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**Mangrove Biodiversity Conservation and Aquaculture Practices in Sri Lanka: An Overview**

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**Abstract**

The tropical island of Sri Lanka is endowed with a diverse and resourceful coastal area of 1,700 km coastline and 152,000 ha of highly productive 82 lagoons and 93,075ha of 45 estuary ecosystems. Around 33% of the population in coastal areas is engaged in fishing as the main income source, which contributes to around 1.10% of the national GDP. The objective of the review was to provide an overview of the present status of Sri Lankan coastal aquaculture, mangrove coverage, and conservation status. Mangroves are ecologically and economically important ecosystems providing the best nursery grounds for both blackish and marine species, covering only 0.24% of Sri Lanka's total land area. In addition, as the most carbon-rich forests in the tropics, mangroves provide a wide range of ecosystem services and biodiversity conservation. Currently, Sri Lankan mangroves are estimated to cover 160 km<sup>2</sup> and are distributed mainly in Jaffna, Kalpitiya, Batticaloa, Rekawa, and Trincomalee. Including endangered species such as *Sonneratia apetala*, *Ceriops decandra*, and *Lumnitzera littorea*, there are 21 true mangrove species, and 24 mangrove associate species can be found. However, mangrove ecosystems in Sri Lanka are progressively under threat due to coastal aquaculture practices, especially shrimp farming and development projects. Human settlements, overexploitation, and climatic variables such as coastal flooding, drought, rainfall, salinity changes, increased sea level, and sea surface temperature have significantly influenced coastal aquaculture and substantially damage the mangroves resulting in loss of mangrove biodiversity. Between 1980 and 2005, approximately 25% of mangrove habitats are estimated to have been destroyed. Recently, 1,000-1,200 hectares of mangroves have been established in 23 wetlands in Sri Lanka becoming leader of the mangrove conservation in Commonwealth countries. In conclusion, it is imperative to apply international standards for mangrove-based aquacultural practices, mangrove rehabilitation, and technical and management interventions.

**Keywords:** Biodiversity, Coastal aquaculture, Coastal ecosystems, Mangroves