

Spatial Distribution and Interactions of Environment Components in Galle Coastal Region and its Inter-Relationship with Resource Users

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Majority of the resources in coastal areas are open access, thus they are being poorly monitored and managed. Main objective of this study was to comprehend the current status of coastal environment and its components in Galle district in order to predict possible future problems in this region. This study covered approximately 44 km along the coastal region from Ahangama to Hikkaduwa beach. General information and features of the coastal area, habitats, and resources were recorded on satellite maps according to a predetermined scale, furthermore, GPS locations of important features were taken. In addition to that species diversity, and their coverage within the area of interest were monitored. Major problems and issues of the area were addressed through direct observations and the information extracted from local resource users. Final detailed coastal environment map of the studied region was prepared using QGIS software. According to results, sandy beaches were dominated (1 201 341.06 m²) and only 132 787.82 m² area was covered by rocky beaches. Algae (*Dictyota*, *Padina*, *Halimeda opuntia*, *Sargassum*, *Valoniopsis pachynema*, *Ulva* etc.) and sea grass (*Thalassia*, *Syringodium* and *Cymodocea* etc.) beds were recorded in Ahangama, Thalpe, Mihiripena, Galle and Hikkaduwa. Highest biodiversity was observed in Ahangama region where one of major seagrass meadow of Southern coast is located. *Cocos nucifera*, *Ipomoea pescaprae*, *Pandanus* and *Scaevola* are the most common seashore vegetation types while *Barringtonia*, *Terminalia catappa* and *Thespesia populnea* were also recorded less abundantly. Effluent canals, boat landing sites and dumping sites were an abundant sight in the study area. Beach pollution and erosion of sandy beaches were quite remarkable. Water resource users in the region are presumed to be directly affected by the effluent canals and streams carrying heavily polluted water. Over exploitation of the natural resources and the un-availability of a certain party to be responsible to make amends for the deteriorating quality of the coastal environment fail to remedy the current issues. Hence, integrated coastal zone management is required for this region and responsible governmental bodies must be integrated to achieve the common goal of sustainable use of the coastal resources which ensures equality among different coastal communities to have their fair share protecting the coastal resources for future generations.

Keywords: Galle, Coastal area, Resources, Sustainable use, Pollution