



LEGISLATIVE LESSONS FOR PLASTIC WASTE GOVERNANCE: A DOCTRINAL ANALYSIS OF GERMAN AND RWANDAN MODELS FOR SRI LANKAN STATUTORY REFORM

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ABSTRACT

Sri Lanka's inefficient legal framework on Post-Consumer Plastic Packaging (PCPP) waste creates environmental pollution and regulatory drawbacks as exemplified in other developing nations. This research was carried out based on doctrinal and comparative legal methodologies, analysing statutes, case law and constitutional mechanism through descriptive comparative analysis, aiming to identify gaps that exist in Sri Lanka's plastic waste regime and to propose legal reforms for Sri Lankan plastic governance mechanism. The comparative analysis indicates that Sri Lanka's legislation does not adequately address critical regulatory issues like life cycle of single-use plastic (SUPs) and EPR, leading to accountability loopholes. The research compares Sri Lanka against two significant jurisprudential models, from the jurisdiction of Rwanda's a command-and-control regime (Law No. 48/2018), which enforces strict liability, severe financial penalties, and most importantly, a constitutionally justiciable right to a clean environment (Article. 49) and from the jurisdiction of Germany a market-instrumental approach under the Verpackungsgesetz (Packaging Act), which is rooted with the Extended Producer Responsibility (EPR) through the Polluter Pays Principle and subsidiarity-driven cooperation between industry and municipal authorities. The research employed a novel Global South legislative model by proposing realistic legislative reforms with the institutional and economic realities of developing nations, offering a realistic and practical move toward efficient and effective PCPP governance.

KEYWORDS: Plastic waste management, Plastic pollution, Plastic packaging waste, Extended Producer Responsibility, Global South

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1. INTRODUCTION

1.1 Background of the study

Post-consumer Plastic Packaging (PCPP) pollution represents a growing environmental and legal challenge, particularly in developing nations where regulatory structures often lag behind the pace of plastic production and consumption. In the present day, the global concern has moved towards the environmental consequences of plastic waste. Many jurisdictions, including that of Sri Lanka, continue to rely on ineffective and inefficient laws and regulations to manage this disastrous crisis (UNEP, 2021). This research identifies gaps in Sri Lanka's legal framework for regulating plastic waste, employing doctrinal and comparative legal analysis to assess the constitutional viability, enforcement efficacy, and judicial oversight within the national context.

This paper presents a legislative framework for the global South on plastic packaging waste, which is deeply embedded with the doctrinal consistency, constitutional viability, and socio-economic inclusiveness in implementing the legislation on plastic packaging waste. This fills the loopholes that exist in the literature through the legislative reforms, upholding the effective institutional practices and environmental requirements.

1.2 Literature Review

1.2.1 Introduction to Post consumer plastic packaging (PCPP)

Post-consumer plastic packaging (PCPP) pollution is a disastrous environmental and governance issue in the world, specifically in developing countries, where the issue has increased due to the gradual increase of industrialisation and urbanisation (UNEP, 2021). Plastic waste, on the one hand, threatens biodiversity, human health, and climate resilience, and on the other hand, it causes soil, water, and marine pollution (Jambeck et al., 2015).

However, regulatory approaches differ between developed and developing nations. Developed

countries typically follow comprehensive, lifecycle-based policies and regulations, whereas developing countries often depend on ad-hoc and less coherent measures (Wilson et al., 2012). Scholars have noted that developing countries face significant challenges in waste management due to limited infrastructure, weak institutional capacity, reliance on informal recycling systems, and insufficient financial resources. This challenge has created a gap in the system in the enforcement and accountability, halting the design and implementation of effective and efficient PCPP waste governance (Gunawardena, 2022; Weerakoon & De Alwis, 2021).

1.2.2 Legal Frameworks for Plastic Waste Management

Intensive disposal and responsible production and integrated cost of pollution have been identified as the internationally obeyed environmental law principles, namely under the Polluter Pays Principle (PPP) and the Extended Producer Responsibility (EPR) in the world in tackling the plastic waste management (OECD, 2001; UNEP, 2021).

EPR regulations recognise the producer's accountability towards the entire product lifecycle in waste management; Through this framework, the producers are obliged to fund, collect, recycle, and dispose of PCPP waste (Balachandra & Abeysekara, 2021).

Moreover, jurisdictions like that of Rwanda identified the right to a clean environment as a constitutional right as well as a human right, recognising the people's legal standing to compel the public authority to uphold environmental regulations (Republic of Rwanda, 2003). This combination of constitutional rights, human rights, and obligations towards the environment guarantees a fundamental mechanism for safeguarding the environment.

1.2.3 Sri Lankan Context: Policy Failure and Systematic Gap

Sri Lanka generates approximately 938 metric tonnes of plastic waste daily, of which only 32 percent is collected and a mere 4 percent recycled, leaving the

remainder to be burnt, dumped, or leaked into waterways (National Action Plan on Plastic Waste Management, 2021). This signifies the country's critical failure in waste governance, wherein the policies have not been implemented effectively. With nearly 60 percent of total municipal waste originating from the Western Province, the inefficiency of the urban waste system amplifies the national environmental impacts (Ruzaik et al., 2025). Even though plastic accounts for around 10 percent of all local authority waste, single-use and packaging plastics are intensifying ecological degradation (JICA, 2023).

The leakage of 6,000 tonnes of plastic enters rivers and coastal zones each year, which positions Sri Lanka among South Asia's leading marine plastic polluters (World Bank, 2024). Despite several bans and regulatory measures, recycling infrastructure remains grossly inadequate and underdeveloped, particularly in the Western Province, where recycling rates are just 3 percent, revealing a systematic gap between policy formulation and institutional capacity (SWITCH-Asia, 2024). This situation calls for the urgency of legally enforceable producer responsibility mechanisms and integrated waste management mechanisms that highlight structural inefficiencies and promote accountability through the plastic packaging lifecycle.

1.2.4 Legislative Patchwork in Sri Lanka's Plastic Waste Governance

The plastic waste governance in Sri Lanka is ad hoc and limited in enforcement. The National Environmental Act No. 47 of 1980 (NEA) is identified as the umbrella law that contributes to environmental protection. However, the legislation lacks vital provisions for managing the lifecycle of the PCPP (National Environmental Act, 1980).

Regularised PCPP waste management in production and distribution in Sri Lanka is ineffective as the laws and regulations have focused on the specific single-use plastics, such as polythene Control regulations 2006, and the bans on polythene below 20-micron thickness (IPEN, 2024).

As per the 13th amendment to the Constitution, waste governance has been divided among the central Environmental Authority (CEA), provincial councils, and Municipal Councils, creating inconsistencies in the enforcement mechanisms (Gunasekara, 2019).

As a result, the scholars have criticized the process in waste management in Sri Lanka, as it leaves behind the producer accountability, limited legislative framework, and international principles such as EPR and the polluter pays principle (Jayasinghe & Hettiarachchi, 2022; UNEP, 2021).

1.2.5 Rwanda's Command and Control Regime

The command and control approach is embedded in the Rwandan regulations on plastic waste management. (Balachandra & Konasinghe, 2025) As per the Law No.48/2018, manufacturing, importation, use, and sale of SUPs are prohibited and recognised as criminal offences with "zero tolerance for specific plastic pollutants" as per Article 6 of this law (Republic of Rwanda, 2018).

The Constitution of Rwanda upholds and strengthens plastic regulation. The right to a clean and healthy environment is expressly recognised as a justiciable right under, empowering the citizens with locus standing to sue the state authority, those who failed to enforce the environmental regulations under Article 49 of the Rwandan Constitution (Republic of Rwanda, 2003).

These constitutional mechanisms recognise and support the proactive environmental governance in Rwanda, as it guarantees that environmental obligations are not just aspirations but are legally enforceable in the country.

1.2.6 Germany's Market-Instrumental Model

Germany's EPR in plastic waste management has been embedded in the laws through the Verpackungsgesetz 2019 (Packaging Act) as a "market-based approach". As per Section 7 of the Act, producers are obliged to register the packaging with a central body for the collection and recycling

through the “take back system,” the process which is identified through the Green Dot license scheme (Gruener Punky) (Federal Republic of Germany, 2019).

The polluter pays principle and the subsidiarity principle are the two prominent legal theories that are incorporated in Germany’s EPR system. The OECD guideline mandates the polluter pays principle as the polluters should be responsible for bearing the cost of managing the pollution. This is embedded in the law and implemented under Section 21 of the Circular Economy Act (Kreislaufwirtschaftsgesetz), as the law required the industry actors to fund waste collection and recycling mechanisms (OECD, 2001; Federal Republic of Germany, 2012).

The coordination between the industry actors and the local authorities becomes efficient and effective through the subsidiarity principle, which is core to both the German constitutional law and the EU environmental regulations. The shared responsibility towards the waste and logistics management collaboration is formalised through section 15 of the Verpackungsgesetz (European Commission, 2017).

1.2.7. Comparative Insights and Theoretical Perspectives

The comparative analysis of Germany and Rwanda illustrates the importance of doctrinal coherence, lifecycle integration, and an enforceable standard. A hybrid model combining Rwanda's constitutional backing and strict liability with Germany's market-driven EPR contributes a prolific model for developing nations like Sri Lanka. Integration of normative concepts and practical enforcement supports sustainable plastic waste management that is both legally sound and economically viable (Voigt, 2021).

1.2.8 Research Gap and Justification

The literature review highlights the gap that exists in the developing nations of the hybrid legal model. As

Wilson et al. (2012) emphasise, the accountability for producers and the local authorities is undermined in Sri Lanka as a result of the fragmented legislation and overlapping mandates that make the enforcement cumbersome. Research examined on how hybrid models can operationalize socio-economic inclusion, doctrinal consistency, and constitutional enforceability is lacking in Sri Lanka. Hence, to close the gap, the research proposes a hybrid legislative model influenced by the global best practices, considering the Institutional and economic realities of developing nations.

1.3 Theory of the study

This research highlights the adoptability of a hybrid model for the developing jurisdictions through Rwanda's command and control approach embedded as a constitutionally recognised environmental human right and Germany’s market-driven Extended Producer Responsibility (EPR) system.

The Rwandan model is influenced by the robust state authority, strict liability, and judicial oversight, whereas the German market-driven EPR model signifies the polluter pays principle through producer obligations and industry-local authority collaboration.

These identified theoretically embedded modes create a logical, doctrinally coherent, constitutionally consistent, and economically viable legislative pathways capable of preventing and mitigating the regulatory loophole while strengthening an effective and efficient plastic waste governance mechanism and enforcement mechanisms in Sri Lanka.

1.4 Research Problem

Post-consumer plastic packaging (PCPP) waste causes a disastrous environmental and governance hurdle in Sri Lanka. The increase of rapid consumption causes a vulnerable stance due to a lack of an enforceable legal framework. The current ineffective regulations and environmental degradation are resulted from the fragmentation

among several statutes and a lack of constitutional principles and enforcement mechanisms.

Sri Lanka being a developing nation, the government of Sri Lanka has not adopted a mechanism that recognises environmental requirements and socioeconomic concerns, in contrast to Rwanda's command and control model, which highlights the constitutional environmental rights and Germany's market-driven EPR mechanisms embedded with the circular economy and the polluter pays principle.

The gap in the system has caused the PCPP waste leakage into the terrestrial and marine environment by stressing the Country's move towards international sustainable goals. This legislative gap not only causes unmanaged plastic leakage into terrestrial and marine ecosystems but also hinders the country's pathway towards international sustainability obligations. An effective PCPP waste governance is prevented by the lack of a context-specific legislative framework, which is embedded with socioeconomic inclusion, enforcement, and doctrinal clarity, stressing the necessity for a legal reform identified through comparative best practices.

1.5 Research Questions

- I. What are the gaps in Sri Lanka's current legal framework for plastic and packaging waste governance?
- II. How can Rwanda's command-and-control model and Germany's market-driven EPR system inform a hybrid legislative framework for Sri Lanka?
- III. How can such a hybrid framework ensure doctrinal coherence, enforceable rights, and socio-economic adaptability in Sri Lanka?

1.6 Objectives

- To critically examine Sri Lanka's existing statutes, constitutional provisions, and institutional arrangements for plastic waste governance.

- To analyse Rwanda's and Germany's legal models and identify elements that can be adapted for Sri Lanka.
- To propose a hybrid legislative framework that integrates doctrinal coherence, constitutional enforceability, and economic practicality for effective waste governance.

1.7 Significance of the Study

This research bridges theoretical examination with practical law reform proposals for Sri Lanka's plastic governance framework by advancing an evidence-based understanding of the structural and regulatory weaknesses in Sri Lanka's current post-consumer plastic packaging (PCPP) waste management regime. The comparative analysis of Rwanda's command-and-control model and Germany's market-instrumental approach provides a dual perspective that integrates both regulatory enforcement and economic efficiency, contributing to the formulation of a context-sensitive hybrid model suited to Sri Lanka's institutional and socio-economic conditions and also law reform in developing nations by offering a legal framework that can strengthen producer accountability, enhance regulatory coherence, and promote sustainable plastic waste governance within the country (Hahladakis et al., 2020; Republic of Rwanda, 2019; German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, 2019).

1.8 Limitations of the Study

This research is limited to the three core segments in the Sri Lankan jurisprudence. Namely, the constitutionally adoptable model, efficient enforcement mechanism, and judicial scrutiny. These form a vital legal pillar for ensuring compliance and remedying in environmental governance. The research examines the legal enforceability and institutional coherence of the regulatory framework of PCPP waste in Sri Lanka within the constitutional and administrative settings.

Therefore, the analysis is supported through the quasi-federal administrative structure and

constitutional environmental safeguards found under Article 27(14) and 28(f) of the Constitution of Sri Lanka (Constitution of Sri Lanka, 1978). This bridges constitutional obligations through regulatory and institutional mechanisms by enhancing the theoretical and practical understanding of aligning environmental governance in Sri Lanka with sustainable waste management principles and international best practices.

Despite these constraints, the study retains its validity through the utilization of a mixed-method comparative methodology that synthesizes theological, institutional, and policy analysis. The observed limits emphasize the importance of context-specific adaptations of global models such as the Extended Producer Responsibility and Polluter Pays Principle. Future research could expand on this work by empirically validating proposed improvements and assessing their economic viability within local governance frameworks.

2. METHODOLOGY

This research was conducted following a doctrinal legal methodology, analysing statutes, case law, and constitutional provisions to identify legislative loopholes and propose doctrinally context-specific reforms (Hutchinson & Duncan, 2012). A normative and descriptive analysis was adopted to assess whether the proposed hybrid model aligns with the constitutional mandates and environmental principles.

The comparative analysis focused on the jurisdictions of Rwanda, Germany, and Sri Lanka with particular attention to the judicial accessibility, stakeholder liability, and enforcement efficacy. This research is grounded in the theoretical foundations of the command and control model, constitutionally embedded within the Rwandan Jurisdiction as exemplified by Law No.48/2018, which enforces strict liability and severe financial penalties, and it recognises a constitutionally justiciable right to a clean environment (Article 49).

On the other hand, Germany's market-oriented model, through the *Verpackungsgesetz* (Packaging Act) is rooted in the Extended Producer Responsibility principle and supported by the polluter pays principle and subsidiary-based cooperation between industry and municipalities.

The aim of this research is to identify a theoretical model effective for governing PCPP waste in Sri Lanka, ensuring a doctrinally coherent, enforceable, and economically adaptable mechanism. Accordingly, the research proposes a hybrid system for efficient and effective reforms towards innovative institutional mechanisms (Voigt, 2021).

3. DISCUSSION AND ANALYSIS

3.1 Institutional and Legal Challenges

Sri Lanka's Plastic Waste Governance

PCPP waste governance in Sri Lanka lacks institutional coordination, fragments regulation, and uneven enforcement. Even though the NEA No.47 of 1980 provides a broad environmental mandate, it lacks an address of the life cycle of the PCPP waste. Polythene control regulations 2006 and Gazette extraordinary No.1534/18 of 2008 are specifically concerning the SUPs, leaving upstream production, distribution of PCPP waste to the Ministry of Environment, 2018. Operating under the thirteenth amendment to the 1978 constitution, the provincial councils enact overlapping regulations, making the enforcement process a cumbersome procedure (Gunasekara, 2019). In CEJ and others Vs Central Environmental Authority and others (2017), the regulatory compliance is hindered as a result of a jurisdictional dispute. Therefore, the PCPP waste governance in Sri Lanka exhibits a patchwork approach, rather than a unified structure and a system that guarantees effective environmental protection and producer responsibility.

Transposition Barriers for Sri Lanka

Notwithstanding Rwanda's achievements, constitutional and Institutional obstacles tend to arise when in directly transposing the Rwandan model in Sri Lanka. A centrally imposed national ban and governance mechanism may conflict with the federal and quasi-federal structures under the jurisdiction of provincial councils as per Article 154G(b) of the Constitution (Constitution of Sri Lanka, 1978). Jurisdictional obstacles would arise due to the devolution of powers, creating a legal ambiguity in the system. Further, there is no environmental judiciary or environmental tribunal to hear the environmental cases, hindering the consistent and specialised adjudication (Jayasuriya, 2019). Hence, the adoption of the Rwandan model needs to be improved with the reforms on institutional capacity in order to strengthen the enforcement and the legal contestation.

Developing Economy Limitations

For developing economies, the cost of compliance is the core obstacle. Many of the small and medium-sized enterprises (SMEs) find financial and infrastructural difficulties to abide by the obligation on EPR licensing fees and administrative registration requirements (OECD, 2021).

The countries with limited judicial capacity and administrative inefficiencies would weaken the proper implementation and enforcement of EPR through rules and regulations under the tribunal and appeal process that tend to be cumbersome (Schware, 2020). Hence, the regional, institutional, and economic capabilities should precisely be considered when adopting the EPR models.

3.2 Doctrinal Deficiencies

Extended Producer Responsibility (EPR)

In Sri Lanka, there is no statutory obligation on the producers of PCPP to manage the plastic waste, even though EPR has been recognised under the National Policy on Waste Management 2019 and the National Action Plan on Plastic Waste 2021- 2030 (Ministry of Mahaweli Development and Environment, 2019;

Central Environmental Authority, 2021).

It is identified that the polluter pays principle was breached due to the fact that an absence of the statutory binding obligation on the producers of PCPP by placing the burden on the consumers and the state authorities (OECD, 2001). The absence of enabling laws has prevented judicial intervention from enforcing EPR obligations, as evidenced in the case of Centre for Environmental Justice and others Vs Central Environmental Authority and others (2021).

In contrast, Germany's Verpackungsgesetz (2019) and Rwanda's Law No.48/2018 introduce legally binding procedures for producer accountability, signifying the lifecycle-based regulations (Republic of Rwanda, 2018; Federal Republic of Germany, 2019)

Institutional and Constitutional Pathologies

The existing overlaps in the waste governance among the CEA and local authorities result in creating regulatory inefficiencies and funding gaps that hinder the effectiveness and efficiency in waste governance (CEA, 2021). This shows the violation of principle 10 of the Rio Declaration (1992), as the overlapping mandate in governance breaches the international coordination principle. CEJ & others Vs CEA and others (2017) highlights the above-mentioned governance overlapping, which further exacerbates the inadequate structural mechanisms that hinder effective and efficient PCPP waste governance in Sri Lanka.

Informal Sector Exclusion

The most crucial but often neglected and inadequately recognised role is played by the informal waste collector in waste governance. The recognition of the informal waste collectors has been done through a draft statute on the Waste Collectors Recognition Act. As per Section 4 of the Act, the licensed waste collecting cooperatives are entitled to 20% of EPR-generated revenues, whereas Section 7

concerns the occupational safety and health standards of the employees through the labour courts. This symbolises the equity and also the strengthening of an effective and efficient waste collection and segregation in line with the governance principle as identified through the Rwandan jurisdiction (Medina, 2008; Republic of Rwanda, 2018).

The identification of Waste collectors is invisible under the Sri Lankan laws and regulations, negating the international labour standards such as ILO Convention No.169, even though they play a crucial and central role in waste recycling and recovery processes (Gunawardena, 2022). As per the Rwandan law under the Law No.53/2007, industries are required to identify the informal waste collectors through the legal recognition with adequate sharing the Revenues, strengthening the social equity and the collection efficiency (Republic of Rwanda, 2007).

Infrastructure and Enforcement Deficiencies

NEA lacks infrastructure facilities and recycling targets for effective and efficient plastic governance, even though adequate disposal facilities are available as per Section 23(b) of the Act. In contrast, as per the findings of Jayaweera et al. (2020), it is identified that 171,561 tonnes of mismanaged plastic waste remain annually, while 93% of households cause the open burn of the waste. The state's failure to fulfill constitutional environmental obligations as per Article 28(f) of the Constitution necessitates the measurable statutory standards.

3.3 Comparative Lessons and Transferability

Command-and-Control Governance

Under the unitary governance mechanism, the Rwandan model is centralised through executive enforcement and is constitutionally permissible. Due to the existence of Article 49 of the Constitutionally justiciable environmental rights, Rwanda has imposed a zero-tolerance ban on identified SUPs items (Republic of Rwanda, 2003; Republic of Rwanda, 2018). Strict liability procedures and the

centralised enforcement have facilitated the compliance mechanism.

Market-Instrumental EPR

The EPR system in Germany highlights the strong institutional capacity, administrative facilities, and regulatory expertise, making the implementation simpler. The implementation of the Market Instrumental EPR model required a phased strategy, starting from the urban areas, allowing time to build compliance procedures and stakeholders' awareness (Federal Republic of Germany, 2019; OECD, 2021).

Through the *Verpackungsgesetz*, Germany implements Producer Responsibility, integrating the polluter pays principle with local authorities' collaboration (Federal Republic of Germany, 2019; OECD, 2001). Even though the plastic waste governance system is economically viable, accommodating the industry's capacity, enforcement is legally binding.

Implications for Sri Lanka

The adoption of the Rwandan model in Sri Lanka may be curtailed by the quasi-federal governance structure as per Article 154G (b), creating a gap in the plastic waste governance mechanism under the national-provincial bans or restrictions on specific SUPs items (Constitution of Sri Lanka, 1978).

However, the German EPR framework needs to be adapted with the phased period if not otherwise, it will create financial hurdles and also administrative inconsistencies. A hybrid model legal framework integrates the enforceable bans with the context-specific EPR governance mechanism as an efficient and effective solution for the fragmented legislative framework that exists in Sri Lanka.

Nevertheless, implementation of this novel hybrid model requires the constitutional amendment to negate the inconsistencies that would be created due to the national and provincial disparities in the waste management governance empowered under the 13th

Amendment to the constitution (Article 154G (b)) of the Sri Lankan constitution. (Constitution of Sri Lanka, 1978; Republic of Rwanda, 2018).

3.4 Proposed Hybrid Legislative Framework

Hence, the need of an amendment to the NEA has become vital to mandate the EPR compliance by the producers who generate metric tonnes of plastic per capita. It is necessary to impose a transition period of 3-5 years in order to phase bans on high-impact polymers. Further, the producers' fee should include the integration of the measurable and collection targets.

This research proposes an amendment to the NEA with the adoption of the hybrid legislative framework through the enforcement of the Rwandan Ban, together with the institutional realisms of Germany's EPR.

It is a vital phased ban on certain polymers by 2030, providing a transition period for industry and regulators under Schedule IV of the NEA (Central Environmental Authority, 2023; UNEP, 2021). The establishment of an environmental tribunal under Article 144 of the Constitution enables the enforcement of EPR provisions and product ban violations (Jayasuriya, 2019).

It is crucial to integrate the national and provincial legislations on plastic waste governance. The recognition of a National PCPP Act is needed under Article 154G (b) of the Constitution by giving the superiority to a National Plastic Waste statute over the local authorities' rules and regulations. Therefore, by implementing such a regulation, the current gap in the legislative and administrative governance will be resolved as a result of the enforcement in the country being consistent (Constitution of Sri Lanka, 1978).

The reconditioning for a waste collector, creating the entitlement towards a percentage of EPR-generated revenues and occupational safety standards (Madina, 2008; Republic of Rwanda, 2007). Further, it is necessary to regularise minimum recycling facilities

per geographic unit, mandating the local authorities for the mandatory collection of the segregated waste and imposing penalties for disobedience under EPR governance mechanisms.

4. RECOMMENDATIONS

Adopt a Hybrid Governance Model to improve the enforcement and stakeholder participation, combining Rwanda's command-and-control mechanisms with Germany's market-based EPR principles.

Implement context-specific legislation with explicitly defined responsibilities for producers, municipalities, and regulators, embedding constitutional environmental rights.

Amend the NEA to integrate polymer bans with EPR obligations for large-scale companies' EPR commitments

Establish Environmental Tribunals for the enforcement of the National PCPP standard Act, which will supersede the provincial disputes.

In order to track the plastic waste and the recycling rates, enforcement results, and construction inspection and monitoring capabilities, a centralised Producer or recycler registration system should be established.

Mandatory segregated collection of waste by local authorities and mandatory regional recycling plants.

Cooperation between the communities, business, and the government, while incorporating socio-economic constraints into waste management governance and strategies.

Waste pickers are required to identify through legislation and allocation of the EPR profits with the cooperatives.

Raise public awareness campaigns and education on plastic reduction. Implement public education on

plastic reduction and prevention.

5. CONCLUSION

Sri Lanka's current legal framework in PCPP waste is fragmented with limited judicial scrutiny in weak enforcement, lack of Institutional organisation, while undermining accountability and sustainability. The comparative analysis signifies Rwanda's Command and Control Model as it enables strict liability, efficient legal mechanisms, and continuous policy implementation through centralised enforcement due to the identification of constitutionally enforceable environmental rights.

On the other hand, Germany's EPR system confirms the private sector participation. The market-driven EPR process, sharpened through the polluter pays principle, highlights producer accountability, collaboration with local authorities, and economically intensive recycling. Hence, the analysis clearly identified that both modules strengthen the enforcement efficiency, stakeholders' accountability, and judicial accessibility in the plastic waste governance.

It is identified that even though the Rwandan ban on SUPs enables speedy legislative compliance, the federal and quasi-federal constitution structures weaken the plastic waste governance, as is happening in Sri Lanka. On the other hand, Germany's EPR system depends on market-based incentives and producer accountability with an adequate administrative and legal framework (OECD, 2021; Voigt, 2021). Hence, the most adaptive legislative mechanism signifies the contextual combination of both models; a hybrid legislative framework will contribute to constitutional enforceability and socioeconomic adaptability with logical solutions and doctrinal coherence.

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