

## **Abstract**

The research has an objective of assessing the environmental impact of Hand Tuft Carpet using the life cycle assessment (LCA) approach. The scope of study covers the manufacturing process ranging from the dying process to finishing process. The tool used in performing LCA was SimaPro Software Version 7.1, and Eco-indicator 99. Based on the results of LCA, it was found that the process with the highest impact on environment was dying process, which was mainly caused by the use of wool yarn as the raw material.

To reduce the negative impact on environment, it was suggested that wool yarn should be replaced by cotton wool. After LCA was performed on the replacement, the findings revealed that cotton yarn showed less environment impact than wool yarn. That is to say that the effect of respiratory organics became lower by about 21%, the effect of respiratory inorganics became lower by about 13%, the effect of climate change became lower by about 21%, and the effect of Acidification/Eutrophication became lower by about 81%.