A Life Cycle Risk Management Framework for Green Building Project Stakeholders

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Video Script

The construction industry boosts the economy by generating jobs and improving infrastructure. It accounts for 10% of the global GDP and 7.3% employment in the European Union. However, construction projects disrupt local communities and have adverse environmental impacts. The United Nations estimates that buildings alone account for 36% of carbon dioxide emissions.

To mitigate these effects, it is necessary to reevaluate building design. This involves creating culturally sensitive structures using environmentally friendly construction materials, i.e., green buildings, and implementing efficient operational practices to minimize their ecological footprint.

While transitioning to green buildings promises substantial long-term benefits, it is not without risks due to uncertainties associated with building materials, construction techniques, and documentation requirements.

To address these challenges, a study published in the *Journal of Management in Engineering* has proposed a novel risk management model that identifies the risks associated with green building projects for stakeholders at all stages throughout the projects' life cycles. The framework evaluates the specified risks based on expert opinions through hybrid fuzzy multicriteria approaches and clarifies the role of each stakeholder in managing green building risks.

The study found that lack of experienced staff, limited availability and reliability of specialized subcontractors and suppliers, and inflation of prices for sustainable materials are the most significant risks that require attention and mitigation strategies.

Additionally, strong communication and collaboration among different stakeholders, such as consultants, contractors, suppliers, and subcontractors, can improve the outcome of the projects.

In effect, the present study is expected to pave the way for more effective and robust risk management frameworks.