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Advantages of Large Mesh in Midwater Trawl

Midwater trawling as an effective fishing gear system has taken great strides since the introduction of acoustic methods to track down shoaling fishes and adjust nets to effectively catch them. Net shape, nature and thickness of materials used and towing speed influence gear efficiency in this type of trawling and it is imperative to take into consideration the knowledge of available species of fish, conditions at sea, size of vessel and towing power available.

Many attempts have been made to formulate and improve midwater trawling system in Indian waters This fishing method is gaining importance as a viable alternate that can be adopted on a commercial scale. For catching pelagic fish, the efficiency of trawl can be expressed as the product of towing speed, wing distance and opening height If the mesh size in the mouth of the trawl design selected is not considered quite right, the mesh size and twine diameter can be increased pro-rata to make a stronger net. The drag of the net is highly dependent on the size of the mesh, particularly in the frontal area. Larger than standard mesh size selected for the fore-part of the trawl experimented in studies conducted at the CIFT was intended to assess the concept that a 'bigger mesh size in the forward parts of the trawl can be used for fish which school as distinct from those which merely aggregate'. In the present case, the mesh size around the mouth

of the trawl was increased to 14.0 cm (50 per cent more than the control net). The attempt is to study the effect of large meshes around the mouth area which is considered advantageous in midwater trawling.

A reduction in the average tension offered by the large mesh net was observed, and this indicated that the mesh size is a decisive factor in the total drag offered by the gear system. An increase of 29.6 per cent in the case of quality fish and 17.61 percent of total catch resulted in the comparative evaluation in favour of large mesh net Optimum increase of mesh size in the mouth area can achieve a greater area in the region. It can also increase the rate of filtration which would mean that fish in the mouth area would have to swim faster to escape, thus increasing the catching potential of this type of gear. The reduction in net drag obtained by way of using large meshes enables trawlers to use larger nets for the same amount of power, thereby increasing their efficiency. It is also advantageous that the increase in percentage of trash fish caught in large mesh trawl is only 2.07 whereas it is 29.6 in the case of quality fish. Large mesh trawl landed significantly high catch of quality fish.

It can be categorically stated that the large meshes around the mouth of a midwater trawl can effectively reduce the resistance while the gear is in tow and have a herding effect which will guide fish into the trawl. With lower resistance, vessels can tow a larger trawl and subsequently catch more fish or reduce the amount of fuel consumed.

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