

### Abstract

The immense pressure of the mass tourism in the sensitive coastal region can damage the environment and ecosystems. To protect the coastal resources and to control the inflow of the tourists in the destination sites there is need an alternative form of tourism. In this present work the study reveals a qualitative and quantitative research in the coastal region by ecotourism practices in a sustainable manner with the help of geospatial techniques. The study assessing the potentialities, Beach Quality index, Tourism Climate Index, SWOT and Sustainability of the each destination sites after the monitoring field survey, literature review and remote sensing data uses on temporal basis. The results shows that GIS data base management of several indicators can identify the problems and further improve the destinations. The assessment of the potentialities of the each tourism destination sites reveals that some destinations have the high potentiality to develop the ecotourism infrastructure and some have the moderate to low potentialities in the region to develop the ecotourism infrastructure. The assessment of the Beach Quality Index in the destination sites analysis the beach quality on the basis of Environmental Quality and Human Welfare and Health. The assessment is again consider the four (4) sub factor of Environmental Quality and remaining four (4) sub factor of Human Welfare and Health in the present study. The results shows that the Environmental Quality and Human Welfare and Health are excellent in some places but some destinations are need some management strategies to conserve the natural habitats and the coastal ecosystems. The estimation of the Tourism Climate Index in the coastal destinations also shows that the November, December, January and February are the favourable month for the tourist's recreational activities. The month of May to July is acceptable weather condition for the tourists to playing recreational activities in the coastal region. The assessment of the SWOT analysis shows that the strengths, weaknesses, opportunities and threats of the each destination sites. The results also analysis the main hindrance of the each destination and develop the opportunities for promote the tourism industry. Finally assessment the sustainability of the each destination sites by using the sustainable indicators and allow the stakeholders and the other authority to practice the environment friendly ecotourism under the strict coastal regulations of the region. The present study also suggests some recommendation approach for further develop the ecotourism infrastructure and continuation of tourism process in a restricted manner in the sensitive fringed region.

**Keywords:** *Ecotourism, Geospatial Techniques, BQI, TCI, SWOT, Sustainable Management.*