An AHP Based Methodology to Evaluate Social Life Cycle of an Apparel Manufacturing Plant

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Abstract

Social aspect plays a pivotal role in sustainable development. However, in the field of manufacturing there is a little attention has been paid to identify the socio-environmental impacts over the total life cycle of the products being manufactured. Further, there is a necessity of analyzing social life cycle especially in labour intensive industries. Moreover, as there are no well-defined approaches similar to Environmental Life Cycle Analysis (LCA) this methodology was developed limited to gate to gate phase of a manufacturing plant base on the guidelines specified by the UNEP guidelines for Social-LCA. The model expanded along the five main stakeholders; workers, consumers, local community, society and value chain actors. Sub-functions were identified along plant design, operation and administration. The model was validated through a study carried out in a medium scale apparel factory with different stratum of the different employee categories and diversities. Both qualitative and quantitative data were collected using interviewer administered questionnaire and observational guide. Conclusions were made using AHP method as the multi criteria decision making method. The results reveal that though this industry has fulfilled social responsibilities in to a minimum level, there are several areas to be improved. The majority of implementations are minimum requirements to be fulfilled under labour rules and factory ordinance. Further the results are optimistic in terms of worker satisfaction but a deeper investigation reveals that it is due to the lack of awareness of workers about labour rights.

Keywords (12 font)
Social life cycle, Apparel industry, Sustainability
Biography

M. I. Rashangani is a final year Production Engineering undergraduate at the Faculty of Engineering, University of Peradeniya.

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