AN ASSESSMENT OF WATER QUALITY RELATED ISSUES IN POLGOLLA RESERVOIR, SRI LANKA

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Abstract: The Polgolla Reservoir, a vital water body in Sri Lanka, plays a significant role in regional water management by providing water for agriculture, drinking, and hydropower generation. This study aims to assess the current state of water quality in the Polgolla Reservoir by examining various physicochemical parameters including pH, turbidity, dissolved oxygen, nitrate, salinity, and BOD_5. Water samples were collected from multiple points within the reservoir and analyzed using standard methods. The findings indicate elevated levels of pollutants, particularly nitrate, primarily due to agricultural runoff and improper waste disposal. Additionally, heavy metal contamination was detected, raising concerns about long-term ecological impacts and human health risks. The study identifies potential sources of pollution and suggests mitigation strategies such as improved agricultural practices, wastewater treatment enhancements, and public awareness campaigns. This assessment underscores the urgent need for integrated water resource management to preserve the water quality of the Polgolla Reservoir and ensure its sustainable use for future generations

Keywords: Polgolla Reservoir, Water Quality, Mahaweli River