

## Personal Protective Equipment pollution driven by the Covid-19 pandemic at selected beaches in Colombo District

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The COVID-19 pandemic has severely induced significant changes in Personal Protective Equipment (PPE) usage with the potential for negative impacts on the environment and human health and it brought an extra burden to conventional solid waste management practices in coastal areas. This study was designed to assess the PPE abundance and distribution in Crow Island, Galle Face, Mount Lavinia, Wellawatte, and Moratuwa beaches in Colombo District during the Covid-19 pandemic from March to July 2022. The PPE such as surgical masks, KN95 masks, cloth masks, sanitizer bottles, and gloves were collected along the beach within 20 m of the intertidal zone on each beach in early mornings and late evenings before cleaning the beach. The data analysis was carried out using Microsoft Excel, Statistical Analysis System (SAS). One-way ANOVA was performed. The statistical analysis depicted that the abundance of the PPE items varied significantly 0.003 and significantly higher abundance of PPE was reported in Wellawatte. The mean PPE for all beaches is 129.2 per 20 m. The higher amount of PPE is reported 56.8 of mean  $\pm$  standard deviation and on lowest number of PPE were recorded in Galle Face beach giving the mean  $-74.2 \pm$  standard deviation. Considering the recommendation, necessity of ensure the proper awareness of safe management of COVID-19 waste according to the government regulations and should implement the actions immediately at all levels of society and individual responsibility is needed to control the improper disposal of used PPE. Yet, there should be a monitoring program on the residue levels of these impacts to solve in the specially to marine environments.

**Keywords:** beaches, Colombo District, Covid –19, personal protective equipment, surgical masks.

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