

study suggests banning of entangling type of crab gillnets and motivating the fishers to take up serial collapsible crab trap as an alternative for crab gillnet along the Gulf of Mannar coast.

### FS PO 32

#### **Comparative assessment of fishing related debris in selected high and low fishing intensity beaches of Kerala coast**

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**M**arine debris, a sizeable contributor of marine pollutants, is being widely recognized as a global concern due to its adverse impacts on environment and economy. Many studies have been conducted to quantify debris on the beaches including beaches of Kerala coast. The aim of the present study was to assess the contribution of fishing industry in the marine debris. This preliminary study involved collecting, sorting and quantifying various debris in high and low fishing intensity beaches in north, central and south Kerala. The beach litter survey was conducted between April 2017 and May 2017, in six beaches (Malipuram & Kuzhipilly in Central Kerala, Thanur & Kappad in North Kerala, Vizhinjam & Eravipuram in South Kerala) along the waterline as prescribed by the NOAA Marine Debris Program. Of these six beaches, in Malipuram, Thanur and Vizhinjam, fishing activity is high while in Kuzhipilly, Kappad and Eravipuram beaches, fishing activity is low. The incidence of total marine debris, plastic

debris and fishing related debris in both types of beaches was compared. Major fishing related debris encountered were netting, rope, float, bouy, thermocol and fishing line. The results indicated that there was considerable abundance of fishing related debris in beaches where more fishing crafts are operated compared to the beaches where less number of fishing crafts operated. On an average the weight of fishing related debris in the high fishing intensity beaches was about  $34 \pm 16$  kg /100 m while that of low fishing intensity beaches was  $5 \pm 3$  kg/100 m. Similarly, the average number of fishing related debris in the high fishing intensity beaches came to about  $668 \pm 375$  items/100 m while that of low fishing intensity beaches was  $256 \pm 214$  items/100 m. These results reinforce the view that fishing industry contributes a considerable share in marine debris problem. Monitoring more areas for considerably longer duration is to be undertaken for accurate quantification of available debris and to design possible ways to reduce contribution of fishing industry to marine debris.

### FS PO 33

#### **Comparison of pair trawling and otter trawling: A preliminary study along the southwest coast of India**

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**T**hough operation of pair trawling is banned, it is operated along the Karnataka coast from August to November.

There are no published reports on the specifications of the gear or the modifications that have undergone over the past few years in the region. A comparative analysis of the characteristics of the pair trawls and mid-water finfish otter trawls operated along Karnataka coast was carried out. The catch details during a fishing season were collected from both types of trawls. The data pertaining to the gear specifications were collected from the gear fabrication units in Mangalore and Malpe. The length of the head rope (HR) of the pair trawl measured in 2017 was 270m, and the HR of finfish otter trawl was 51m. A 36% increase in the size of the head rope was noticed in case of pair trawls from the year 2015 to 2017. The mouth opening of the pair trawls was between 2.9–4.06 times higher compared to the mid-water finfish otter trawls operating in the region. The trawlers operating along the Karnataka coast undertook both pair trawling as well as otter trawling during the same cruise based on various factors. The catch was significantly higher in the pair trawls compared to the finfish trawls. Hence, the average CPUE worked out to be much higher in pair trawling, which is more than the sum of two individual finfish trawls. The average drag offered by the pair trawls was calculated as 6.74 tonnes at a speed of 3.0 knots, while, it was only 2.28 tonnes for finfish trawls at the same speed. The information collected from the fishermen reveal that the fuel consumption is very high for a pair trawling unit, which may negate some of the profits, but still the overall profit of the unit is high during pair trawling. This entices the fishers to clandestinely undertake pair trawling. Capping of engine power, regulation on the gear size & operation and enforcement of legal mesh sizes should be made obligatory by strict Monitoring, Control and Surveillance mechanisms.