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Fishing Methods of Gulf of Mannar

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In order to present recent information regarding the fishing method of Gulf of Mannar, this article has been written. Different types of crafts and gears have been described. Recently motorisation of indigenous craft has been introduced. Most of the nets have been fabricated by synthetic or nylon threads. Informations regarding the size of the craft, material used for the construction of boat, horse power and the trade mark of diesel engine, length, width and mesh size of the net are presented. Fin fishes and shellfishes which are caught in this region are also given.

Crafts in operation

Plank built mechanical vessels named IB and STB are operated in the zones-13, 13A and B and 14, which are situated in the Gulf of Mannar. There is no change in the size of boat or the material, which is used for the construction of boats from the period of introduction of mechanised vessels to this region. Wooden frames and planks are used for the construction of the vessels. The length of the STB boat is 10.8 to 12.6 metres and width is 3.5 to 4.5 metres. Most of this type of vessels are fitted with Ashok Leyland diesel engines with a HP of 88 to 108. These boats are operated at a distance of 10 to 30 km from the shore. The depth of operation is 14 to 36 metres. Required manpower for the operation of this vessel is 5 to 6 persons. The other one is called IB boat. The material used for the construction is wooden frames and planks. Generally the length of the boat is 0.92 to 12.0 metres with a width of 3.5 to 4.5 metres. Here also Ashok Leyland diesel engine with a horse power of 50 to 120 is fitted in the vessel. Required man power is 5 to 6 persons.

Depth and distance of operation are 14 to 36 metres and 10 to 30 km respectively. There is no change in the size and in the constructing material.

Mechanised plank built country craft

These are plank built country crafts previously used without engine. Nowadays these crafts are fitted with in-built Kirloskar diesel engines with horse power of 12 to 18. The length of the boat locally called vallam/Tuticorin type of vallam is 28 to 32 feet. The boat is made of wooden frames and planks. There is no change in the size or in the length. But only introduction is the fitting of in-built diesel engine. Manpower is 5 to 8 persons.

Plank built country craft (Vathai)

These are made of wooden frames and planks without in-built diesel engines. Length of the boat is 18 to 25 feet. This is the traditional type, which is operated for a long time. There is no change in the length and in the size. Required man power is 1 to 6 persons. These boats are locally called vathai or vallam.

Plank built boat for the operation of shore seine (Thoni)

These are constructed by the use of wooden frames and planks. Length of the boat is 30 to 36 feet. Man power is 25 to 30 persons. There is no change in the size and in the length over the years.

Kattamaran

Locally called Kattumaram is made of 3 to 4 number of wooden logs tied together to form an unit.

Required man power is 3 to 5. Lengths of each piece of wooden log is 12 to 30 feet. This is also traditional one, which is used for over the years.

Gears in operation

Trawl net

These nets are made of nylon threads or synthetic fibre. The length of the net is 16 to 21 metres. The mesh size in the cod end is 15 to 20 mm. The weight of the otter board is 38 to 55 kg. These are operated generally at a depth of 10 to 25 metres. Two to three hours is taken for a haul. The catch will be unloaded with the help of man power or by the use of power winches. For the catch of fish, the net will be operated above the bottom whereas for the catch of shrimps, it will be operated at the bottom only. This type of operation is only carried out since that time of introduction of this net. Till date there is no change in the operation.

Gill nets in operation

So many varieties of gill nets with different lengths, different widths and different mesh sizes are operated in this region. Bottom set gill nets locally called Nanduvalai, Singieralvalai, Discovalai, Thirukkaivalai and Kattavalai are made of plastic or nylon threads. Length of the each piece of net is 100 to 200 metres and width of the net is 2 to 12 metres. Mesh size ranges from 11 to 39 cm. Synthetic or aluminium or cork floats are used. Small piece of stones or small wheel shaped cement blocks are used as sinkers. Drift gill nets locally called Paruvali, Kottuvalai, Valivalai and Thangoosivalai are made of nylon threads. The length and the width of each piece of net are 30 to 200 metres and 6 to 10 metres respectively. Mesh size is 2.7 to 17 cm. Aluminium or synthetic or wooden floats are used. Small piece of stone sinkers are used. Gill nets locally called Choodavalai, Peruvalai, Muralvalai, Kalankattivalai, Mayavalai and Koivalai are made of nylon threads. Length and width of each piece of net are 24 to 200 metres and 2 to 8 metres respectively with a mesh size range of 1 to 7 cm.

Synthetic or metal or aluminium float and aluminium or stone sinkers are used.

Hooks and lines locally called Ayirankal thoondil consists of long and small size of nylon ropes, branch line of monofilament-threads, 40 numbers of hooks and aluminium sinkers. The length of the line is 1000 metres, whereas the hand line which is also called thoondil consists of main and branch line of monofilament threads and 40 number of hooks. The length of the line is 20 to 25 metres. Disco thoondil has a length of 20-25 metres of monofilament threads and 40 numbers of hooks.

Traps are made of splits of branch of Acacia tree or bamboo reapers or palmyrah leaf. The length and width of the trap are 37.5 to 62.5 cm and 42.5 to 43.8 cm respectively. The diameter of the mouth of the trap is 11.5 to 15 cm and the mesh size is 1 to 9 cm.

There are two types of shore seines locally called olavalai and karavalai are operated in this region. Olavalai is made of nylon threads and consists of scare line of 1000 metres (coir rope attached with palmyrah leaf), wing portion of 7 metres, coir ropes of 100 metres and aluminium floats. The mesh size of the cod end is 1.5 cm. Karavalai is made of nylon threads. The unit consists of bag portions of 10 metres, wing portion of 39 metres cotton and 480 metres of hemp threads, wrap of 900 metres, synthetic or aluminium float and aluminium sinker. The mesh size of cod end is 1 to 5 cm.

Fish catch

Fish and shellfish commonly caught by the above mentioned gears are *Penaeus semisulcatus*, *Metapenaeus affinis*, *Upeneus* spp., *Otolithes* spp., *Gerres* spp., *Sillago* spp., *Leiognathus* spp., *Portunus pelagicus* spp., *Lactarius lactarius*, *Himantura* spp., *Caranx* spp., *Parupeneus* spp., *Loligo* spp., *Polynemus* spp., *Panulirus homarus*, *Panulirus* spp., *Xancus pyrum*, *Sardinella* spp., *Dussumiera* spp., *Ilisha* spp., *Penaeus indicus*, *Valamugil seheli*,

Lethrinus spp. *Epinephelus* spp. *Chirocentrus* spp.
Sphyraena spp. *Scombromorus* spp. *Rastrelliger*
kanagurta, *Hemirhamphus* spp. *Strongylurus* spp.
Exocoetus spp. *Siganus* spp. *Psammoperca*
waigiensis, *Sepia* spp. *Johnius* spp. *Nemipterus* spp.
Drepane spp. *Therapon* spp. *Cybius commerson*,
Pellona ditchella, *Scylla serrata*, *Pennahia* spp.
Sphyraena spp. *Arius* spp. *Istiophorus* spp.
Coryphaena hippurus, *Callyodon* spp., *Lutjanus*
johni, etc.

Generally fish catch in the Gulf of Mannar is going on-decreasing because of overfishing. Even though the indigenous crafts with in-board diesel engines with nylon gears are operated, the fish catch is not a satisfactory one. To improve the catch of fish modern techniques in fishing should be followed traditional fishermen also.