

ID: W2737005468

TITLE: Mangrove Degradation in the Sundarbans

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ABSTRACT:

Mangroves are most opportunistic plant to find out the favorable environment for adjustment with changing natural conditions of the coastal processes over time and space. The salt loving halophytic plants of intertidal environment are also known as a perfect biological indicator of coastal environmental changes. They act as natural buffer or bio-shield against the wind breaks, tidal waves and coastal erosion. Surface stability of younger deltaic sediments is achieved in the Sundarban coast due to the location and luxuriant growth of mangroves. Presently, Sundarban mangroves are affected by multiple ways of degradations that will produce the significant risks or vulnerabilities to the deltaic coasts occupied by land hungry people of South-Asia. The present study reveals with an attempt to prepare a checklist for the assessment of mangrove degradations with special reference to south west Sundarban coast. The significance of mangrove conservation will be strongly supported by such degradation check lists for the coastal managers. The present work is conducted by extensive field works over a prolonged period, use of professional experiences of the authors, and application of Geospatial Techniques for database generation and management to achieve the purposes. However, factor analysis (PCA) method is also utilized to justify the ideal sequential factors those are responsible for mangrove degradations for each study area of the islands as per their regional location characters. So far as, seven major factors and their total 56 sub-factors of mangrove degradations have been identified in southwestern parts of the Sundarban from the temporal field observations, remote sensing studies and explored historical documents in the study areas. From the present study it is revealed that hypersalinity, storm effects and sediment deposition parameters are mainly responsible for mangrove degradations in Patibania Island (Susnir Char); and for the Fredrick Island fishery development, land erosion and hypersalinity parameters are liable to mangrove degradations; and finally, fishery development, sediment deposition and land erosion parameters are sequentially responsible for mangrove degradations in Henry's Island.

SOURCE: Coastal research library

PDF URL: None

CITED BY COUNT: 21

PUBLICATION YEAR: 2017

TYPE: book-chapter

CONCEPTS: ['Mangrove', 'Intertidal zone', 'Geography', 'Environmental science', 'Coastal erosion', 'Natural (archaeology)', 'Checklist', 'Environmental protection', 'Ecology', 'Fishery', 'Shore', 'Geology', 'Biology', 'Paleontology', 'Archaeology']