
PLASTIC WASTE MANAGEMENT IN INDIA: A LEGAL FRAMEWORK

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ABSTRACT

Plastic has become one of the most popular materials in modern society due to its durability, flexibility, and low production costs. However, the rapid rise in plastic consumption has raised major environmental and public health problems, owing to inappropriate disposal and poor waste management systems. This research paper examines India's legislative framework for plastic waste management and analyses how existing laws aim to reduce plastic pollution and encourage sustainable waste management techniques.

The study begins by covering the concept, properties, and applications of plastic materials, as well as plastic garbage poses environmental and health dangers, such as the production of microplastics and the discharge of harmful compounds. It goes on to describe how increased industrialisation, urbanisation, and population growth have all contributed considerably to the rise in plastic trash production.

This research paper examines the historical development of plastic waste regulation in India, highlighting key legislative initiatives such as the Environmental (Protection) Act of 1986¹ and the Plastic Waste Management Rules of 2016². It strengthened the regulatory framework with measures such as Extended Producer Responsibility (EPR), restrictions on single-use plastics, and clearer definitions for stakeholders in plastic packaging and waste management. In addition, the study paper compares plastic waste management legislation in India to those in the United States, France, and Japan, noting disparities in regulatory methods, recycling systems, circular economy policies, and technical developments. The report also analyzes the obstacles of implementing plastic waste legislation in India and makes recommendations to increase enforcement, recycling infrastructure, and public awareness. Overall, this research paper highlights the importance of better legal enforcement and long-term policies for efficiently reducing plastic pollution and protecting the ecosystem.

¹ Environment (Protection) Act, 1986, No. 29 of 1986, India Code (1986).

² Plastic Waste Management Rules, 2016, G.S.R. 320(E), Gazette of India, Mar. 18, 2016 (India).

Introduction:

The term “plastic” derives from the word “pliable,” which means “easily shaped”. Plastic shapes can easily be changed to fit their intended application. Plastics are known as polymers, or “long chains of monomers,” which are formed by joining identical subunits together.³

Polymers can be derived from natural sources, such as cellulose, a key component of plant cell walls that aids in cell function adaptation. One of the most common biopolymers in the world is cellulose.

Plastics have many uses in commercial and industrial products and have grown to be a major global commodity due to their exceptional physical and chemical properties. However, the usage of plastics has numerous negative effects on the environment due to their manufacture and inadequate waste management techniques. Approximately 9% of the garbage produced was recycled, which was a very small percentage in relation to the overall production. According to reports, around 80% of the garbage produced ends up in landfills or the environment.⁴

Under a few circumstances, ultraviolet radiation can break down plastics into their monomeric components, including “microplastics”, which are extremely complex and nearly hard to recover, upsetting food chains and endangering human and environmental health. Plastic materials are widely used in today’s packaging industry. Inadequate disposal of these materials leads to major health problems for the general public, both directly and indirectly. Phthalates, polyfluorinated chemicals, bisphenol - A, brominated flame retardants, and antimony trioxide are just a few of the hazardous substances found in plastics, which are carbon-based substances that may be detrimental to the environment and public health. Due to their high manufacturing volume and improper management practices across many locations, electronic waste plastics have emerged as a global environmental and public health concern. When cutting, wrapping, and sculpting plastic toys for children, dangerous chemicals are released, exposed, and come into contact with various stored food items. Chemical contamination or exposure causes both primary and secondary adverse effects, including reproductive and genital organ disorders in both males and females, malignant cancers, compromised immunity, birth defects, endocrine disorders, ophthalmologic disorders, leukemia and other communicable diseases, because plastic can act as a vector for disease transmission from humans to animals and vice versa.

³ John A. Smith, *Introduction to Polymer Science and Plastic Materials* 24 (Oxford Univ. Press 2018).

⁴ Maria L. Rodriguez, *Global Plastic Waste and Environmental Impact* 67 (Cambridge Univ. Press 2019).

Plastic rubbish is produced and discarded at a rapid pace as a result of global economic development and population growth. Both biodegradable and non-biodegradable wastes are created in huge amounts by both biological processes and man made activities. The public can be guided in disposing of plastic garbage after use by the various measures and environmental safety laws set by government municipalities, social communities, and local authorities. Several waste management approaches, such as landfills, biomediation, recycling, and incineration, are scientifically based. These approaches are intended to keep the environmental clean and plastic rubbish appropriately disposed of.

Historical background:

India's use of plastic started to rise quickly in the 1980s and 1990s as a result of urbanisation, industrial expansion, and the need for inexpensive packaging materials. Plastics gained popularity due to their affordability, durability, and light weight. However, the widespread manufacture and inappropriate disposal of plastics quickly led to major environmental issues such drainage system blockages, soil contamination, and damage to marine and animal life. The Indian government introduced measures to minimize plastic trash as a result of these mounting concerns.⁵

The Environment (Protection) Act of 1986⁶, which gave the federal government the authority to create regulations for environmental protection, was the first significant step toward controlling plastic trash. The government improved the regulatory framework between 2003 and 2011. The 1999 regulations were superseded by the Plastic trash

(Management and Handling) Rules, 2011, which also gave local organizations more authority over the collection, sorting, and disposal of plastic trash. The idea of Extended Producer Responsibility (EPR), which holds manufacturers accountable for handling the plastic trash produced by their goods, was also established.

When the Plastic Waste Management Rules, 2016⁷ were introduced, a significant shift took place. By expanding the restrictions to both urban and rural areas, raising the required thickness of plastic bags, and enhancing producer responsibility for waste management, these regulations expanded the scope of plastic waste management.

In order to further control plastic waste, a number of modifications were subsequently proposed

⁵ Ramesh K. Sharma, *Plastic Pollution and Environmental Governance in India* 42 (Springer 2017).

⁶ Environment (Protection) Act, 1986, No. 29 of 1986, India Code (1986).

⁷ Plastic Waste Management Rules, 2016, G.S.R. 320(E), Gazette of India, Mar. 18, 2016 (India).

in 2018, 2021, 2022, and 2024. Stricter regulations were imposed by these revisions, including the prohibition of specific single-use plastics, more stringent recycling goals under Extended Producer Responsibility (EPR), enhanced labeling specifications, and more precise definitions of the parties involved in waste management and plastic packaging. As a result, India's approach to managing plastic waste has progressively changed from merely regulating plastic bags to a holistic system that prioritizes trash segregation, recycling, producer accountability, and sustainable alternatives to plastic. This forward-thinking approach seeks to lessen plastic pollution and encourage ecologically friendly waste management techniques nationwide.

Constitutional basis:

India, which has a population of more than 1.3 billion, is one of the countries that produces the most plastic garbage and has significant difficulties in effectively managing the waste that is produced. Stricter requirements for microplastics and biodegradables are part of the 2024 Plastic Waste Management Regulations, which are intended to address the management issue.⁸ The implementation of extended producer responsibility is another crucial step made possible by India's plastic waste management regulations.

Over time, India's Plastic Waste Management Rules have undergone modifications. The following are the changes:

India's 2016 Plastic Waste Management Rules:

The main characteristics included the prohibition on plastic bags smaller than 50 microns, the encouragement of plastic material reuse and recycling, and the requirement for waste segregation at the source.⁹ The regulation also established the EPR policy, which holds brand owners and producers, that is, those who manufacture or import carry bags, multi-layered packaging, sheets, and similar materials, as well as those who use them to package or wrap their goods, accountable for gathering waste produced by their goods.

2018 Amendment:

The 2018 revision to the Plastic Waste Management Rules increased the number of stakeholders in ERP, increasing their accountability for the management of plastic waste.

Additionally, the regulations reinforced the role of urban local bodies (ULBs) in enforcement.

⁸ Ananya Mehta, *Plastic Waste Management and Environmental Policy in India* 88 (Routledge 2021).

⁹ Priya N. Kapoor, *Environmental Regulation and Plastic Waste Management in India* 56 (LexisNexis 2019).

2021 Amendment:

Single use plastics will be phased out in India as a result of the 2021 modifications to the Plastic Waste Management Rules. Additionally, the regulations promoted substitutes such as compostable and biodegradable plastics.

2022 Amendment:

Introduces EPR criteria that include required targets for recycling, rigid plastic container reuse, and recycled plastic content utilization.

Those who fail to meet EPR targets face environmental compensation based on the polluter pays principle.

Provides a framework for improving the cycle economics of plastic packaging trash.¹⁰

2024 Amendment:

Defined “producer” to include both imported and brand owners. The regulations also emphasised that producers must comply with EPR in order to control the lifespan of their products. Additionally, the thickness restrictions for plastic bags were raised from 50 microns to 75 microns, and fines were implemented to emphasize non-compliance.¹¹

Key provisions:

- **Plastic carry bags under 50 microns are prohibited**

The regulations maintain the ban on carry bags made of plastic that are thinner than 50 microns. Thin plastic bags significantly contribute to environmental pollution because they are hard to gather and recycle. The rules seek to deter single use plastics and guarantee that carry bags are robust enough to be recycled and reused by establishing a minimum thickness. Additionally, the measure encourages consumers to switch to reusable bags composed of sturdier plastic, paper, or linen.

- **Required Waste Segregation at the Source**

The regulations place a strong emphasis on homes, businesses, and organizations segregating garbage at the source. Before being disposed of, plastic garbage needs to be separated from other municipal and biodegradable waste. Municipalities and panchayats, among other local

¹⁰ Plastic Waste Management (Amendment) Rules, 2022, G.S.R. 133(E), Gazette of India, Feb. 16, 2022 (India).

¹¹ Plastic Waste Management (Amendment) Rules, 2024, G.S.R. 201(E), Gazette of India, Mar. 14, 2024 (India).

organizations, are in charge of making sure that plastic garbage is properly collected, separated, and directed to approved recyclers or waste processors. By taking this action, waste management becomes more effective and plastics are kept out of landfills and natural ecosystems.

- **Encouragement of Reuse and Recycling**

In order to lessen environmental harm, the regulations encourage the recycling, recovery, and reuse of plastic materials. Producers, importers, and brand owners must make sure that the garbage from their products' plastic packaging is gathered and recycled by approved organisations. In addition to supporting the idea of a circular economy, which reuses and reprocesses plastic products rather than discarding them, the framework promotes the construction of recycling infrastructure.

- **Updated Guidelines for Compostable / Biodegradable Plastics Packaging**

New rules pertaining to plastic packaging and products composed of biodegradable or compostable polymers are introduced by the 2024 amendment. Before putting compostable or biodegradable plastic products on the market, manufacturers must adhere to regulations and receive certification. In order to ensure that consumers and regulators can identify environmentally friendly plastic materials and confirm their conformity with Indian norms, the amendment also establishes particular labelling requirements.

- **Definitions of Importer, Manufacturer and Product Explained**

In order to eliminate regulatory ambiguity, the amendment updates the definitions of “importer,” “manufacturer,” and “producer.”

Any individual bringing plastic items, packaging, or raw plastic resources like pellets or resins into India is now considered an importer.

Any individual or organization that produces plastic packaging, raw materials, or intermediate materials for packaging is referred to as a manufacturer.

Organisations that produce items or packaging, including those that provide packaging materials for brand owners, are considered producers.

All parties participating in the plastic supply chain are brought under the regulatory framework thanks to these clear definitions.

- **Overview of the Meaning of “Seller”**

Additionally, a new definition of “seller” is introduced by the amendment. Any individual or

organization who sells plastic packaging, raw materials, or intermediate materials used to make plastic packaging is considered a seller. The regulations guarantee improved oversight of the plastic supply chain and enhance accountability in the distribution of plastic products by identifying sellers as a distinct category.

Scope and Structure of the Study:

This research paper explores India's legislative framework for plastic waste management and assesses the efficacy of laws and policies aimed at tackling the growing environmental concerns caused by plastic pollution. The study opens with an overview of plastic as a material, including its chemical makeup and broad application in industries such as packaging, electronics, healthcare and consumer products. Plastics are essential polymers composed of long chains of monomers, and their versatility, durability, and low production costs have made them immensely useful in modern industries and commercial uses. However, the same features can make plastics helpful also make them damaging to the environment because they are mostly non-biodegradable and can persist in ecosystems for lengthy durations.

This study also looks into the historical evolution of plastic waste management in India. It illustrates how the country's plastic usage expanded considerably during the 1980s and 1990s as a result of increasing urbanisation, industrialisation and consumer market expansion. As plastic garbage began to cause major environmental concerns such as clogged drainage systems, river and ocean pollution, and animal suffering, the government implemented regulations to manage it. The Environmental (Protection) Act of 1986 serves as the primary legal framework for environmental controls in India, empowering the central government to develop laws for maintaining and improving environmental quality. Under this authority, the government implemented precise laws for managing plastic trash, culminating in the passage of Plastic trash Management Rules, 2016.

The study paper looks at the essential characteristics of the Plastic Waste Management Rules of 2016 and their subsequent revisions in 2018, 2021, 2022, and 2024. These amendments significantly strengthened the regulatory framework by introducing measures such as Extended Producer Responsibility (EPR), restrictions on single-use plastics, stricter recycling targets for plastic packaging, and more specific definitions of stakeholders such as producers, manufacturers, importers, and sellers. It also discusses key provisions of these rules, such as ban on thin plastic carry bags, mandatory waste segregation at the source, promotion of recycling and reuse, regulation of compostable and biodegradable plastics, and increased

accountability for producers and brand owners in managing plastic waste generated by their products. Local authorities, including municipalities and panchayats, are also held accountable for ensuring the collection, segregation, and disposal of plastic garbage. In addition, the study compares plastic waste management legislation in India to those in other nations, including the United States, France, and Japan. This comparison demonstrates the various tactics taken by these countries to address plastic pollution. While the United States mostly relies on decentralised state-level rules and recycling infrastructure, France prioritizes circular economy strategies and stringent regulations aimed at gradually eradicating single-use plastics. Japan, on the other hand, prioritizes effective waste segregation, modern recycling technology, and the implementation of the 3R concept (reduce, reuse, and recycle).¹² It also examines various worldwide models to identify effective techniques that can assist boost India's plastic waste management regulations. Finally, the report makes recommendations for improving India's plastic waste management system, such as tougher law enforcement, better recycling infrastructure, increased public awareness, and the promotion of environmentally friendly alternatives to plastic.

Comparative with other countries:

Comparative analysis with USA, Japan and France:

INDIA:

The Environment (Protection) Act, 1986, which gives the central government the authority to take action to preserve and enhance the environment, is the main law governing plastic waste management in India. The Plastic Waste Management Rules, 2016, which serve as the primary legal framework for controlling the production, use and disposal of plastic, were introduced by the government using this power. Producers, importers, brand owners, and municipal authorities are all subject to these regulations. They established the idea of Extended Producer Responsibility (EPR), which mandates that manufacturers gather and recycle the plastic trash produced by their goods.¹³ In order to increase recyclability, the regulations also set a minimum thickness for plastic carry bags and require the segregation of plastic trash at the source. Subsequent changes in 2021, 2022, and 2024 improved the framework by outlawing a number of single use-plastic products and setting more stringent recycling goals for plastic packaging. Plastic garbage must be collected, separated, and disposed of safely by local organizations like

¹² Kenji Tanaka, Waste Management and Recycling Policy in Japan 73 (Tokyo Univ. Press 2020).

¹³ Plastic Waste Management Rules, 2016, G.S.R. 320(E), Gazette of India, Mar. 18, 2016 (India).

panchayats and municipalities. Compliance is monitored by the state and central pollution control boards. In contrast to many other nations, India addresses plastic pollution with a centralized legislative structure that combines producer responsibility, waste management duties, and bans.

(USA) UNITED STATES OF AMERICA:

The Resource Conservation and Recovery Act (RCRA), which was passed in 1976, primarily governs the handling of plastic trash in the United States.¹⁴ From generation to disposal, solid and hazardous waste management is governed by this law. The Environmental Protection Agency (EPA)¹⁵ sets rules for recycling programs, landfill operations, and waste management under RCRA. In contrast to India, there isn't a single national law in the US that particularly addresses plastic trash; instead, most regulation takes place at the state and local levels. Numerous states, including California, New York, and Oregon, have increased recycling initiatives and imposed limitations or bans on plastic bags.¹⁶ Instead of enforcing national restrictions on plastic products, the U.S. strategy concentrates more on enhancing waste-management infrastructures, recycling systems, and landfill control. Producer responsibility schemes exist in several states, but they are not implemented consistently across the country. In comparison to India, the American system is more decentralised and market-oriented, focusing mainly on local governance and recycling initiatives rather than a blanket national ban on plastic.

FRANCE:

France's Anti-Waste for a Circular Economy Law is a progressive legal framework for managing plastic waste. This legislation seeks to shift the French economy from a linear model of production and disposal to a circular economy in which materials are reused and repurposed. The bill established a long-term goal of eradicating single-use plastic packaging by 2024. France has already prohibited several single-use plastic items, including plates, cups, and cutlery. The legislation also compels producers to use more recycled materials in plastic packaging and improve product design to reduce waste. France has a strong Extended Producer Responsibility framework, which requires businesses to fund the collection and recycling of

¹⁴ Resource Conservation and Recovery Act of 1976, 42 U.S.C. §§ 6901–6992k (2018).

¹⁵ U.S. Env't Prot. Agency, Landfills and Solid Waste Management, <https://www.epa.gov/landfills> (last visited Mar. 8, 2026).

¹⁶ Nat'l Conf. of State Legislatures, State Plastic and Paper Bag Legislation, <https://www.ncsl.org/environment-and-natural-resources/state-plastic-and-paper-bag-legislation>

plastic garbage. Manufacturers must also comply with strict standards and eco-design guidelines. Compared to India, France has a more ambitious long-term elimination strategy that focuses substantially on reducing plastic manufacturing rather than simply managing plastic trash.

JAPAN:

Japan regulates plastic trash with the Plastic Resource Circulation Act, which supplements previous waste management legislation such as the trash Management and Public Cleansing Act. The Plastic Resource Circulation Act encourages the 3R concept (Reduce, Reuse, and Recycle) across the whole lifecycle of plastic items.¹⁷ Businesses are encouraged to eliminate plastic packaging, produce recyclable products, and use more recycled materials. Retailers are also obligated to minimize the distribution of single-use plastic like utensils and straws. Japan has a highly developed waste-segregation system, with families sorting garbage into numerous categories before disposal. Advanced recycling technologies and waste-to-energy facilities are frequently utilized. Instead of relying solely on tight bans, the Japanese system emphasizes resource efficiency and technology alternatives. Compared to India, Japan prioritizes effective recycling infrastructure and customer engagement, whereas India relies on regulatory bans and producer responsibility procedures.

Comparative analysis of all the countries and India:

Overall, India's plastic waste management framework integrates governmental constraints, producer responsibility, and municipal trash management systems. The United States relies on state-level regulation and recycling infrastructure, making it less centralised than India. France takes one of the strongest measures, trying to gradually eliminate single-use plastics through circular-economy regulations. Japan, on the other hand, prioritizes recycling efficiency, technological innovation, and public involvement in trash segregation. While India continues to strengthen its enforcement mechanisms, its legal framework is becoming more aligned with global norms aimed at minimizing plastic pollution and encouraging sustainable waste management.

Recommendations:

Plastic waste can be collected, controlled, and processed in a scientific and technical manner to create several opportunities for the well-being of individuals and society. However, if plastic

¹⁷ Act on Promotion of Resource Circulation for Plastics (Plastic Resource Circulation Act), Act No. 60 of 2021 (Japan).

garbage is not adequately handled, recycled, and processed for human purposes, neither the animal world nor the human race will be able to exist. The overall picture now shows that only 9% of the world's plastic garbage is being recycled, with nearly half of it being landfilled. The vast amount of plastic garbage may be technologically recycled and processed, benefitting both the environment and humanity.¹⁸

- **Strengthen the implementation of existing laws.**

Despite India's robust legislation, such as the Plastic Waste Management Rules, 2016¹⁹ and subsequent revisions, implementation is inconsistent. The government should improve monitoring procedures and levy harsher penalties on enterprises and businesses that violate plastic waste restrictions. Regular inspections by pollution control officials would increase compliance.

- **Improve waste segregation at the source.**

Effective plastic waste management requires proper waste management by homes and institutions. Public awareness efforts should be launched to educate residents on how to separate plastic waste from biodegradable waste. Local governments should also offer separate bins and effective collection methods.

- **Improve recycling infrastructure**

India has to increase its recycling capacity and invest in cutting-edge waste-processing technologies. More licensed recycling sites, as well as support for small-scale recyclers, would help to manage plastic trash more effectively. Public-private partnerships may also help to increase recycling infrastructure.

- **Promote environmentally friendly alternatives to plastic.**

The government should promote the use of biodegradable, compostable, and reusable materials including cloth, paper, and plant-based packaging. Industries that implement sustainable packaging solutions may be eligible for financial incentives, tax benefits, and subsidies.

- **Enhance Extended Producer Responsibility (EPR)**

According to the Plastic trash Management Rules, 2016, producers are responsible for

¹⁸ United Nations Env't Programme, From Pollution to Solution: A Global Assessment of Marine Litter and Plastic Pollution 34 (2021).

¹⁹ Plastic Waste Management Rules, 2016, G.S.R. 320(E), Gazette of India, Mar. 18, 2016 (India).

collecting and recycling plastic trash.²⁰ This system should be reinforced by ensuring that producers reach their recycling commitments, as well as boosting openness in reporting and monitoring EPR obligations.

- **Encourage public awareness and community participation.**

Public participation is vital for effective trash management. Governance entities, educational institutions, and civil society organisations should launch awareness programs to educate the public about the harmful effects of pollution from plastic and the value of responsible plastic use.

- **Encourage research and innovation.**

Increased research funding is needed to discover long-term alternatives to plastic and improved recycling methods. Universities and research institutions can help develop eco-friendly materials and waste management solutions.

- **Learning from international best practices.**

India can learn from countries like France and Japan by implementing stronger circular economy regulations, improved recycling infrastructure, and technical breakthroughs in waste processing. International cooperation and policy exchange can assist India enhance its plastic waste management framework.

Effective plastic waste management in India necessitates stricter enforcement of current legislation, such as Plastic Waste Management Rules, 2016 enacted under the Environment (Protection) Act, 1986.²¹ Although India has a strong legislative framework, enforcement needs to strengthen through increased monitoring by pollution control authorities and fines for noncompliance. Waste segregation at the source should be enhanced by providing separate containers, improving door-to-door pickup. And raising public knowledge about responsible plastic disposal. The government should also invest in modern recycling infrastructure and assist informal waste pickers, who play an essential role in the collection and sorting of plastic waste.

Expanding the Extended Producer Responsibility (EPR)²² system ensures that importers, brand owners and producers are responsible for collecting and recycling the plastic packaging they

²⁰ Plastic Waste Management Rules, 2016, G.S.R. 320(E), Gazette of India.

²¹ Environment (Protection) Act, 1986, No. 29 of 1986, India Code (1986).

²² Plastic Waste Management Rules, 2016, G.S.R. 320(E), Gazette of India (India) (introducing the principle of Extended Producer Responsibility).

introduce into the market. India can also encourage the use of environmentally friendly alternatives such as cloth bags, paper packaging, and biodegradable materials by offering subsidies and incentives to firms that embrace these practices. Awareness campaigns in schools, colleges, and communities can aid in the reduction of single-use plastics. India may also push research into biodegradable plastics, implement digital tracking systems for plastic trash, and learn from international best practices in recycling and circular economy models to achieve long-term environmental sustainability.

Analysis / Conclusion:

Plastic waste has emerged as one of the world's most environmental concerns. Plastic production and consumption have increased dramatically as a result of their broad use in packaging, consumer items, and industrial products. While plastics have numerous economic and practical advantages due to their durability, flexibility, and low cost, improper disposal and gradual breakdown pose significant environmental and health dangers. In India, population expansion, urbanization, and industrial development have all contributed to a rise in plastic trash generation. Large amounts of plastic garbage are frequently disposed of inappropriately in landfills, rivers, and oceans, polluting ecosystems and endangering biodiversity and human health.

To address these challenges, India has created a structured legal framework for managing plastic garbage. The Environment (Protection) Act of 1986 empowers the central government to take the necessary measures to safeguard the environment and regulate pollution. Using this authority, the government issued the Plastic Waste Management Rules of 2016, which established a comprehensive regulatory structure for the manufacturing, use, collection, recycling, and disposal of plastic trash. One of the most important features of these regulations is the concept of Extended Producer Responsibility (EPR), which requires importers, producers and brand owners to be accountable for the collection and recycling of plastic trash generated by their products. Amendments adopted in 2018, 2021, 2022, and 2024 reinforced the regulatory framework by enforcing harsher limits on single-use plastics, establishing recycling targets for plastic packaging, and strengthening definitions of players in the plastic supply chain. These steps indicate the government's efforts to shift to a more sustainable and environmentally responsible approach to plastic trash management. Despite the existence of these regulations, significant obstacles persist. Weak enforcement, insufficient recycling infrastructure, insufficient public awareness, and improper waste segregation at the source all contribute to India's ineffective plastic waste management. Comparative analysis of countries

like the United States, France and Japan demonstrates that effective plastic waste management necessitates not only strong regulation, but also efficient recycling systems, technical innovation, and active public participation.

In conclusion, India has made tremendous progress in building legislative procedures to manage plastic trash, but the success of these policies is heavily dependent on their successful execution. Strengthening enforcement, upgrading waste management infrastructure, and supporting sustainable alternatives to plastic are all critical measures toward minimising plastic pollution and attaining long-term, environmental sustainability.