catastrophic and attributed to conventional boats can be reduced through the use of solar energy. Thus, the results of the trials showed that solar boat with electric motors which reduce carbon emission and noise during operation, can replace the conventional smaller boats powered with outboard motors (OBM). Since it is free from fossil fuel and noise, the boat is non-polluting and ideal for aqua farms for feeding and transportation purposes.

FS PO 13

Structural and operational changes in the mechanized fishing sector of Andhra Pradesh and their long term implications on fishery resources

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Marine fisheries sector in India has witnessed a phenomenal growth during the last five decades both quantitatively and qualitatively. The development of fish harvest technology has been in the areas of craft technology and mechanization, introduction of synthetic gear material, acoustic fish detection and provisions for on board fish preservation. Along the east coast, most of the trawlers were restricted to demersal trawling for shrimps. However, with dwindling resources coupled with increasing fuel costs, dynamic changes have taken place in the fishing craft, gear and operation. The mechanized fleet has diversified by shifting the target from shrimp to finfishes and long lining. The power of the engines increased drastically over the years. With the increasing market demand for tuna, hybrid fishing practice of trawling and long lining

during lean fishing season is now in vogue. The paper details the structural and operational changes that have taken place over the decade along the Andhra coast. The transformation of production and patterns of fisheries sector and its impact on the fisheries resources and on the long term economic growth are also addressed. Management measures to be adopted to improve employment generation and nutritional security are suggested.

FS PO 14

Hyper spectral optical discrimination of phytoplankton community structure in coastal waters, south eastern Arabian sea

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The ability of hyper spectral optical measurements to discriminate changes in the composition of phytoplankton communities in coastal waters is well studied. The performance of spectral fourth-derivative analysis and clustering techniques to differentiate four different algal blooms is done. Phytoplankton absorption coefficient, aph(λ), and remote-sensing reflectance, Rrs(λ) are used in the analysis. Samples were collected on monthly basis from coastal waters off Kochi. Similarity index was applied to measured spectra of aph(λ) and Rrs(λ). Similarities between abundance-based and optically-based classifications were better for the optical data of Rrs(λ) than aph(λ). This analysis showed that, hyperspectral Rrs(λ) can be used as a potentially suitable input data for the differentiation of phytoplankton taxonomic groups. These results suggest