

**GEO-ECOTOURISM POTENTIAL IN JAFFNA DISTRICT, SRI LANKA WITH
SPECIAL REFERENCE TO THE SAND DUNES**

Packiyanathan Rajkumar^{1*}, Sangarappillai Ravi² and Chaminda S. Wijesundara³

¹*Wetland Conservation Society, Jaffna, Sri Lanka*

²*Department of Geography, Faculty of Arts, University of Jaffna, Sri Lanka*

³*Department of Zoology, Faculty of Science, University of Peradeniya, Sri Lanka*

**vpkuma82@gmail.com*

The northeastern part of the Jaffna District in Sri Lanka has large extents of sandy areas, the major parts of which are sand dunes, present from Manatkadu to Chundikulam. These hold high potential for the promotion of ecotourism. Previous studies leading to understanding the status of sand dunes as resources in the Northern Province are limited. The objective of the present study was to evaluate the geo-ecotourism potential mostly based on sand dunes using the Multi-Criteria Decision Method (MCDM) as a tool in Geographic Information System (GIS). The potential analysis was carried out based on studies undertaken from 2013 to 2018, covering the sand dunes sites in the northeastern part of the Jaffna peninsula. Tourist preferences were identified through a questionnaire survey, and distances were calculated using GIS techniques. For suitability analysis, MCDM and criteria ranking method of GIS were used. The evaluation process for sites was conducted based on six criteria, viz. height and distribution of sand dunes, tourist preferences, proximity to residential areas, proximity to accommodation, distance from main roads, and scenic beauty based on expert opinion. The ranking levels were applied within the criterion and between the criteria. Suitability maps for sand dunes were produced through overlaying of thematic maps of criterion. According to multi-criteria analysis, among the 12 major sand dunes areas, six areas such as Vallipuram, Manatkadu, Kudaththanai, Ampan, Nagarkovil East and Chundikulam were of high potential based on their height and distributions (final output value 2.94). Nagar Kovil South represents a moderate potential (output value 2.60) and the rest of the five places were of low potential (2.15). Sand dunes of the study areas are associated with natural vegetation, and they are considered natural scenic beauty and heritage. These resources are being subjected to sand mining for construction activities, which negatively affects the protection they provide from natural disasters such as tsunamis, cyclones, sea waves, and high tides. Environmental conservation activities should be implemented through strict law enforcement, public awareness, and stakeholders' contributions based on an inclusive approach to creating a sustainable, resilient community.

Keywords: Geo-ecotourism, Jaffna Peninsula, Multi-criteria analysis, Sand dunes, Sand mining