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خلاصه مقاله:

This study was carried out to evaluate natural resources of some Indus creeks using geospatial technologies. The first phase of the study was a detailed monthly water quality and fish stock survey for one year along with associated environmental observations, which was analysed via Landsat ۸ imagery for ۲۰۱۴. In the second phase of the study, appropriate indicators were selected in weighted overlay on ArcGIS platform to perform creek productivity analysis. For this purpose, ۱۳ creeks of Indus delta were selected for detailed analysis. These creeks were chosen using GIS techniques based on accessibility, depth and size. Results obtained from a total number of ۶۵,۰۸۵ fish catch from ۲۵۲ identified fisheries important species in which ۱۳۴ species were estuarine, ۱۰۷ species marine and ۱۱ species belonged to freshwater. Out of these, six species of Penaeus indicus, Pennahia anea, Stolephorus indicus, Escualosa thoracata, Charybdis sp. and Acanthopagrus arabicus were selected for spatial distribution analysis. It is observed that creeks of west of Jhang River known as Issaro, Waddi Khuddi, Patiani, Mal, Dabbo, Chann, Richhal had higher fish abundance and species richness than those of eastern creeks. The important fisheries species showed strong correlation with mangroves, salinity and temperatures. This study indicated that all parameters were strongly dependent on anthropogenic interventions at the study area and these activities seriously affected fish catch and growth of species mainly because of recent environmental changes. It has been revealed from the creek productivity analysis that the study area is still highly productive and intact as an ecological unit.

کلمات کلیدی:

Geoinformatics, Fish stock, Weighted overlay, Creek productivity, Anthropogenic activities

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