

BIODIVERSITY MODELLING AND ANALYSIS ON THE SHORELINES OF SHANKHODHAR ISLAND (PART OF MARINE NATIONAL PARK), WITH SPECIAL EMPHASIS ON "CRABS"

Jagriti Dabas and Aalap Dixit

TERI University, Vasant Kunj 10, New Delhi.

Abstract

Shankhodhar island is a small marine island under MARINE NATIONAL PARK, Gulf of Kutch, Gujarat. This island is famous for its RICHNESS in BIODIVERSITY and tourism attraction. Marine life is very diverse around this island and is therefore a great resource for food, medicine and supporting tourism on a great extent. The study has been conducted of two shorelines of the Shankhodhar island and both spatial and non-spatial data were collected, mainly of fauna of some diverse species, mainly CRABS. 48 species of crabs were found on two shorelines, out of which 6 were found to be common. This strict habitat preference makes this group an ideal candidate to be used for long term ecosystem monitoring. GIS is a very powerful and effective way for expressing a large variety of information. This study would be undertaken by using ESRI GIS software i.e. ArcGIS, and will cover 4 aspects of this island:

- DATA CAPTURE
- DATA MANAGEMENT
- SPATIAL ANALYSIS
- RESULTS PRESENTATION

Species diversity and richness of the two shorelines of Shankhodhar island can be mapped and modelled by employing the spatial and non-spatial data collected. A density map showing different species of animals will be produced using ArcGIS. After mapping is done, this map can be considered as a baseline thematic map for all monitoring and further mapping activities forming the biodiversity database, so that it is helpful for additional analysis depending on priority set by the local government. It needs to be pointed out that even after the formation of Marine National Park in Gulf of Kutch, there has been a lot of management problems due to anthropogenic activities and that is why in December 2013, for the first time, a health card of the MNP will be presented. Mapping of the species database of two shorelines of Shankhodhar island will be of great use to target surveys and monitoring schemes of MNP. Therefore, using GIS techniques, we will be able to transform and give resonance to the database of Shankhodhar island and such a system would surely help in sustainable management of natural resources.