homemade electro-fishers, poisons and chemicals. The river Shei is possessed by multiple-ownership and each owner is allotted a certain stretch of the river for fishing and usage. The river is protected by a local biodiversity conservation society GUMIN RvGO KwLAJU (GRK) by restricting Lipums as the only means of fishing. The Lipums are operated during winter season from November to February, whence the water level recedes below 1 m depth, flow is relatively less with slower fish movement and feeding preferences. Fish harvesting from the structure is done by two indigenous bamboo made devices, the circular shaped Eechir to encircle the Lipums and funnel shaped trap Kabulu or Odur measuring 0.7-1.0 m in length and 0.08-0.20 m girth diameter for retrieving the fishes alive and intact. The relative abundance of aggregated fishes was higher with those having inferior or adhesive mouth viz., *Garra* spp., *Pterocryptis indicus*, *Schizothorax* spp., *Channa* spp. and prawns and sporadically *Neolissochilus stracheyi* and lesser barils, yielding an average catch of 2.5-12.0 kg per Lipum. The river at Lipum sites remained clear and transparent and most of the essential water quality parameters were within the optimum level concluding a good health of the water body conducive for the fish abundance and diversity. Overall, the use of Lipums is an ancient tradition and is a sustainable way of harvesting riverine resources without damaging the river habitat. Therefore, preserving and promoting this sustainable method of indigenous fishing practice is crucial for the protection of the biologically productive and environmentally unique water mass of the mountain ecosystems of eastern Himalayas.

FS OR 07

Catch retention and exclusion characteristics of 40 mm square mesh codend in trawls operated in Bay of Bengal

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Selectivity of trawl net is very poor, due to which, large quantity of fish are discarded. The discards often consist of juveniles of commercially important species, which may impact on the production of many of the commercial species. Diamond mesh codends are extensively being used in the Indian trawl industry. The shape of the mesh affects the selectivity of cod the codend. The mesh lumen of diamond mesh closes up under tension during towing operation and prevents escapement of fish. In the square mesh codends, the mesh remains open facilitating escapement of juveniles and small fishes. Knowledge on selectivity of codend mesh size for the commercially important species, in a given fishing area, is of great significance in determining the judicious exploitation of fish stocks. This study was undertaken to assess the fish retention and exclusion characteristics of trawls attached with 40 mm square mesh codend operated in Bay of Bengal. Square mesh codends of 40 mm were fabricated with 1.0 mm diameter polyethylene (PE) netting. Experiments were carried out onboard fishing research vessel CIFTECH-I (15.5 m L_{OA}; 122 hp engine) in commercial fishing grounds off Visakhapatnam coast (17°40'-17° 42 lat.; 83°21'-83°30 long.), between 40 and 50 m depth. A 26 m multi-seam demersal trawl fitted with experimental square mesh codend

was used and overall performance of the codend during the experimental tows was evaluated. Among the fishes caught, 81.4% was retained in the trawl codend while 18.2% was excluded. When the overall catch was considered, 17.8% excluded while 82.2% was retained. Characteristics of the species retained and escaped from 40 mm square mesh codend are detailed in the paper.

FS OR 08

Status of long line fishery off Visakhapatnam coast, Andhra Pradesh, India

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This study aims to document the long line resources and the variation in gear used for long line fishing off the Visakhapatnam coast. The study was conducted among a sample of 193 long line units and 19 commercial fishing voyages involved in long line fishing of Visakhapatnam and Kakinada fishing harbours. Field survey method was adopted for data collection. Based on species landed, the catch was grouped into five categories viz., yellow fin tuna (*Thunnus albacares*), skipjack tuna (*Katsuwonus pelamis*), sharks (*Carcharhinus* sp.), Marlin (*Makaira indica*) and sword fish (*Xiphias gladius*). Yellow fin tuna dominated the catch contributing to 46.5% of the total catch. Marlins dominated the catches among species other than tuna by sharing 43.7% of the total catch, followed by sharks (32.5 %). Skipjack tuna contributed about 14.3% and Sword fish about 9.52% of the total catch. The details about the species landed with their hooking rates and the gear used are described.

FS OR 09

Design and operation of shrimp trammel nets from Inigo Nagar of Thoothukudi, southeast coast of India

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Trammel nets are being operated for capturing coastal shrimps using FRP *vallams* by the fishers of Inigo Nagar of Thoothukudi (Lat 8°78'E; Long 78° 16'N). This paper deals with technical specifications and operational details of trammel nets of Thoothukudi. The nets were made up of polyamide (nylon) multifilament webbing. The outer panels of trammel net had a mesh size of 265 mm while the inner mesh size varied from 36 to 42 mm. Each net unit had 3,000 inner meshes in length and 65 meshes in depth. The hanging coefficient of inner webbing at head rope was 0.32 and at foot rope was 0.34. The outer webbing had the hanging coefficient of 0.64 to facilitate easy access to the meshes of middle layer. Polypropylene rope of 3 mm diameter was used as head rope (single) and foot rope (double). Plastic floats of 50x30 mm and spindle shaped lead sinker of 20 g were used. FRP *vallams* fitted with 10 hp Lambadi outboard engines were used for operation of this gear in fishing grounds at depth ranging from 3 to 12 m. The fishers set this net before sunrise and haul after a soaking time of 3 h. The nets targeted shrimp and the peak fishing season was from June to August. The major species constituting the