

(220)

**Alternative Timber Applications for Sri Lankan House Construction during the Economic Crisis**

**Dabare E.T.D.\*, Udawattha C.D.**

*Department of Estate Management and Valuation, University of Sri Jayewardenepura,  
Nugegoda, Sri Lanka*

*\*tharushidivyanjalee19@gmail.com*

**Abstract**

A crucial component of civilization, housing construction has evolved in a variety of ways based on new technology and materials. However, due to Sri Lanka's economic crisis, house building is now one of the most in-danger industries there. Subjectively, the cost of imported base building materials has grown due to the danger of inflation, and this increase is dependent on the US dollar exchange rate. The reason is that more than 50% of the building and raw materials are imported, and a rise in the US dollar value will raise the price of construction supplies. In order to find the best materials to reduce the cost of building a house based on imported materials, this study compares the life cycle quality of imported and local alternatives for imported materials made of timber. There are many various kinds of materials that have been utilized in house construction, but the focus of this study is on timber-based alternatives. The study is mainly focused on aluminum and glass as imported materials and timber as an alternative material. Based on life cycle cost analysis, these materials were compared using material costs and data gathered through interviews. Additionally, weighted analysis has been utilized to choose the optimum material based on consumer preferences, appearance and aesthetics, durability, and local availability of resources. Even though local materials are more affordable and score higher on other metrics, it was discovered that they may no longer be comparable to imported materials. People also rapidly switch back to imported materials when they are affordable after the economic crisis. It also found that local timber consumption increased during the economic crisis leading to deforestation.

**Keywords:** Alternative materials, Appearance, Durability of materials, Finishing materials, House construction, Life Cycle Cost Analysis, Timber