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COMPARISON OF LEGISLATION OF UK AND SRI LANKA FOR BETTER IMPLEMENTATION OF CIRCULAR ECONOMY IN SRI LANKAN CONSTRUCTION INDUSTRY

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ABSTRACT

The construction industry (CI)is a significant contributor to worldwide environmental pollution while being a substantial user of finite resources and a substantial generator of waste. The Circular Economy (CE) concept aims to manage raw materials and minimise waste generation. The lack of relevant laws and regulations is a significant barrier to the implementation of CE. It is necessary to have a systematic approach to design and implement CE laws to cover the multi-sector dimensions of the CE concept. Limited research is available on laws and regulations related to the CE in the global and Sri Lankan contexts. This study aims to compare the legislation provisions for CE in CI in Sri Lanka and the United Kingdom (UK) for the better implementation of CE in CI in Sri Lanka. The study investigates how CE principles can be integrated into construction strategies in Sri Lanka, drawing from existing legal frameworks in the UK, and conducted through a review of legislation and policies. Findings reveal that the UK has made significant progress in embedding CE principles through legislative support and sustainable construction regulations. However, Sri Lanka is still in the early stages of this transition. This study further identified legal pitfalls in integrating CE practices, including gaps in the enforcement of CE within the Sri Lankan CI. The study concludes with key recommendations for introducing laws, legally supported CE practices in Sri Lanka, CE new legal reforms, and incorporation of CE principles into construction law.

Keywords: *Construction Industry; Circular Economy; Law; Sri Lanka; UK.*

1. INTRODUCTION

The CI sector notably accounts for over 30% of natural resource extraction and approximately 25% of global solid waste production (Benachio et al., 2020). CE practices contribute to emission reductions, decreased waste generation, and sustained economic growth (Kanwar, 2023). The CE presents a viable strategy for fostering long-term environmental sustainability by aligning economic activities with ecological principles (Geissdoerfer et al., 2017). The CI is a major contributor to environmental degradation, resource consumption, and waste generation. According to Jahan et al. (2022) the CE is

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an economic model that promotes material cycling to reduce basic material use and misuse creation. It supports sustainability by adhering to the 3Rs: reduction, reuse, and recycling. Strategies including waste reduction during product design, preventative measures, maintenance, repair, reuse, and recycling can help reach these aims. CE manages losses by exploring alternative uses and resources stored for a long duration (Alhazmi et al., 2021). As explained by Velenturf et al. (2019), the "take-make-dispose" approach of the linear economy has been altered by diminishing the steps of "take" and "dispose" across closed-loop methods such as reusing, recycling, and regeneration in the CE concept. This transformation fosters new business opportunities in areas such as remanufacturing, refurbishing, and repair, thereby supporting economic growth across countries (Hailemariam & Erdiaw-Kwasie, 2023).

Wijewansha et al. (2021) examined the practical application CE principles during the early planning and post-construction phases of Sri Lanka's building industry. By integrating considerations of rebound effects into CE practices, stakeholders can better navigate the complexities of implementing circular models and achieve sustainable outcomes (Gonçalves et al., 2022). The CI notably contributes to economic progress, but primarily through waste generation. Victar and Waidyasekara (2024) and Wijewansha et al. (2021) highlighted that construction is pivotal in fuelling economic expansion. However, it poses significant environmental challenges due to its intensive use of resources and high waste generation levels. Furthermore, CE is a driven framework for construction material preferences in Sri Lanka, featuring a '10R' hierarchy designed to promote sustainable decision-making. CE selects materials that reduce environmental impacts at every stage of their lifecycle, incorporating strategies such as refusing, reducing, reusing, and recycling. Additionally, it advocates for practices like repurposing, repairing, and remanufacturing, all aimed at enhancing resource efficiency and minimizing waste in CI (Wanaguru et al., 2022). Furthermore, regulatory provisions in the construction industry ensure compliance with environmental legislation, building regulations, and urban planning policies.

The enforcement of regulations in the CI is to minimize pollution, manage waste, and conduct environmental impact assessments governed by regulatory provisions. Regulatory provisions regulate construction activities and enforce laws to prevent environmental degradation. The collective purpose of regulatory provisions is to ensure sustainable development by regulating environmental protection, construction standards, and physical planning to promote safe, efficient, and environmentally responsible construction practices. Given the significant environmental impact of the CI , the CE is recognised as one of the most effective sustainable approaches to mitigating these adverse effects (Stošić & Šmelcerović, 2023). As Benachio et al. (2020) highlighted, the application of CE in the CI helps retain the maximum value of materials. Similarly, CE initiatives aim to minimise resource input and usage (Liu et al., 2022). Implementing CE principles in the CI contributes to waste reduction, resource conservation, and the advancement of sustainability (Hossain et al., 2020). CE practices are significant for the transition towards CE in the CI (Gamage et al., 2024; Guerra et al., 2021; Senaratne et al., 2021). Gamage et al. (2024) emphasise that implementing CE practices in a construction project requires proper planning from the design stage, as early decisions impact subsequent phases. Countries such as the UK, Australia, Germany, and China have already incorporated these considerations into their construction practices (Bleischwitz et al., 2022).

The UK has recently enacted comprehensive measures to embed CE principles in law, notably through the Environment Act 2021 and its regulations implementing the European Union's CE Package (CEP). The UK government is strongly committed to promoting the CE through various laws and regulations. One of the most important CE laws in recent years is the Environment Act 2021, which provides a legal framework for environmental protection and includes provisions for Extended Procedure Responsibility (EPR) schemes. Complementing this, the Producer Responsibility Obligations Regulations place specific requirements on businesses involved in the supply chain. The landfill regulations discourage the disposal of waste in landfills, thus making it more expensive. This law pushes businesses to consider alternatives such as recycling and reusing materials.

In addition to direct legislation, the UK government has introduced initiatives to promote energy efficiency and reduce environmental impact in the CI. The Energy Savings Opportunity Scheme (ESOS) is a mandatory program that requires businesses to conduct regular energy law. These aspects identify energy-saving opportunities, often including strategies to improve resource efficiency and reduce waste. Accordingly, the UK Environment Act 2021 addresses CE practices for the CI. Even though these legal provisions for CE are common in the UK, Laws about CE implementation in Sri Lanka are scarce.

The following legislation are related to CE in the CI in Sri Lanka:

1. National Environmental Act, No. 47 of 1980 and its Amendments
2. Urban Development Authority Law, No. 41 of 1978
3. Coast Conservation Act, No. 57 of 1981
4. Town and Country Planning (Amendment) Act, No.49 of 2000
5. Municipal Councils Ordinance, Urban Councils Ordinance, Pradeshiya Sabhas Act (Local Authority legislation)
6. Construction Industry Development Act, No. 33 of 2014
7. Sustainable Development Act, No. 19 of 2017

The National Environmental Act, No. 47 of 1980, sets the foundation for environmental protection; the Urban Development Authority Law, No. 41 of 1978, focuses on planning and urban growth; the Coast Conservation Act, No. 57 of 1981, addresses coastal management and protection; and the Town and Country Planning (Amendment) Act, No. 49 of 2000, outlines land use and spatial planning. Local Authority Laws (Municipal Councils Ordinance, Urban Councils Ordinance, Pradeshiya Sabhas Act) regulate construction activities through building permits and zoning rules. The Construction Industry Development Act, No. 33 of 2014, governs the standards and development of the construction industry. Keywords such as "construction", "development activities", "waste", "resource efficiency", "waste management", and "waste disposal" were used to find relevant sections in that legislation. These legislations are highly relevant to CE implementation in CI, even though the legislations currently attempt to link with CE implementation in Sri Lanka.

The lack of adoption of law aligned with the CE practices in the Sri Lankan construction sector could result in unsustainable resource consumption (Weerakoon & Thayaparan, 2023), increasing environmental deterioration, resource reduction, and insufficient waste management practices and hindering sustainable development like other countries, as discussed in the above sections. Also no any research has found a relationship between

the CE practices and law within the CI in Sri Lanka, resulting in a significant knowledge gap. Accordingly, to fill this literature gap and the practical need, this study aims to compare the legislation provisions for CE in CI in Sri Lanka and the UK for the better implementation of CE in CI in Sri Lanka with the following three objectives:

- Identify the legislation provisions for CE implementation in CI in the UK and Sri Lankan Jurisdiction.
- Identify the pitfalls of legislation provisions for CE implementation in CI in Sri Lankan Jurisdiction.
- Propose the best practices and their main legal aspects for Sri Lanka.

2. METHODOLOGY

This study begins with a comprehensive literature review to reach findings of the research. It establishes the context of CE practice in the construction industry of Sri Lanka and other countries, and then examines legislation related to CE implementation in CI in the UK and other countries to determine the CE practices with legal aspects used in CI. A desk study tested legislation in the UK and Sri Lanka associated with CE implementation in CI. The UK present contrasting approaches in embedding CE principles in line with English Common Law principles (Castro et al., 2022). The UK has taken a proactive stance, enacting comprehensive legislation related to English Law. Sri Lankan legal system is highly influenced by English Law. Therefore, this study is limited to English Legal System. A robust literature review process strengthens knowledge advancement by integrating insights from various empirical studies and developing a structured theoretical foundation (Kraus et al., 2022). Standalone literature reviews enable researchers to critically assess existing scholarship, uncover gaps, and propose directions for future research (Snyder, 2019). The literature search was conducted across three academic databases: (i) Google Scholar, (ii) Web of Science, and (iii) Scopus. The search strategy targeted key terms such as 'Circular Economy', 'Legislation', 'UK', 'Sri Lanka', and 'construction industry'. Emphasis was placed on peer-reviewed journal articles and conference proceedings published within the last fifteen years to ensure the relevance and currency of the selected literature.

This study adopts a qualitative research approach, which is particularly well-suited for exploring the multifaceted nature of the pitfalls in CE and the legal provisions of CE practices in the Sri Lankan construction industry. Qualitative research is recognised for its capacity to provide rich, contextualized insights, especially when addressing intricate socio-economic and institutional dynamics (Ding et al., 2023; Saunders et al., 2024). The study follows a systematic research process, as illustrated in Figure 1.

The process continues with a comprehensive literature and documentary review to investigate critical aspects such as legislation related to CE implementation in CI in the UK, the pitfalls of legislation in Sri Lanka, and to propose best practices with legal aspects. The findings are analysed using manual content analysis, which is particularly effective for qualitative studies as it facilitates the extraction of meaningful insights while maintaining methodological rigour (Ullah & Ameen, 2018).

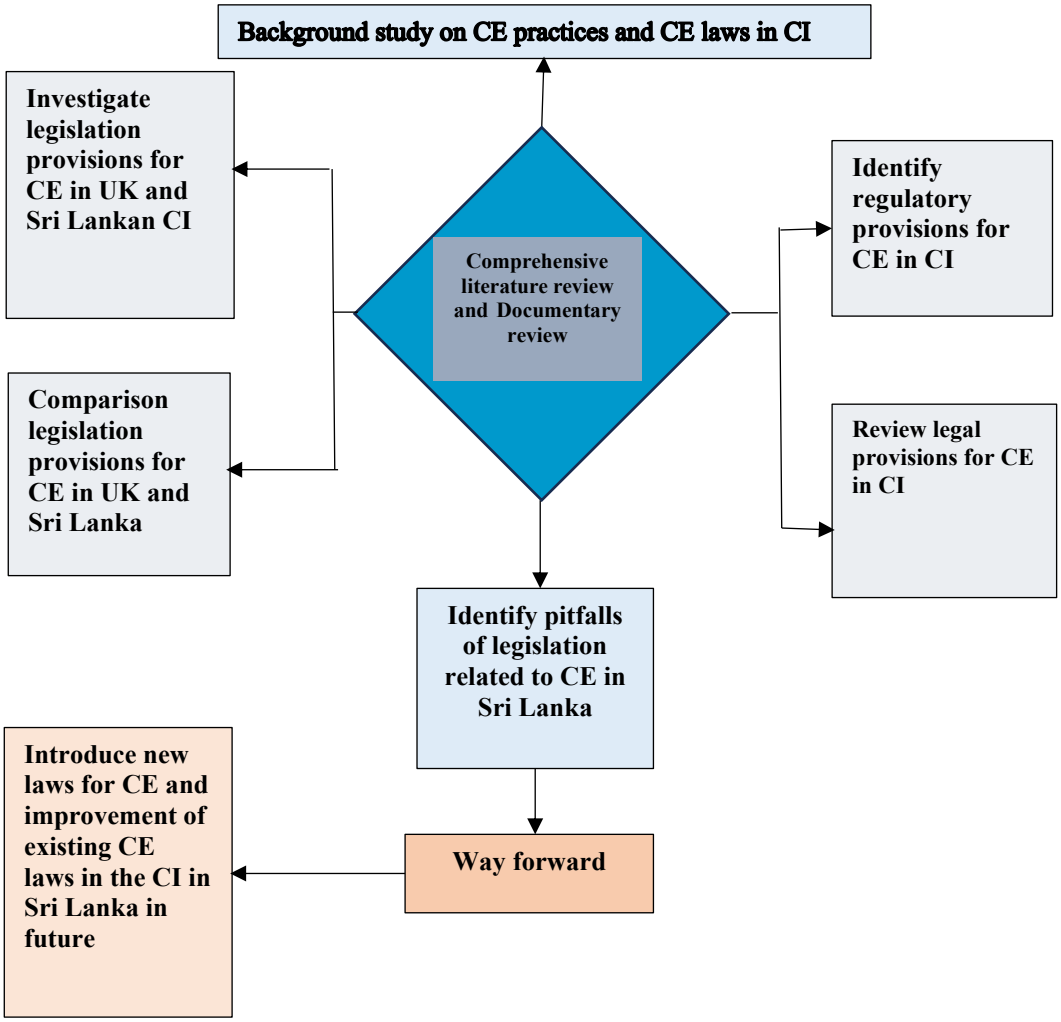

Figure 1 - Research process

3. RESEARCH FINDINGS

This study first identifies the CE and its guidance of Sri Lanka and the UK. This research helps to know about the legal aspects of CE in Sri Lankan and UK CIs. Finally, this research focused on looking into best practices of CE with legal aspects to implement in Sri Lankan CI**.**

3.1 COMPARATIVE OVERVIEW: SRI LANKAN AND UK LEGISLATION IN THE CONTEXT OF CE

The United Kingdom's Environment Act 2021 and Sri Lanka's National Environmental Act No. 47 of 1980 represent two generations of environmental governance. While both legislations target to protect and manage the natural environment, their approaches to resource efficiency, waste reduction, and sustainability. The UK Act is identified as a potential enabler for the CE process, as it helps link environmental goals with CE-driven initiatives. Through this alignment, this Act lays the groundwork for fostering sustainable construction practices across the UK. It introduces waste disposal, waste recovery, and overall waste management methods. This Act provides sustainability for the building,

thus directly affecting the CE principles. Consequently, the UK government's legal approach to CE aspects could be practiced on construction sites.

Table 1 presents a comparative analysis of CE practices and their implementation within the construction industries of the United Kingdom and Sri Lanka. The information has been synthesized from various secondary sources, including government reports, peer-reviewed scholarly articles, and industry publications. The aim is to highlight the key differences between the two countries regarding legislative frameworks, government strategies, industry adoption, and the overall maturity of CE implementation in the construction sector.

Table 1: Comparative analysis of CE practices in the UK and Sri Lanka

Aspect	United Kingdom	Sri Lanka
Legislative Framework	The UK has a strong legislative framework supporting CE, such as the Environment Act 2021 and Waste Regulations (UK Green Building Council, 2021).	Limited legislative support is available for CE in the construction sector in Sri Lanka, with no specific laws or regulations currently in place to mandate CE practices (Wijewickrama et al., 2021).
Government Strategies, Policies, and Law	National strategies such as Construction 2025 and Circular Economy Package guide CE implementation law (UK Green Building Council, 2021).	Sri Lanka lacks a formal strategy focused on adopting to CE in the construction sector (Victar & Waidyasekara, 2024: Wijewickrama et al., 2021).
Implementation Stage of Law for CE	The UK has advanced in integrating CE practices driven by policies, industry incentives, and government initiatives (Victar & Waidyasekara, 2024: Wijewickrama et al., 2021).	CE is still emerging in Sri Lanka, with awareness and implementation primarily voluntary, limited to isolated efforts (Wijewickrama et al., 2021).
Industry Adoption	High adoption of CE practices in the UK construction industry, influenced by policies and industry commitment to sustainability (UK Green Building Council, 2021).	Industry adoption is low in Sri Lanka, with implementing CE practices, due to the absence of a legal framework (Gamage et al., 2024: Wijewickrama et al., 2021)
Awareness of CE principles, law, and its Law	Extensive education and professional development programs are available to support CE practices in construction (UK Green Building Council, 2021)	Awareness in Sri Lanka are limited, focused on Circular Economy principles (Wanaguru et al., 2022; Wijewickrama et al., 2021)
Incentives and Law Enforcement	The UK government provides financial incentives, grants, and compliance monitoring to support CE adoption (UK Green Building Council, 2021).	Minimal financial incentives and weak enforcement of environmental policies in Sri Lanka hinder the widespread adoption of CE practices. (Weerakoon & Thayaparan, 2023; Wijewickrama et al., 2021)

Aspect	United Kingdom	Sri Lanka
Key CE Practices in Use	Common CE practices in the UK include modular construction, material reuse, design for deconstruction, and BIM integration (Ding et al., 2023; Saunders et al., 2024)).	Material reuse and recycling have been implemented in few projects in Sri Lanka, but large-scale adoption of CE practices remains very limited. (Gamage et al., 2024; Guerra et al., 2021; Senaratne et al. 2021)
Environmentally friendly alternatives to the industry	High adoption of CE practices in the UK construction industry. (Kraus et al., 2022).	Integrating CE principles during the early stages of design and planning can significantly enhance sustainability in construction industry by promoting efficient material utilization, minimizing waste (Wanaguru et al., 2022)

In contrast, Sri Lanka's legal framework for CE is fragmented and largely policy-driven. While principles such as waste minimization and recycling are acknowledged in the National Environmental Act and Sustainable Development Act of Sri Lanka, they are not enforced through binding obligations. Recycling and Sustainable construction practices are encouraged by institutions like CIDA, but the lack of regulatory mandates has still prevailed. Overall, Sri Lanka shows interest in CE practices, but the absence of cohesive legislation and enforcement mechanisms hampers progress compared to the UK's more mature and structured approach.

Table 2 presents a comparative analysis of CE practices with their regulatory procedure within the construction industries of the United Kingdom and Sri Lanka.

Table 2: Comparative analysis of CE practices with their regulatory framework and its procedure

Regulatory Aspects and Procedure	UK Environmental Act 2021	Sri Lankan Environmental Act 1980
Legislative Regime and Alignment with CE	Explicitly incorporates CE principles. Included detailed provisions for resource efficiency, waste minimization, extended responsibility and recycling schemes.	Focuses primarily on establishing institutional structures and general environmental protection, without specific reference to circularity, reuse of materials, or life cycle thinking in industrial processes.
Regulatory Institute and Monitoring	Established the Office for Environmental Protection (OEP) to oversee compliance, advise on policy, and enforce environmental standards, including those supporting CE transitions.	Sri Lanka's Central Environmental Authority (CEA) plays a more advisory and administrative role, lacking a dedicated mechanism for policy innovation or enforcement tailored to CE.
Compliance Applications	Strongly addresses manufacturing Tax and Producer Responsibility Obligations; it does not directly tackle construction waste, despite the significant environmental footprint of the sector.	The legislation does not classify between industrial sectors, offering any dedicated policies for construction waste or CE practices within construction and demolition activities.

Regulatory Aspects and Procedure	UK Environmental Act 2021	Sri Lankan Environmental Act 1980
Modern Policy Support Mechanisms	Include economic tools like taxes and deposit schemes to encourage waste prevention and material reuse.	Sri Lanka's Act, while establishing essential foundations such as environmental councils and local agencies, lacks economic instruments or incentives for industries to adopt circular economy practices.
Adaptability of legal framework	UK Act is forward-looking, with requirements for periodic policy reviews, measurable targets, and responsiveness to environmental data. It supports long-term planning aligned with net-zero and sustainability goals.	Sri Lanka's 1980 Act is less adaptable to emerging concepts such as the CE and does not mandate long-term target setting or regular legislative updates.

The United Kingdom and Sri Lanka present contrasting approaches to embedding CE principles into law. The UK has taken a proactive stance, enacting comprehensive legislation like the Environment Act 2021, which mandates practices such as waste minimization, recycling, sustainable design, and extended responsibility (Alhawari et al., 2021). Strong enforcement bodies and a clear policy framework support these legal requirements, positioning the UK as a leader in CE implementation across sectors, including construction. Following UK law that encourages waste reduction and environmental sustainability, the emphasis on CE principles is ingrained from the beginning of projects (UK Green Building Council, 2021).

In contrast, Sri Lanka's legal framework – though built on Acts like the NEA, CIDA, and UDA– remains fragmented and lacks enforceable mandates specific to CE practices. Policies such as the Sustainable Development Act 2017 recognize CE practices but are not backed by clear and binding regulations for the construction sector. This results in inconsistent implementation of CE with legal aspects for CI rather than systemic change.

Despite these gaps, Sri Lanka has opportunities to strengthen its CE transition by learning from a country like the UK. Introducing regulations on construction waste management, promoting reuse and recycling through legal mandates, and improving inter-agency coordination could significantly advance its efforts. Ultimately, aligning the construction law with circular principles is vital for environmental protection, resource efficiency, and long-term sustainable development.

3.2 PITFALLS OF LAWS FOR CE IMPLEMENTATION IN SRI LANKAN CI

Sri Lanka faces significant pitfalls in integrating CE principles into its construction legal framework, especially compared to the UK's more advanced and coordinated system. One of the primary issues is the fragmented legal and institutional structure, where obligations are scattered across multiple bodies without precise coordination and accountability. Unlike the UK, where oversight is streamlined under agencies like the Environment Agency and the Office for Environmental Protection, Sri Lanka lacks a centralized authority for CE initiatives, causing policy gaps and poor enforcement. There are few specific regulations and standards promoting recycling, reuse, or sustainable

construction, contrary to the UK's strict waste separation laws, landfill bans, and economic incentives like landfill taxes. Weak enforcement mechanisms, limited resources for monitoring, and a lack of penalties for illegal dumping further undermine the progress (Alhawari et al., 2021).

Sri Lanka's waste management law and market for recycled construction materials are still underdeveloped, discouraging industry participation. The Sustainable Development Act 2017 could provide a basis for future reforms. Lessons from the UK, such as implementing Extended Producer Responsibility and Mandating Construction Waste Management Plans, could guide Sri Lanka in building a more sustainable and circular construction industry. The legal aspects of CE adoption are particularly crucial, as they provide the enforceability and structure needed for wide-scale implementation. CE practices are unlikely to move beyond pilot initiatives without legal mandates or remain dependent on individual commitment rather than systemic change (Alhawari et al., 2021). The UK's integrated and enforceable legal framework supports CE goals through clear targets, economic incentives, and strong oversight, contrasting with Sri Lanka's less developed legal integration of these CE principles.

3.3 BEST PRACTICES OF CE WITH LEGAL ASPECTS FOR IMPLEMENTATION IN SRI LANKAN CI

The information discussed above provides a comparative analysis of CE practices and legislation provisions in the UK and Sri Lanka. Thereby, the study identifies the pitfalls of the current practices of CE with legal aspects in Sri Lanka. Furthermore, with the critical review CE practices and legislation in the UK, the study identifies what best practices and related legal aspects that are suitable to Sri Lanka to enhance the application of CE in CI as revealed in Table 3.

Table 3: Best practices and its legal aspects with recommendations

Strategy	Recommendations	Legal Aspect	Best practice
Pre-Construction Stage			
Sustainable design and planning	Encourage design professionals to follow CE principles (Velenturf et al., 2019).	Establish regulations mandating that new building projects include a CE evaluation in their environmental impact reports as part of a sustainability evaluation. This can be included in the National Environmental Act's current environmental clearance procedure (1980) (Wijewickrama et al., 2021).	Modify urban development and planning laws and building codes to require circularity, such as flexible and reusable design. `
Circular Procurement Practices	Implement Procurement laws and policies to use circular materials in a circular economy (Castro et al., 2022).	Set up government procurement policies and laws to use the CE practices in government and private sector	Combine the circular economy principles and procurement guidelines to improve the contractors'

Strategy	Recommendations	Legal Aspect	Best practice
		projects (Kraus et al., 2022).	awareness (Wanaguru et al., 2022).
Incentivizing and legalizing Green and Circular Certification	Offer rewards such as certifications, financial benefits, or fast-tracked permitting to developers who integrate CE principles into their project designs through legalization (Alhawari et al., 2021).	Set up a Green Building Certification that includes circular economy standards, similar to LEED, and make it compulsory for planning approval for large projects (Hailemariam & Erdiaw-Kwasie, 2023).	Collaborate with the Sri Lanka Green Building Council (SLGBC) to create a certification that includes circular economy principles in the green building process (Gamage et al., 2024).)
Awareness and Training for legal aspects of CE	Organize training and awareness programs for planners, designers, contractors, and local authorities to highlight the advantages of the CE.	Make CE training mandatory for construction professionals as a requirement to obtain or renew licenses and certifications (Victar & Waidyasekara, 2024).	Collaborate with the professions and industry organizations to provide professional development programs focused on CE basis (Weerakoon & Thayaparan, 2023)
Material Passports and Building Information Modelling (BIM)	Make it mandatory for construction projects to use Material Passports and BIM to track material use, composition, and future reuse or recycling potential at the end of a building's life cycle (Alhawari et al., 2021)	Introduce laws requiring digital documentation of materials using BIM in the planning and approval process and mandate Material Passports for all public and large-scale private construction projects (Hailemariam & Erdiaw-Kwasie, 2023).	Update local building codes to mandate BIM for large projects and create a national Material Passport database to track material data for Sri Lankan construction projects (Wijewickrama et al., 2021).
Post-Construction Stage			
Waste reduction regulations	Implement strict regulations for managing construction and demolition waste and create programs for material segregation, recycling, and reuse during and after construction (Kraus et al., 2022).	Enforce waste management regulations under the National Environmental Act, amending them to include mandatory waste reduction and material reuse targets for construction projects (Alhazmi et al., 2021)	Develop National Construction Management regulations with recycling targets and require contractors to report the amount of waste diverted from landfills (Ding et al., 2023; Saunders et al., 2024)
Material Reuse and Recycling Regulations	Set up systems for collecting, sorting, and recycling construction materials after demolition and promote using reclaimed materials in new	Enforce Extended Producer Responsibility (EPR) laws to hold contractors accountable for the disposal and recycling of construction materials, incentivizing	Introduce regulations requiring contractors to submit detailed plans for material collection and recycling during demolition or refurbishment, integrating this into existing

Strategy	Recommendations	Legal Aspect	Best practice
	projects (Ding et al., 2023; Saunders et al., 2024)	material reuse and promoting a sustainable lifecycle (Kraus et al., 2022).	waste management laws (Wanaguru et al., 2022)
Laws for Building adaptability and lifecycle management	Promote building designs that enable easy adaptation, upgrading, or retrofitting, extending the lifecycle of materials and structures (Alhawari et al., 2021)	Enforce regulations that require building projects to include plans for future adaptability and specify recyclable materials in their designs (Gamage et al., 2024).)	Update building regulations to include requirements for adaptability and lifecycle planning, ensuring developers provide provisions for future reuse or repurposing of the structure (Weerakoon & Thayaparan, 2023)
Post-construction performance monitoring regulations	Establish regulations for continuously monitoring a building's environmental performance, including energy use, waste management, and recyclability (Velenturf et al,2019).	Require Building Performance Evaluation (BPE) reports linked to Green Building Certifications, with regular inspections to ensure compliance with CE practices (Ding et al., 2023; Saunders et al., 2024)	Mandate annual sustainability audits for buildings, focusing on material reuse, energy efficiency, and recycling, supported by frameworks such as the Sri Lanka Sustainable Development Act (Wijewickrama et al., 2021).
Repair and reuse framework	Create frameworks for repairing and reusing building materials and components, promoting maintenance, refurbishment, or adaptation over demolition (Ding et al., 2023; Saunders et al., 2024)	Amend the existing legislation to include repair and reuse guidelines for construction projects, mainly residential and commercial buildings (Wijewickrama et al., 2021).	Establish a repair and reuse code of practice with guidelines for building refurbishment, enforceable through building regulations (Gamage et al., 2024)

In summary, implementing CE practices within Sri Lanka's construction sector holds significant promise for reducing environmental impact, conserving resources, and aligning with global sustainability targets. However, legal reforms must go hand-in-hand with policy innovation and industry collaboration to realize this transformation.

4. CONCLUSIONS AND RECOMMENDATIONS

This study compares the legislation provisions for Circular Economy (CE) in the Construction Industry (CI) in Sri Lanka and the UK to improve the implementation of CE in CI in Sri Lanka. It specifically focuses on integrating the law for CE principles into construction strategies. The aim was to understand the legal framework governing CE implementation and to draw comparisons between Sri Lanka and the United Kingdom. The United Kingdom and Sri Lanka present contrasting approaches in embedding CE principles in line with English common law and their legal system. The UK has taken a proactive stance, enacting comprehensive legislation. In the UK, CE has become a guiding framework for sustainable construction practices, supported by legal and

regulatory mechanisms such as the Environment Act 2021, Building Regulations, and national CE strategies. These regulations aim to minimize construction and demolition waste, encourage the reuse of materials, and set clear guidelines for sustainable design and deconstruction. The UK's legal structure also fosters innovation in materials science, green procurement, and modular construction aligning with CE objectives. On the other hand, the Sri Lankan context reveals institutional and regulatory fragmentation. Environmental impact assessments (EIAs) are legally required for specific projects, but there is no comprehensive legal framework to enforce CE principles across all construction phases. This research underscores the critical role of law in enabling circularity for a proactive, structured, and collaborative approach to embedding CE principles within all phases of the construction lifecycle in Sri Lanka.

Introducing CE laws for construction authorities, regulatory bodies, and educational institutions is necessary to create a unified vision for circularity in construction. These practices are increasingly common in the UK due to strong policy incentives and industry standards. In Sri Lanka, some of these strategies are recognized in theory. However, their practical application is limited, primarily due to cost concerns, lack of technical knowledge, and insufficient legal support.

Sri Lanka is still nascent in adopting CE principles. Although the country faces growing environmental and resource-related challenges, existing construction practices remain linear. The review of Sri Lankan legislation, including the National Environmental Act and the Urban Development Authority Law, proved that a significant gap exists in legislation that directly supports or mandates CE aligned practices in the construction sector. The absence of explicit laws for material recovery, waste segregation, and lifecycle planning further restricts the practical implementation of CE strategies on Sri Lankan construction sites. The study recommends that Sri Lanka look to the UK for direct legal transplants and adaptable CE laws that respect local government and physical planning laws.

Therefore, this study contributes to reforming Sri Lankan laws and introducing CE-specific legal instruments. This could include the development of mandatory laws for material reuse, integrating laws for project approvals, tax laws and incentives for sustainable building practices, and enforcement mechanisms to ensure compliance. Best practices, such as sustainability certifications, circular building codes, and public procurement laws, can be localized through pilot programs, stakeholder consultations, and capacity-building workshops. Expanding legal education in CE and awareness campaigns could equip professionals with the knowledge and skills to apply CE laws effectively within the boundaries of the law. This study only included theoretical conclusions from the literature review; more research incorporating empirical data from interviews is proposed.

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