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COMPARATIVE ANALYSIS OF GLOBAL GREEN BUILDING RATING TOOLS: IMPLICATIONS FOR DEVELOPING A SRI LANKAN INDUSTRIAL FRAMEWORK

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Abstract: LEED, BREEAM, and CASBEE are not in application directly to these industrial stereotyped buildings in the developing countries, like Sri Lanka, due to the context difference they have from climate settings to economic and operational ones. Such buildings, which act as energy users and producers, are, therefore, required to be framed differently from that defined for commercial buildings. GREENSL has been developed by GBCSL (Green Building Council of Sri Lanka) and is the only significant rating tool for sustainability in Sri Lanka. It lacks, however, specificity and comprehensiveness for the industrial side. This study is a comparative analysis of LEED, BREEAM, CASBEE, and GREENSL in terms of what is covered in each related to industry-specific indicators, cost-effectiveness, and relevance to regional climate. This study proposes a tailor-made green building rating framework for Sri Lanka's industrial sector, taking into account local challenges and opportunities. The key findings crucially imply industry-specific indicators, better applicability to tropical climates, and cost-effective adaptation strategies. The framework is designed to bring together global best practices modified within the country to fulfill unique needs of the industrial sector in Sri Lanka. The framework will offer a resource for policymakers, industry practitioners, and sustainability advocates to advance green industrialism by bringing uniformity between sustainability aspirations and doable implementation.

This study contributes to sustainable development discourse by providing a model for developing country-specific green building standards. It underscores the importance of localized solutions for achieving environmental, economic, and social sustainability in industrial operations.

Keywords: Green Building Rating Tools, LEED, BREEAM, CASBEE, GREENSL, Industrial Buildings, Sustainability, Sri Lanka, Developing Countries, Regional Climate, Industry-Specific Indicators, Cost-Effectiveness, Tropical Climates.