IMPACTS OF URBANIZATION ON SURFACE WATER QUALITY: A REVIEW

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Water pollution is a serious problem around the world. It threatens the health and wellbeing of humans, plants, and animals. Human activities pose a significant threat to the water quality of water bodies when pollution exceeds the threshold limit. With urbanization and industrialization, accidental and purposive waste dumping and uncontrolled use of water sources have contributed to the problem of water pollution in both surface and the ground water. Therefore, the main objective of this study was to critically review the published research findings related to the water quality of urban surface water bodies in Sri Lanka. This review showed that there had been a decreasing trend in water quality in surface water bodies. Several research studies pointed out a variety of concerns in Sri Lanka, including deterioration of water quality due to the addition of nutrients, toxic chemicals, etc. Declining of water quality has been reported in some rivers like Malwathu Oya, Kelani, Mahaweli, Nilwala, and urban canals such as Hamilton canal, Meda ela etc. Water quality in lakes and reservoirs can be considered as good, except for some urban lakes such as Nuwara wewa, Gregory lake, Kandy lake, etc. Quality of water in most of the surface waters is considered to be threatened by irrigation related watershed management, deforestation, crop cultivation, and untreated and insufficiently treated solid waste and domestic, urban, and industrial wastewater. According to this study, water-related problems in the country have been identified as eutrophication, faecal contamination, salination, siltation, and contamination with organic residues and trace metals. However, the magnitude of the water quality deterioration and the subsequent effects on the natural environment and human health are unknown to any degree of precision.

Keywords: Land use, Urbanization, Water quality