness among employees.
2. Plastic waste segregation is not consistently practiced across all companies, with a significant number of respondents indicating only occasional or ineffective segregation.
3. Companies with strong corporate environmental responsibility (CER) initiatives demonstrate better plastic waste reduction, recycling, and disposal practices.

4. The Chi-square test revealed a significant association between plastic waste management practices and corporate environmental responsibility, proving that effective waste management depends largely on corporate commitment.
5. Employee awareness and participation were found to play a key role in the successful implementation of plastic waste management systems.
6. A considerable proportion of companies are only partially compliant with plastic waste management rules, highlighting gaps in regulatory enforcement.
7. Lack of infrastructure, insufficient training, and cost considerations were identified as major challenges in effective plastic waste management.

**XI. SUGGESTIONS**

Based on the findings of the study, the following suggestions are offered:

1. Companies should strengthen their corporate environmental responsibility policies by integrating plastic waste management into their core business strategies.
2. Regular training and awareness programs should be conducted for employees to improve segregation and recycling practices.
3. Organizations should invest in proper waste segregation infrastructure, such as color-coded bins and recycling units.
4. Strict monitoring and internal audits should be implemented to ensure compliance with plastic waste management rules.
5. Companies should actively adopt Extended Producer Responsibility (EPR) initiatives to manage plastic waste throughout the product lifecycle.
6. Collaboration with authorized recycling agencies and local authorities should be encouraged to ensure safe disposal of plastic waste.
7. Government agencies should enforce stricter penalties and incentives to motivate companies to adopt sustainable waste management practices.

**XII. CONCLUSION**

Plastic waste management has become an essential aspect of corporate environmental responsibility in the context of sustainable development. The present study concludes

that effective plastic waste management practices are strongly influenced by the level of corporate commitment towards environmental responsibility. Companies that actively adopt environmentally responsible policies demonstrate better waste segregation, recycling, and regulatory compliance.

Management Journal, 26(2), 159–180.  
<https://doi.org/10.1002/smj.439>

- [12] United Nations Environment Programme. (2018). Single-use plastics: A roadmap for sustainability. UNEP.
- [13] World Bank. (2020). Market study for plastic waste recycling in India. World Bank Group.

#### REFERENCES

- [1] Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- [2] Elkington, J. (1997). *Cannibals with forks: The triple bottom line of 21st century business*. Capstone Publishing.
- [3] European Commission. (2018). *A European strategy for plastics in a circular economy*.
- [4] Geyer, R., Jambeck, J. R., & Law, K. L. (2017). Production, use, and fate of all plastics ever made. *Science Advances*, 3(7), e1700782. <https://doi.org/10.1126/sciadv.1700782>
- [5] Government of India. (2016). *Plastic Waste Management Rules, 2016*. Ministry of Environment, Forest and Climate Change.
- [6] Gupta, S., & Ogden, D. T. (2009). To buy or not to buy? A social dilemma perspective on green buying. *Journal of Consumer Marketing*, 26(6), 376–391. <https://doi.org/10.1108/07363760910988201>
- [7] Jambeck, J. R., Geyer, R., Wilcox, C., Siegler, T. R., Perryman, M., Andrady, A., Narayan, R., & Law, K. L. (2015). Plastic waste inputs from land into the ocean. *Science*, 347(6223), 768–771. <https://doi.org/10.1126/science.1260352>
- [8] Kotler, P., & Lee, N. (2005). *Corporate social responsibility: Doing the best for your company and your cause*. John Wiley & Sons.
- [9] Ministry of Environment, Forest and Climate Change. (2021). *Extended Producer Responsibility (EPR) guidelines for plastic packaging*. Government of India.
- [10] Porter, M. E., & Kramer, M. R. (2011). Creating shared value. *Harvard Business Review*, 89(1–2), 62–77.
- [11] Sharma, S., & Henriques, I. (2005). Stakeholder influences on sustainability practices in the Canadian forest products industry. *Strategic*