AII 05 Potential fishing grounds of Yellow fin tuna and Skipjack tuna around Sri Lanka according to remote sensing, GIS and Fishery data

Madhubhashini E.T.S.,[1] Alahakoon N.,[1] Yapa K.K.A.S.,[2] Kumara P.B.T.P.[1]

[1]*Department of Oceanography and Marine Geology, Faculty of Fisheries and Marine Sciences & Technology,* [2]*Department of Physics, Faculty of Science*

Fishery data and Aqua/MODIS satellite data in 2006 and all available LANDSAT data were used in this study to describe fishing grounds and the Sea Surface Temperature (SST) and chlorophyll-a concentrations that motivate fish aggregations for several oceanic species in Sri Lankan waters. The dominant species in Sri Lankan waters that deal with food fishery are Yellow fin tuna and Skipjack tuna. Since the behavior of Yellow fin tuna may change conspicuously with their age they were categorized in to Yellow fin tuna (large) and (small). Complementary study was done using LANDSAT images. To assign the SST and Chlorophyll-a values to LANDSAT images samples were taken from deeper and shallow water regions and chlorophyll-a in samples were measured by UV-Spectrophotometer method. The waters around the island were divided into four regions and remotely sensed oceanographic parameters such as chlorophyll-a and SST were studied against available gill net and long line fishery data within Sri Lanka Exclusive Economic Zone of the species above in the south west monsoon period. Results of (Empirical Cumulative Distribution Frequency Analysis) ECDF analysis done with Aqua/MODIS data indicated that the high CPUEs of the Skipjack tuna can be found in places with chlorophyll-concentration 0.1–0.8mgm^{-3}. Furthermore the Yellow fin tuna (large) can be found in the places with 21–30^{0}C SST. According to Aqua/MODIS and LANDSAT data both there is a significant association between SST and chlorophyll-a concentration in water. So SST can be used as an indicator to predict the places to predict potential fishing grounds through growth of phytoplankton. According to the mean CPUE values of studied fish species Yellow fin tuna is found to be high in September and CPUE of Skipjack is high in December in North Western ocean area.

Keywords: SST, Chlorophyll-a, remote sensing, GIS, fishing grounds

managers' decision to disclose CER. Among them, the managerial perception and shareholders information demand were highly influential factors to the decision to disclose CER within annual reports.

Keywords: corporate environmental reporting (CER), sustainability, environment, annual reports, listed companies