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Life Cycle Assessment as Potential Tool to Gauge the Environmental Impact During Covid-19 Pandemic: Towards Better Waste Management

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Abstract

COVID-19 pandemic hit the world since December 2019 and by 31st December 2022 it has achieved 651,918,402 cumulative cases with 6,656,601 cumulative deaths around the globe. During the COVID-19 pandemic, the application of Life Cycle Analysis (LCA) in waste management has been crucial to minimize long-term risks to human and environmental health. Studies suggested that there has been an increase in domestic and biomedical wastes produced during the COVID-19 pandemic, putting additional pressure on waste management systems, especially to developing countries with lack of effective infrastructure. The COVID-19 pandemic has revealed vulnerabilities in waste management chains, which could hinder disease containment and increase environmental pollution. The pandemic has led to an abrupt collapse of waste management chains, thus the application of LCA in waste management is crucial to prevent long-term risks. Several studies recommended fast adaptation through strengthening policies related to infectious waste, such as protection for waste collection workers and the application of LCA in waste management to prevent long-term risks. Additionally, the World Health Organization has called for reforms surrounding the disposal of medical waste, recommending eco-friendly packaging and reusable PPE to reduce plastic waste. This chapter is exploring for the potential of LCA approach in determining the environmental impact of different elements in waste management practices during the COVID-19 pandemic.

Author Keywords

COVID-19 pandemic; Life cycle analysis; Waste management

Index Keywords

Waste utilization; COVID-19 pandemic, Effective infrastructures, Environmental health, Environmental pollutions, Life cycle analysis, Long-term risks, Management IS, Potential tool, Risk to human health, Waste management systems; Life cycle assessment

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