

## **Appraising Surface Water Pollution due to Personal Protective Equipment (PPE) during the COVID 19 Pandemic in Sri Lanka**

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The rapid spread of the COVID 19 virus made people wear personal protective equipment (PPE) to protect themselves during the pandemic. As a result, significant changes in PPE accumulation in water bodies were observed in Sri Lanka. Therefore, this study intended to explore the immediate impacts of COVID-19 safety processes on surface water bodies and water quality in Sri Lanka. An online cross-sectional survey was accompanied from the 1<sup>st</sup> of April to 1<sup>st</sup> of May 2021 using Google forms. The questionnaire with socio-demographics and surface water quality changes related questions were circulated over social media platforms. Purposive sampling was done and the analysis was done by descriptive statistics using Minitab software. A total of 466 respondents were included in the analysis (63.38% females). The majority of them was employed and resided in urbanized areas (66.67%). According to the findings of the study, 44% of respondents has been noticed water quality fluctuations and 50.32% of them mentioned that the water pollution was increased due to PPE during pandemic. The amount of PPE in water bodies increased more than usual as stated by 49% of respondents. The most polluted water source due to accumulation of PPE were rivers (27%), reservoirs (26%) culverts (26%) and streams (14%). The 79% of the respondents used face masks daily for their protection. Preventing PPE release to the environment has the potential of mitigating micro plastics and ecologically harmful substances into the aquatic bodies to evade the deterioration of the water quality. Overall, significant water pollution due to increase usage of PPE by general public ( $p < 0.001$ ) was observed and proper disposal methods should be implemented while making public community aware.

**Keywords:** COVID 19, Lockdown period, Environment, PPE, Water pollution