O Quader Z Islam et al., J Marine Sci Res Dev 2014, 4:3
http://dx.doi.org/10.4172/2155-9910.S1.008

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference on
Oceanography
July 21-23, 2014 Hampton Inn Tropicana, Las Vegas, USA

Suitable site selection of shrimp farming in the coastal areas of Bangladesh using remote sensing techniques (4 S Model)

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A study has been done on the Coastal Zone Development and Fishery Environment Analysis using Remote Sensing Techniques in Bangladesh under a TCDC programme. It is funded by UN/ESCAP. SPARRSO and Space Application Center (SAC) Ahmadabad of Indian Space Research Organization (ISRO) has completed the study successfully. The aim of this project was to develop space technology based suitable methodology using remote sensing and GIS for coastal zone development and fisheries environment analysis in Bangladesh. Two sites in Bangladesh were selected for the pilot study, viz. Cox's Bazar and Khulna-Satkhira. In the study various types of data have been used. It includes different satellite data, thematic maps, field-measured data and other relevant published information etc. Detailed and updated land-use maps have been generated for the two study sites. The whole work has been performed in six major parts: I) Construction of GIS based fisheries environmental database (GISFED). II) Selection, adaptation and test of GIS based Suitable Shrimp Farming Site Selection Model (shortly 4s model) III) Practical Implementation of 4s model IV) Application of shrimp suitability model and analysis of model generated output. V) Socioeconomic characterization of the study sites and analysis of the trend of shrimp culture development. VI) Analysis of environmental impacts of shrimp culture expansion and risk due to climatic events. VII) The result from the application of the model was comprehensive for some specific recommendations regarding the present state of the shrimp farming, as well as its future extension. Using this model it is found that, Khulna- Satkhira area are more suitable than Cox's Bazar area for shrimp farming. Fishery resources have been successfully analyzed in the two study areas using GIS modeling of suitable site selection for shrimp farming. Tropical countries can use this model for allocating suitable site for shrimp farming by their Government for allocating shrimp farms in the coastal areas. This project report has been highly appreciated by ESCAP and ISRO India.

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