Fisheries in Thailand in brief

The fisheries in Thailand are multi gear and multi species. Fishers use several gear types to capture several fish species. Catches from these types of gear comprise multiple species that can be grouped into pelagic fish, demersal fish and invertebrate groups with numerous species. The followings are some examples of gear types and targeting species.

1. Trawl net

Trawl net is the fishing gear using bag net to continuously trawling forward in line upon the surface of sea bottom to catch fish. The operation is trawling by inboard engine boat. The trawling net is stretched out by using otter board or boom or beam or another fishing boat. Trawl net can be categorized into pair trawl, otter board trawl (and otter-boom trawl) and beam trawl.

1.1 Pair trawlers (PT, Fig. 1)

Pair trawlers are the fishing gear using two fishing boats to stretch out the net mouth open when in operation. The distance and the boat speed between the two boats are constant during fishing. The two fishing boats are the same or different in size. In the case of different size, the bigger one is used for hauling, fish sorting and fish preservation. It is called mother boat or fish boat or trawl boat. On the other hand, the smaller is called ear boat which is installed radar, echo sounder and wireless for communication. The sizes of the boats are varied from 14-25 m in length over all (LOA).

Figure 1. Pair trawlers are in operation.
The majority size is 18-25 m LOA. The horse power ranges 60-550. Crew numbers are 18-22, including one skipper and one engineer. The upper part of the net mouth opening is 32-38 m and the lower part is 36-38 m. The length of the net is 48-55 m. The mesh sizes are bigger at the net opening and gradually smaller and at the cod end is the smallest mesh size. The fishing operation is done in daytime, all year round except in strong wind monsoons. Catches from pair trawlers comprise Indo-Pacific mackerel, Indian mackerel, Spanish mackerel, scad, red snapper, silver swordfish, bigeye, croaker, squid, cuttlefish, swimming crab and trash fish.

1.2 Otter board trawler (OBT, Fig. 2)

The otter board trawler is the majority gear type among trawlers. The trawl net is opening by using a pair of wooden otter boards during operation. Otter board trawlers can be modified into fish trawler (Fig. 1), shrimp trawler, Sergestes shrimp trawler and jelly fish trawler. The boat sizes are ranging from 6-43 m LOA, the majority is 10-18 m LOA. The horse power range 10-1,700, the biggest sized boats install radar, GPS, echo sounder, wireless for fishing in neighboring countries with bilateral agreements. Crew numbers are also varied from 2 to 20 which depend on the boat sizes.

Figure 2. Otter board trawler for catching fish.
Fish, Sergestes shrimp and jelly fish trawlers are operated in day time whereas shrimp trawler is catching in night time. In some cases when a school of *Penaeus* shrimp occurs in day time it will be operated. Catches from fish trawler comprise Indo-Pacific mackerel, Indian mackerel, croaker, thread fin bream, red snapper, lizard fish, bigeye, swimming crab, squid and trash fish. Catches from shrimp trawler comprise small sized shrimp, *Metapenaeus, Penaeus, Silago*, cuttlefish, swimming crab and trash fish. Sergestes shrimp trawler can catch 95% Sergestes shrimp of the total catches and 5% comprising juvenile fish and crab dwelling at near shore. Jelly fish trawler catches only jelly fish.

### 1.3 Beam trawler (BT)

Beam trawler is using a pair of metal beams installing aside of the boat to open the mouth of two nets during operation. Two types of beam trawlers are popular used namely shrimp and jelly fish beam trawlers. From the year 1993 up to date, some otter board trawlers and short necked clam dredge fishing boats have been modified and changed to catch jelly fish especially the boat sizes 9 to 20 m in the eastern coast of the Gulf of Thailand. The beam trawlers are 6 - 20 m LOA with 5 -250 hp engine and have wireless for communication.

### II. Push netter (PN)

In board and long-tail engine push netters equip the net and its accessories attaching at the two bamboo poles at the boat bow. The net can be moved continuously forward to catch fish at sea surface. Push netter can also be modified to catch Sergestes shrimp (small shrimp liked for making shrimp paste). The sizes of boats vary from 4 to 20 m LOA and the engines range 3 to 350 hp. The boats bigger than 10 m LOA, usually have wireless. Some bigger boats modify to use steel poles in stead of bamboo poles to capture shrimp in deeper coastal water.
III. Purse seiner (PS)

Purse seiner uses surrounding net to catch fish school, when the fish are inside the surrounding net, the fishermen will close the bottom part of the net to capturing the fish inside of the net. The target fish is mostly pelagic fish forming school. Some fishermen use light or fish aggregating devices to lure fish gathering into a bulk school then enclose the net by circling and close the lower part of the net for hauling. Several types of purse seiners which are modified for certain target species, e.g. anchovy (Fig. 4), Indo-Pacific mackerel, neritic tuna, small pelagic fish and etc. Purse seiners can be classified into two types as having a purse line (99%) and not having a purse line (1%). Modern purse seiner has hydraulic winch to pull up the net when hauling.
IV. Short-necked clam dredge fishing boat

Commercial short-necked clam dredge fishing boats are using two metal dredges during operation to simultaneously drag upon the sea surface in every five minutes for each haul. The sizes of fishing boats are 14 to 18 m LOA and 18 to 25 m LOA. The abundant fishing grounds are near the river mouth with the average sea water salinity ranges 16-29 ppt and at the bottom surface salinity ranges 25-36 ppt. Short-necked clam abundance are affected by salinity, oxygen, season, rainfall, and environment condition. This type of gear is usually invaded into the small scale fishing ground and create problems among them.
V. Crab gill netter

Crab gill net is placed against the sea current near sea bottom and the net is left drifting by the current. Swimming crab is captured by gilled or entangled to the net. The nets are rectangular shaped and are tied together with several sets of nets. The fishing boats are 9 to 16 m LOA with long tailed engine or in board engine. The fishing is done during high and low tides, both day and night times. Nowadays, the small scale fishers have rehabilitated the swimming crab and other fish by releasing seed fries into the sea.

Figure 7. Otter boom trawler cooperates with the researchers releasing seed fries to rehabilitate the fishery resources.

In the southern part of the Gulf of Thailand, the small scale fishers decorate the boats with special unique art and those boats are used to fish squid, fish, shrimp and swimming crab that depend on target species abundance in each season.
Figure 8. Decorated fishing boat (Korae) using for fishery in the southern part of the Gulf (left), long tailed engine fishing boat using for fishery in elsewhere (right).