(81)

The Importance of Marine Spatial Planning for Marine Resources Management in the Gulf of Mannar, Sri Lanka

Wijesundara A.*

National Aquatic Resources Research and Development Agency, Sri Lanka
**wpanu12@gmail.com*

Abstract

Management of marine resource is necessary for the wellbeing of coastal communities and the components of marine eco system. Marine Spatial Planning (MSP) is the process of interaction of human activities in marine areas for achieving ecological, economic and social objects for long-term sustainable developments. This study is focused for implementing MSP as a conservation and resources management tool in Gulf of Mannar area with adequate consideration of the existing healthy, productive and resilient marine ecosystem. Gulf of Mannar is the first biosphere reserve in the South and South East Asian region and ecological sensitive area which repository more than 3,600 species of animals and plants. Further, it's known as the one of the most biological diverse coastal environment enriched with productive habitats such as coral reefs, sea grass beds, mangroves, estuaries, sandy beaches and endangered species. This coastal zone is already designated for the large number of human activities such as oil and gas exploration, fishing and aquaculture, shipping, tourism, renewable energy production and the scientific research. The marine environment of this region is highly affected by these human activities in terms of demands for the use of the resources for producing goods and services. These increased development pressures on the marine environment and the potential is arising the multiple use conflicts. Therefore, MSP is a solution for avoiding the pitfalls and overcome these shortcomings. Ocean zoning is utilised as an effective tool of MSP in this study area. Zoning maps were prepared initially and then integrated all available information of human activities and the natural habitats in ArcGIS environment. The final results shows that most of the landing sites are available on the dugong conservation areas and fish trawling activities running closed to the Vankalai coastal wetland which is consists of several ecosystem of scrubland, grassland, sand dunes, mangroves, salt marshes, lagoons, tidal flats, sea-grass beds and shallow marine areas. The study area is supporting high ecosystem and species diversity and identified as the best suitable location in Sri Lanka for implementing MSP where oil and gas exploration and fishing activities are running in this highly productive area. The guidelines of IOC-UNESCO on MSP can be applied for achieving eco-system based management to have significant economic, social and environmental benefits of this region. That will provide the framework for sustainable use of marine ecosystem and sustaining the livelihoods of fisheries dependent communities in this area.

Keywords: Marine spatial planning, Ocean zoning, Natural habitats, Ecosystem, Marine environment