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Sustainable Water-Based Transportation in the Colombo Area

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Abstract

Water-based transportation in Sri Lanka has existed since ancient times, serving as an essential mode for trade and travel. During the early kingdoms, rulers constructed canals to transport goods and passengers between rural areas and major ports, supporting economic and cultural exchange. With the arrival of the British in the nineteenth century, transportation priorities shifted toward road and rail development, leading to the gradual decline of inland water transport. However, Colombo still possesses a valuable network of waterways, including Beira Lake, Hamilton Canal, and the Kelani River, which remain underutilized despite their potential. This study aims to assess the feasibility of introducing sustainable water-based transportation in the Colombo area as a modern solution to traffic congestion, pollution, and energy inefficiency. Particular attention is given to the Kelani River, which offers a direct corridor connecting eastern suburban areas to the city center, and the Hamilton canal, which provides potential feeder and eco-friendly transport routes linking northern urban areas. The research is based on literature review, field observations, and spatial analysis of existing canal systems to identify opportunities and challenges in implementing a passenger boat service. The findings highlight that revitalizing these waterways could significantly reduce urban traffic, enhance eco-tourism, and contribute to sustainable urban mobility. Nevertheless, barriers such as poor canal maintenance, waste accumulation, and lack of policy coordination need to be addressed. The study concludes that integrating water-based transport within Colombo's urban planning framework can promote environmental sustainability, economic efficiency, and cultural heritage preservation.

Keywords: *Water-based transport, Sustainable mobility, Colombo, Canal network, Eco-transport*