

Quantifying level of sustainability in construction projects through Eco-labeling of materials

With the emerging era of sustainable development, the term “environmental friendly construction” becomes a major theme in construction industry. So that, there is a considerable need to have a measurement criteria for quantifying the level of environmental impact of a construction project.

This paper examines closely and objectively on all sustainable construction indicators. The study has identified ten key indicators out of which, the building materials and their environmental impacts are further analyzed to provide Eco-labeling Indices.

According to this analysis, it was clearly shown that clay bricks, clay-roofing tiles, stone and sand are the most e-friendly construction materials because of the simplicity of production process and scarcity of natural resources. This material index provides a good foundation to measure the level of sustainability achieved in construction projects.

Hence, this index can be recommended to be used in sustainable construction planning monitoring and analysis during the whole project life cycle. The format of the Bill of Quantities can be modified to incorporate this index to achieve the “Social cost” of a project against the traditional “Project Cost”. Finally, the government can use this as an important monitoring instrument to decide incentives for mitigation measures taken or quantify penalties for environmental damage caused during a construction project.