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Sustainable Potential of Timber Industry in Sri Lanka: Stakeholders' Perspectives

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Abstract

Timber is a sustainable building material historically used in manmade structures. Overexploitation of timber resources disturbs the environmental sustainability. Stakeholders' role in meeting environmental performances of the timber industry is vital. This exploratory case study adopted a mixed-method design to assess the stakeholders' perspectives on the sustainable potential of the timber industry in Sri Lanka. Fifteen experts (i.e. four Ph.D. scholars from four public universities, an official from State Timber Corporation, two environmental non-government organizations, an official from Forest Department, a local timber vendor, a consumer, a chartered engineer from a private construction company, a timber grower, a timber importer, an official from Ceylon Chamber of Commerce and a representative of Construction Industry Development Authority) responded to an online semi-structured questionnaire based on the analytical hierarchy process (AHP). Respondents ranked three criteria (influence, interest and social acceptance), and four stakeholder categories at the sub-criteria level (i.e. Government Sector, Corporate Sector, Non-government Organizations and Consumer), in pairwise comparisons. Experts also opined on consumers' and suppliers' preferences for imported timber, locally sourced unused and reused-timber. Expert opinions were ranked according to AHP criteria weights. A stakeholder analysis was performed by using the influence-interest matrix. The unanimity of expert opinions was evaluated with Kendall's Coefficient of Concordance. The quantifiable gap between the theoretically optimum scenario for sustainability in the timber industry and the current scenario was used to mathematically define the timber sector's sustainable potential. A matrix was developed to quantify the overall sustainable potential. In the matrix, if the two scenarios were unequal according to the analysis, a score of zero was assigned, whereas a score of one was given for similarity. Finally, the number of dissimilar criteria divided by the total number of criteria yielded the sustainable potential. Experts also opined about the techno-economic feasibilities of theoretically optimum sustainable measures. Results show that social acceptance is the most vital criterion for sustainability, and consumers and suppliers opt for imported timber in the current scenario. Overall, the sustainable potential of timber industry was estimated to be 67%, which is significant. The outcome of the present study would benefit policymakers, stakeholders and consumers in informed-decision-making to promote sustainability in the timber sector in Sri Lanka.

Keywords: AHP, Stakeholder analysis, Greening potential, Wood