

Bridging the Legal Gaps in Plastic Waste Governance in Sri Lanka's Regulatory Framework

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Abstract— Plastic waste has become a major environmental and public health issue in Sri Lanka, made worse by rising Urbanization, Consumerism, and insufficient regulatory oversight. However, the country has enacted several Legal instruments, including the National Environmental Act No. 47 of 1980 and several gazette notifications banning plastic items. The existing Legal regime remains fractured, poorly enforced, and institutionally disconnected. This paper examines the shortcomings of Sri Lanka's Legal policy framework on plastic waste management and evaluates the gaps for its effectiveness. Using comparative analysis on India's plastic waste management rules and the European Union's Single-Use Plastics Directive. This paper suggests actionable reforms that could enhance legal clarity, enforcement Mechanisms, and sustainable practices in Sri Lanka's context using a qualitative and doctrinal approach supported by both primary and secondary sources, with legal and policy recommendations intended to align national plastic waste governance with international environmental standards and Sustainable Development Goals.

Keywords- Plastic waste, waste regulation, legal reform, Environmental Law

I. INTRODUCTION

In contemporary Sri Lanka, plastic waste has become a major environmental risk, with severe effects on biodiversity, ecosystems, and public health. As the National Environmental Act [1] does not fully incorporate concepts, it mostly contributes to the lack of a comprehensive plan for handling plastic trash. including sustainability, circular economy, and extended producer responsibility (EPR). These actions are inadequate to solve the bigger problems caused by plastic garbage. The lack of a consistent national plastic policy or standard laws has caused organizations to have conflicting rules and overlapping responsibilities.

Though Sri Lanka has ratified global treaties like the Basel Convention [2], local implementation remains constrained and uneven as well. This study focuses on the core legal and institutional problems affecting plastic waste management in Sri Lanka. And the study adopts a doctrinal and comparative approach to answer these issues. The main aim is to create a uniform legal system that will guarantee long-term viability, environmental justice, and regulatory effectiveness.

II. FRAMEWORK OF LAW AND POLICIES FOR SRI LANKA

Managing plastic waste under Sri Lankan law builds on the National Environmental Act No. 47 of 1980. This is the primary legal instrument used in the country to safeguard the environment. The law gives the Central Environmental Authority the power to approve waste disposal, monitor environmental standards, and manage pollution. It does not, however, specifically solve plastic trash, and lacks a life cycle regulatory strategy. Section 23A [3] permits the publication of secondary legislation, so the Gazette Notification has been the major instrument used to manage plastics. Several gazettes Sri Lanka has published have banned the production, import, sale, and usage of some single-use plastic goods. Recent years offer one clear example, the Gazette Extraordinary No. 2023/33 [4], which extended the prohibition to cover plastic straws, lunch sheets, and plastic utensils. These restrictions have been undercut by poor enforcement, insufficient monitoring, and a lack of public knowledge, even if they represent great regulatory developments

Legislative efforts include examples like the National Policy on Solid Waste Management [5] and its National Action Plan on Plastic Waste Management 2021–2030 [6]. This aims to create a strategy for engaging the community, recycling, and lowering garbage. However, the lack of legislative authority results in these regulations' erratic.

Institutional plastic waste governance is characterized by significant fragmentation and overlap. The Central Environmental Authority, the Marine Environmental Protection Authority, and various local authorities are responsible for erratic policy implementation. Though authorized under the Municipal Councils Ordinance [7] and the Pradeshiya Sabha Act No. 15 of 1987 [8] to oversee waste management, they often lack technical expertise and financial resources. This institutional weakness significantly impairs effective plastic waste regulation at the grassroots level.

At the Constitutional level, environmental protection is embedded in the Directive Principles of State Policy, Article 27(14), and the Fundamental Duties, Article 28(f), which impose a duty upon citizens and the state to protect the environment [9]. Although these provisions are non-justiciable, they provide normative guidance on how to interpret environmental policies and laws.

Although Sri Lanka has taken admirable measures to tackle plastic trash, the legal and policy framework is still broken, inconsistent, and weakly implemented. A full legal framework is much needed to combine regulatory effects, establish institutional standards, and include environmental law ideas.

III. GAPS IN THE SRI LANKAN LEGAL FRAMEWORK

Although Sri Lanka has implemented important laws and policies to address plastic trash, the current legal system is very flawed and hampers efficient waste management, preventing the country from moving toward a circular economy.

Laws relating to plastic garbage management in Sri Lanka are still scattered. The National Environmental Act No. 47 of 1980 depends on a mix of techniques rather than a fixed method for managing plastic waste. These are comprised of administrative instructions, Ministerial Circulars, and Gazette Notifications [10], which frequently have inconsistent enforcement strategies. Sri Lankan law neglects important issues, including the reality that rules in countries like Europe [11] and India [12] have conceived and planned eco-labeling as a direction for plastic items, including recycling duties, life cycle assessments, manufacturer responsibility schemes, and regulations for plastic substitutes. Because of a lack of qualified workers, antiquated waste management systems, and restricted financial means, local authorities face challenges in their ability to carry out needed reforms.

Creating comprehensive regulations, fostering interagency cooperation, toughening enforcement efforts, and using contemporary regulatory techniques like Extended Producer Responsibility is essential to

establishing a practical and ecologically sustainable framework for plastic management in Sri Lanka.

IV. CHALLENGES ASSOCIATED WITH COMPLIANCE GAPS AND ENFORCEMENT

Although Gazette notices and subordinate legislation under the National Environmental Act exist, the erratic and ineffective enforcement of plastic restrictions in Sri Lanka remains a problem. Frequently lacking the required technical expertise, workforce capacity, or financial means to effectively oversee compliance are the Central Environmental Authority, as well as local governments. Although the Gazette Extraordinary No. 2023/33 officially enforces them, supermarkets often stock prohibitions on single-use plastics like lunch sheets and straws. Low prosecution levels and inadequate inspection cause ongoing compromise.

Furthermore, contributing to regulatory stagnation are the conflicting institutional priorities of local councils, the Marine Environmental Protection Authority, and the CEA, which cause uncertainty about who is accountable for implementing laws. Public resistance and ignorance worsen compliance failures as many businesses prioritize convenience and cost above legal adherence.

India, on the other hand, has established a more structured enforcement system through its state pollution control boards, which have the legal authority to oversee compliance with targets under Extended Producer Responsibility (EPR) and impose fines for non-compliance. The regulatory framework, which is mostly ineffective in practice, therefore worsens the discrepancy between the law and its real-world environmental consequences.

V. COMPARATIVE LEGAL ANALYSIS

Comparative legal analysis is essential to identify viable models for reforming Sri Lanka's plastic waste management framework in India and the European Union, providing instructive examples of extended producer responsibility, lifestyle regulation, and robust mechanisms. India's Plastic Waste Management Rules 2016, issued under the Environmental Protection Act 1986, place binding EPR obligations on producers, importers, and brand owners to establish waste collection systems for plastic packaging generated by their products.

This was further strengthened by the 2022 amendments, which introduced recycling targets, environmental compensation, and a mandatory registration system with the Central Pollution Control Board. These steps are supplemented by bans on certain single-use plastics such as straws and cutlery,

and decentralized enforcement by state pollution control boards, allowing region-specific implementation.

In contrast, Sri Lanka's statutory EPR provisions and enforcement remain weak, although prohibitions on some plastics and polythene under 20 microns have been issued by a gazette notice.[13] Implementation remains inconsistent due to weak institutional coordination and compliance monitoring.

Europe presents a more advanced, integrated model through the Directive (EU) 2019/904[14] on the reduction of the impact of certain plastic products, which adopts a lifecycle-based approach by banning specific single-use plastics, imposing product design standards, and awareness programs, all in line with the action plan's goal of decoupling growth from environmental harm. By contrast, Sri Lanka's approach remains reactive and fragmented.

VI. REGIONAL COOPERATION AND INTERNATIONAL COMMITMENTS

Sri Lanka's plastic waste management is also hampered by its lack of a consistent fit with its regional and worldwide responsibilities. Though Sri Lanka is a signatory to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal [15], enforcement of the convention is not very strict. Its rules on importation and exporting plastic waste are inadequate, with insufficient monitoring of illicit shipments and poor customs enforcement.

The Stockholm Convention on Persistent Organic Pollutants [16] sets similar rules to restrict the use of dangerous chemical additives in plastics, but Sri Lanka has not fully incorporated these into its national laws.

At the regional level, the South Asia Co-operative Environment Programme (SACEP) introduced the South Asia Marine Litter Action Plan 2022–2030[17], which supports regional data sharing, harmonized plastic laws, and coordinated law enforcement efforts. However, Sri Lanka's participation has mostly been symbolic, with little cross-regional coordination and no harmonization of national laws with its neighbors.

By contrast, the European Union demonstrates how cross-border monitoring systems and uniform product rules can result from regional integration [18]. Enhancing accountability, resolving enforcement gaps, and avoiding plastic waste from crossing borders will all come from increasing Sri Lanka's involvement in regional accords and incorporating worldwide commitments into national legislation.

VII. ENVIRONMENTAL JUSTICE AND HUMAN RIGHTS

Plastic trash is also a basic human rights and environmental justice principal concern, in addition to being an environmental problem. Disproportionately impacting susceptible populations, plastic pollution also increases understanding of the connection between the rights to life, health, and a clean environment.

Though not explicitly acknowledged in the Sri Lankan Constitution as a basic human right, the right to a clean environment is implied. Under Article 14(1)(g) and Article 11 of the Constitution of Sri Lanka, environmental issues have nonetheless been judicially interpreted in a broader sense. International human rights law supports this perspective. The United Nations Human Rights Council Resolution 48/13[19], adopted in 2021, formally recognized the right to a clean, healthy, and sustainable environment as a fundamental human right. In this case, nations such as Sri Lanka must ensure that plastic waste does not threaten fundamental human rights, including the rights to food, health, safety, life, and clean water.

Particular groups of people are disproportionately impacted by plastic trash. Coastal communities, fishermen, and those living in urban poverty are severely affected by contaminated waterways, clogged drainage systems, and harmed marine ecosystems. Furthermore, exposing women employed in informal trash collection to microplastics and chemical residues raises their risk of health issues, therefore emphasizing the gender-specific impacts of plastic disposal. This illustrates broader concepts of environmental justice, including ensuring fair distribution of environmental benefits and burdens, enabling participation in decision-making processes, and protecting vulnerable communities.

Comparative law research helps to underpin this method. In *Subhash Kumar v. State of Bihar* [20], the Indian Supreme Court held that the right to life guaranteed by Article 21 of the Indian Constitution encompasses the right to access clean water and air. Similarly, in its Advisory Opinion OC-23/17, the Inter-American Court of Human Rights⁴ acknowledged that environmental harm may amount to a violation of human rights obligations. These legal developments demonstrate the growing awareness of how human dignity and rights relate to environmental damage such as plastic pollution.

Integrating human rights and environmental justice into plastic waste management in Sri Lanka will improve the credibility of regulatory reforms. It would also create a uniform framework for evaluating policies based on both fairness and effectiveness, guaranteeing that the viewpoints of those most affected are

considered. Comparative jurisprudence supports this approach: the Indian Supreme Court in *Subhash Kumar v. State of Bihar* and the Inter-American Court of Human Rights in Advisory Opinion OC-23/17[21] both affirm the inseparability of human dignity, rights, and environmental protection.

VIII. CLIMATE CHANGE LINKAGES

The environmental hazards of plastic waste extend far beyond local ecosystems and human health; they are deeply connected to the global challenge of climate change. The plastics industry is overwhelmingly fossil fuel-dependent, with approximately 99% of virgin plastics derived from petrochemicals such as ethylene and propylene [22]. This creates a dual impact: first, significant greenhouse gas emissions during the extraction and refining of fossil fuels; second, emissions associated with the manufacturing, transport, and incineration of plastic products. According to the Intergovernmental Panel on Climate Change (IPCC)[23], plastic production could account for up to 15% of the global carbon budget by 2050 if current trends continue.

In Sri Lanka, these linkages are especially concerning given the country's vulnerability to climate change, including rising sea levels, extreme weather events, and marine degradation. However, national climate policy frameworks, such as the 2021 Updated Nationally Determined Contributions (NDCs)[24], do not address the specific climate impacts of plastic waste.

Mismanaged plastics that reach coastal ecosystems also harm the ocean's natural ability to sequester carbon, as microplastics disturb phytoplankton populations responsible for absorbing atmospheric carbon⁴. Incorporating plastic waste regulation into Sri Lanka's climate strategies would therefore enhance national commitments under the Paris Agreement [25] while also tackling local vulnerabilities. Practical measures could include carbon accounting for plastic manufacturing industries, encouraging low-emission alternatives, and linking Extended Producer Responsibility (EPR) schemes with emission reduction goals. Such an approach would ensure plastic governance works not in isolation but as part of a comprehensive strategy for climate resilience.

IX. COMMUNITY PARTICIPATION AND PUBLIC AWARENESS

Laws and policies alone are insufficient to combat plastic pollution without the active participation of citizens. In Sri Lanka, community engagement in waste reduction and recycling remains limited, largely due to gaps in public awareness, cultural habits, and accessibility to alternatives. [26] Government-led bans

on plastics, such as the prohibition of lunch sheets and straws, are undermined not only by weak enforcement but also by a lack of public education campaigns to encourage behavioral change. [27] Local governments often lack the resources to run sustained awareness programmes, leaving the responsibility to civil society groups and schools.[28] For instance, the Centre for Environmental Justice has taken legal action against regulatory inaction, while youth-led groups regularly organize beach clean-ups along the western coast [29]These initiatives highlight the potential of grassroots action, but they remain fragmented and underfunded [30]

Comparative experience offers valuable lessons. Rwanda's success in banning plastic bags is frequently attributed to community buy-in fostered through education and strict but applied enforcement. Similarly, Japan's highly efficient recycling system relies on civic participation and public responsibility embedded in school curricula. For Sri Lanka, embedding awareness campaigns into national plastic policy, promoting citizen-led recycling cooperatives, and partnering with media and religious institutions could transform public attitudes. Integrating plastic waste education into schools and vocational training could foster generational change, while eco-labelling and awareness-driven incentives could shift consumer behavior. Ultimately, participatory governance in plastics management would align with principles of environmental justice and ensure that regulatory reforms resonate with the lived realities of affected communities.

X. ECONOMIC AND POLICY CONSIDERATIONS

Plastic governance in Sri Lanka cannot be separate from its economic dimensions. The informal waste sector, comprising thousands of collectors and recyclers, plays a critical role in reducing plastic leakage but operates without adequate legal protection or financial support. Women dominate this sector, often working in unsafe conditions and exposed to health hazards from handling contaminated plastics. At the same time, small and medium-sized enterprises face higher costs in transitioning to alternatives, as biodegradable materials remain expensive and imports are subject to fluctuating tariffs [31]. Without state-led incentives, businesses frequently continue using cheap single-use plastics, undermining the effectiveness of bans.

Globally, economic policy instruments have proven essential in shaping sustainable consumption. Germany's deposit-refund system for beverage containers has achieved recycling rates above 90%, while Sweden's EPR credits have incentivized producers to invest in recyclable product designs [32].

By contrast, Sri Lanka lacks structured financial incentives to encourage compliance with the plastic ban or to promote green innovation.[33]. Embedding economic tools into legal reform could address this gap. For instance, eco-taxes on virgin plastics, subsidies for biodegradable alternatives, and tax credits for companies exceeding recycling targets could balance environmental regulation with economic resilience [34]. In the long term, such measures would foster a circular economy, reduce dependence on imported raw materials, and create new employment opportunities in sustainable industries.

XI. TECHNOLOGY, INNOVATION, AND WASTE MANAGEMENT INFRASTRUCTURE

An often-overlooked dimension of plastic waste governance in Sri Lanka is the technological and infrastructural capacity required to implement regulatory reforms. At present, waste collection and recycling systems remain underdeveloped, with most local authorities relying on open dumping and landfilling as primary disposal methods. This not only undermines compliance with plastic bans but also contributes to secondary pollution of soil and groundwater. By contrast, jurisdictions such as South Korea and Singapore have integrated advanced recycling technologies, waste-to-energy plants, and digital monitoring systems into their waste management frameworks, thereby linking regulation with technological innovation.

Sri Lanka's current recycling industry is fragmented and dominated by small-scale operators, who lack access to advanced sorting and processing technologies. The absence of a centralized digital tracking system for plastic flows also prevents effective monitoring of compliance with Extended Producer Responsibility (EPR) schemes. Legal reforms could address this gap by mandating the use of producer databases, barcoding systems for plastic packaging, and public reporting mechanisms to ensure traceability. Moreover, investment in innovations such as biodegradable alternatives, pyrolysis for converting plastics into fuel, and plastic credit trading platforms could create new economic opportunities while reducing environmental harm [35]. Strengthening technological capacity would not only support legal reforms but also ensure that regulatory objectives are met in practice, thereby bridging the gap between law on paper and outcomes on the ground.[36]

XII. RECOMMENDATIONS

To address the regulatory deficiencies identified in a Sri Lankan plastic waste management framework, a series of practical and legal reforms is necessary. Sri Lanka needs to consider enacting a comprehensive plastic waste management Act that consolidates all

existing regulations, gazette notifications, and policy guidelines into a single enforceable legal instrument.

This legislation should regulate plastic throughout its life cycle, from manufacturer to post-consumer disposal, and should also provide a clear definition of important terms like plastic packaging, single-use plastic, and extended producer responsibility, which are either missing or interpreted inconsistently under the National Environmental Act No. 47 of 1980. Central components of this reform should be the formal adoption of EPR, making producers and importers legally accountable for the collection and safe disposal of plastic waste. This can be modeled after India's implementation under the Plastic Waste Management Rules 2016, which requires producers to set up a waste take-back mechanism and meet an annual recycling target.

First, Sri Lanka could establish an EPR registry under the central environmental authority, requiring manufacturers to submit waste management plans and compliance reports, with incentives such as tax reductions on plastic credits offered to businesses that exceed minimum compliance. Second, the legislative framework should include a design-for-recyclability requirement and minimum recycled content standards, similar to measures operational in the European Union under Directive 2019/904, where manufacturers must ensure that plastic bottles contain a minimum of 30% recycled plastic by 2030 [37]. Adopting a similar target in Sri Lanka would encourage investment in the local recycling industries and reduce the demand for virgin plastic, while policymakers should also consider banning non-recyclable multilayered plastics.

XIII. CONCLUSION

Plastic waste remains one of the most pressing environmental challenges facing Sri Lanka, with far-reaching implications for biodiversity, public health, and sustainable development. While the country has adopted a patchwork of regulations under the National Environmental Act and gazette notifications, the framework continues to suffer from fragmentation, weak enforcement, and institutional overlap. The judiciary has played a limited but evolving role in advancing environmental principles, yet the persistence of enforcement failures reveals that regulatory success depends not only on law-making but also on effective implementation.

The comparative analysis of India and the European Union demonstrate the value of lifecycle regulation, Extended Producer Responsibility (EPR), and product design standards, all of which remain underdeveloped in Sri Lanka. Regional cooperation and international obligations under the Basel and Stockholm Conventions, as well as the South Asia Marine Litter

Action Plan, provide additional normative frameworks that Sri Lanka must more actively internalize. At the same time, plastic waste governance cannot be viewed in isolation from its broader impacts: it is inseparably linked to climate change, as plastics contribute both to greenhouse gas emissions and to the weakening of natural carbon sinks.

Equally important are the social and economic dimensions of reform. Communities and civil society groups have demonstrated their potential to influence behavioral change and hold authorities accountable; yet, without adequate state support, these efforts remain fragmented. Embedding citizen participation and awareness into policy will be vital to achieving long-term compliance. Moreover, the economic burdens of plastic regulation borne by SMEs and informal sector workers necessitate balanced policy tools, including subsidies, tax incentives, and deposit-refund schemes, to encourage a just transition towards sustainable alternatives.

Ultimately, Sri Lanka's pathway forward requires the enactment of a unified Plastic Waste Management Act that consolidates existing regulations, integrates EPR and recycling mandates, strengthens enforcement, and incorporates principles of environmental justice, precaution, and intergenerational equity. Legal reform must also be anchored in climate resilience, economic sustainability, and participatory governance. Only through such a holistic and multi-dimensional framework can Sri Lanka align its domestic policies with international standards and secure a viable pathway towards environmental resilience and sustainable development.

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