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SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER

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# A PRELIMINARY EXPERIMENT OF SHRIMP POT IN THE GULF OF THAILAND (SAMET ISLAND)

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## INTRODUCTION

The Training Department has recently conducted preliminary experiments using shrimp pot with the view to introduce a new type of trap of Thailand to encourage the fishermen in using the friendly environment fishing gear.

This report presents an experiment of shrimp pot and collapsible crab trap as carried out on board M.V. PLATOO during the shipboard training of the University Students course. Two experimental operations were carried out from 2 to 3 April 1993. The location of the experiment fishing ground and the record of fishing operation is shown in Figure 1. and Table 1.

The gears and methods employed are described hear in detail and also included in this report are general remarks of the experimental results.

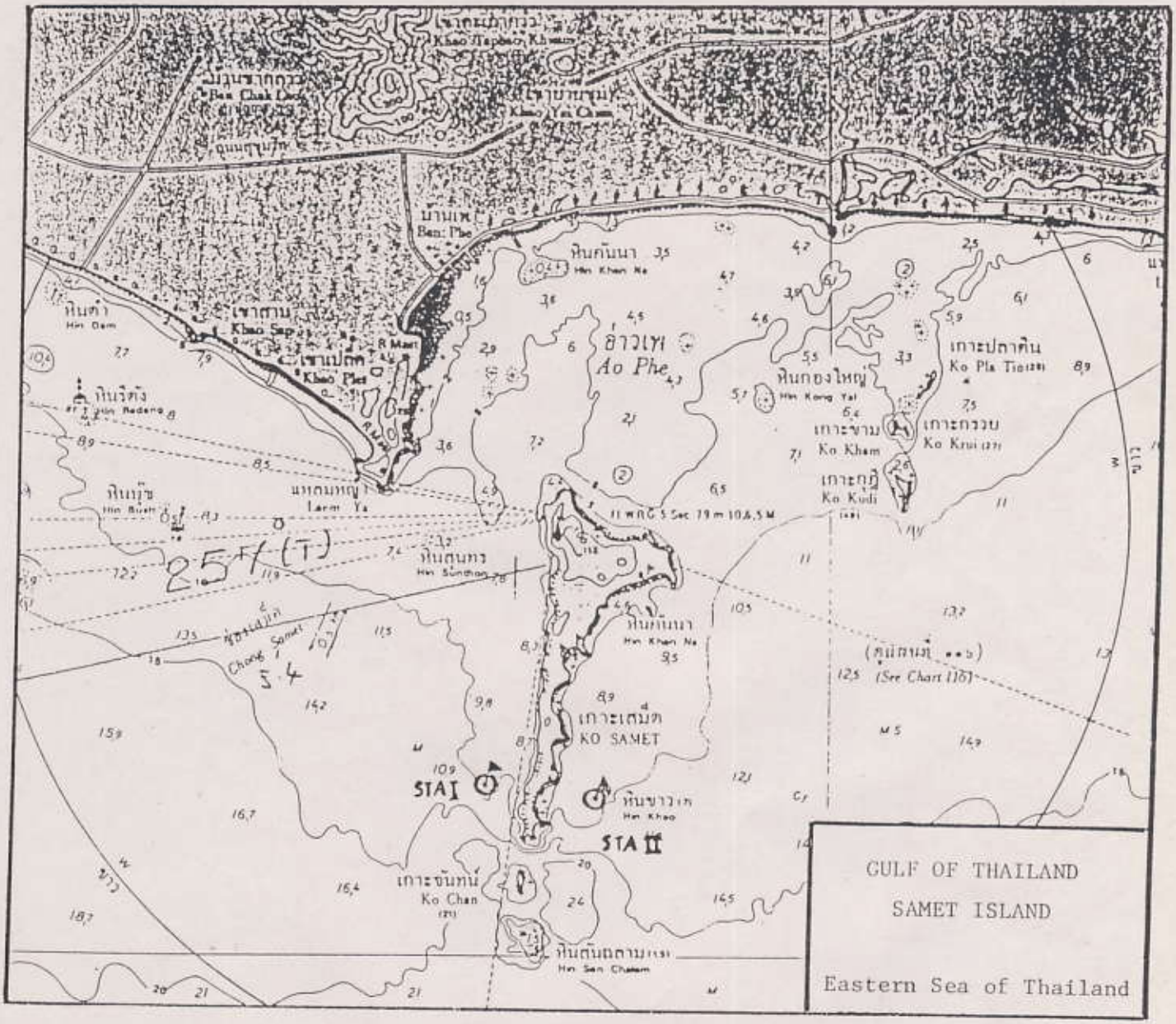



Figure 1. The Location of the Experiment Fishing Ground

Table 1. The Record of Fishing Operation

| Operation No. 1 | Number of Pots (traps) | | Shooting | | Hauling | | Position | | Immersion time | Depth of capture | Bottom type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Collapsible trap | Shrimp pot | Date | Time | Date | Time | Start | Finished | | | |
| 1 | 70 | 30 | 2/4/93 | 0956 | 2/4/93 | 1645 | L 12°-31'.5<br>λ 101°-26' | L 12°-32'.4<br>λ 101°-26' | 6h 49 mi | 12-21 m. | Mud and clay |
| 2 | 70 | 30 | 3/4/93 | 1012 | 3/4/93 | 1630 | L 12°-30'.7<br>λ 101°-27'.4 | L 12°-31'.7<br>λ 101°-27'.6 | 6h 18 mi | 12-21 m. | Mud and Clay |

## MATERIALS AND METHODS

### The Gear

The type of shrimp pot used hear is seen in the Figure 2. and has the following characteristics;

1. The round frame at the bottom of the pot is made of plastic covered steel rod. The diameter of the bottom of the pot was 80 cm. and 33 cm. in height.

2. Netting is Nylon knotless 210d/18 and 3 cm. mesh size.

3. The entrance for the shrimp at the top of the pot is made by hanging a plastic cylinder. It color is red which shrimp are said to prefer.

4. Plastic box and net bag are fitted on the lower edge of the plastic cylinder for the bait.

5. The netting on the bottom of the pot is fitted with an opening for removing the catch, which is closed by means of a draw string.

6. The netting on the top and slope section of the pot is stretched tightly over the frame. However, the netting on the bottom of the pot is left slack to allow the pots to be stacked easily on top of one another.

The total gear consists of buoy rope, main line, branch lines, pot and sinker, the specifications of which are given in Figure 2. and Table 2.

The bait used are chub mackerel and anchovy which are placed in net bag fitted on the lower edge of the entrance.

The experiments, 30 shrimp pots were used together with 70 collapsible crab trap at interval of 15 meters.

Table 2. Specification of the Parts

| | |
|---|---|
| Netting | : 210 d/18, Mesh size : 30.3 mm. |
| Bottom Ring | : Iron ring bar, 9 mm. dia. |
| Diameter of Bottom Ring | : 800 mm., Height : 330 mm. |
| Upper Ring | : Iron ring bar, 6 mm. dia. |
| Entrance | : Polyethylene sheet, Diameter of Upper: 220 mm.<br>Diameter of Bottom: 110 mm.<br>Height : 110 mm. |
| Branch line | : Polypropylene rope, 50 g/m x 1.5 m. (L) |
| Joint | : 14 mm. dia. 1 pce. |
| Bait Box | : 1 pce. |
| Main Line | : Polypropylene rope, 22 mm. dia.x 400 m.x 4 pcs. (for 200 pcs. of shrimp pot) |
| Buoy Rope | : Polypropylene rope, 20 mm. dia.x 300 m.x 2 pcs. |
| Buoy | : No. 6604, 490 mm. dia. Buoyancy 62.0 kgs. Polyvinyle chloride 4 pcs./set |
| Flag, Pole | : 2 sets |
| Handling Rope | : Polypropylene rope, 50 g/m x 1.5 m. (L) |

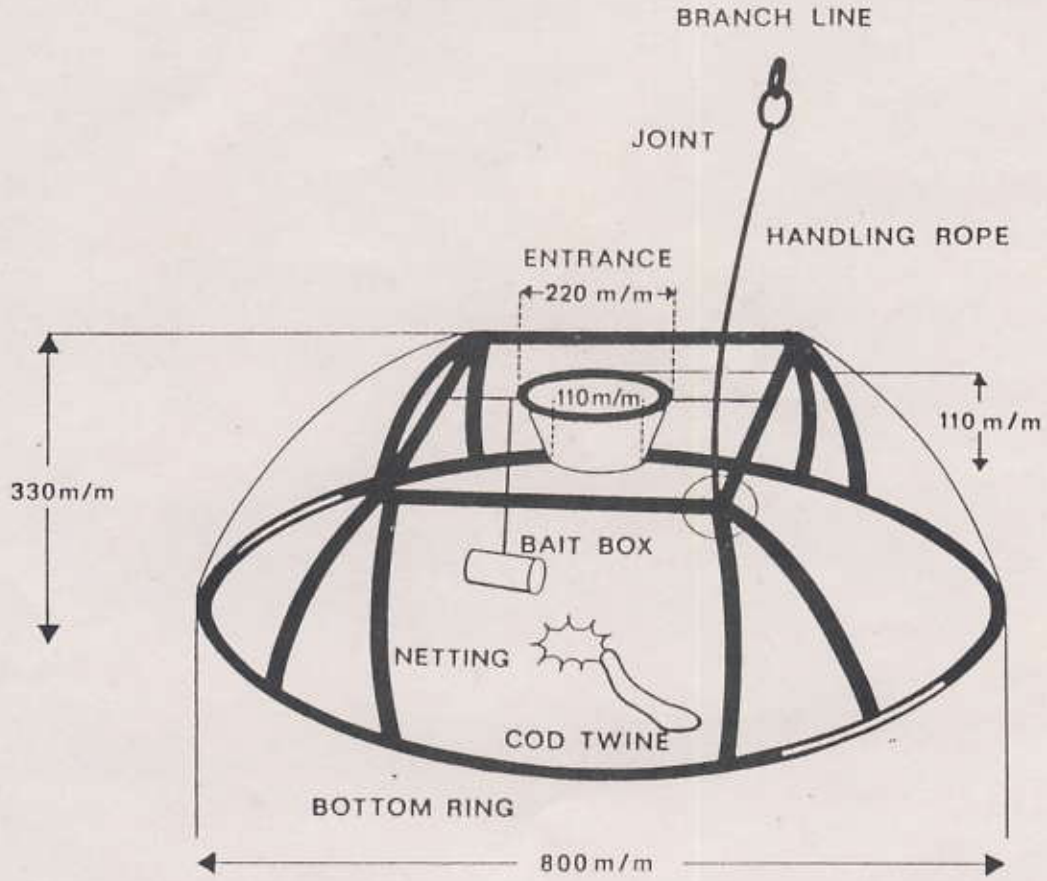
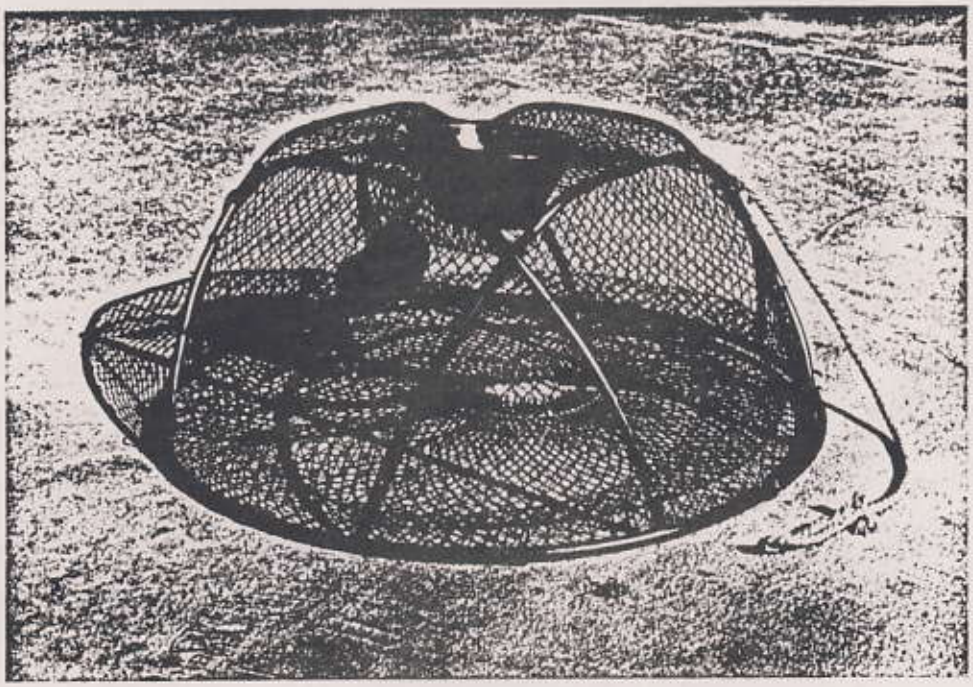



Figure 2. Shrimp pot



The Fishing Operation

1. Shooting of the shrimp pots was carried out from the stern of the vessel. The flag and supporting buoy were shot first, followed by the sinker and float rope. The length of float rope was approximate 1.5 times of depth of water. One end of float rope was then connected to the main line, and the branch line was connected on the main line by an iron snap. The other end of branch line was tied to the pot and dropped into the sea. This process was continued until the number of pots planned for the experiment were shot. The sinker, connected to main line was then dropped, followed by float rope, supporting buoy and flag. (show in Figure 3).

2. Hauling was conducted at the fore deck of the ship. The flag, supporting buoy were first hauled, then the main line was brought to pass the side roller on to the line hauler. When a branch line appeared on the side roller, the crew stopped the line hauler and removed the branch line from the main line.

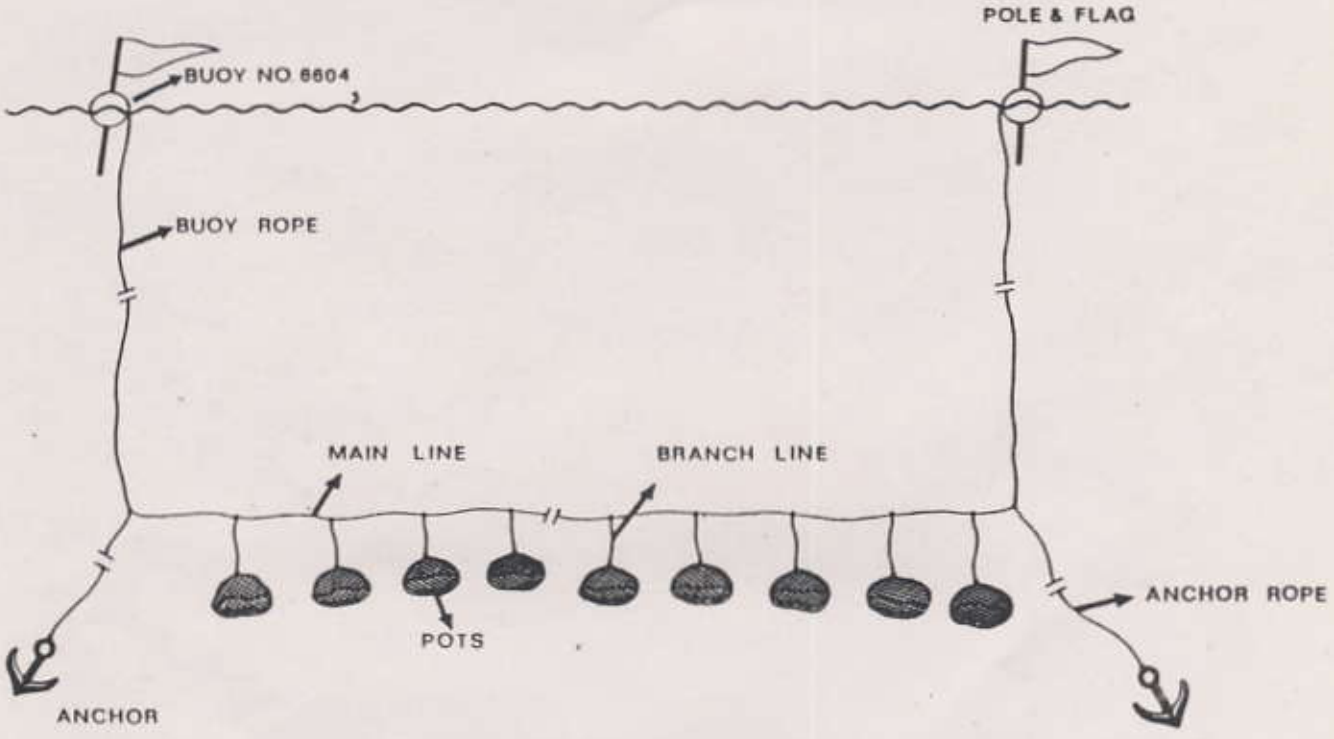



Figure 3. Fishing Operation of Shrimp Pot

## RESULTS

In this experiment were conducted two time and the experiment, 30 shrimp pots were used together with 70 collapsible traps at interval of 15 meters. The following details of data from table 3 and also show the catchs in Table 4.

Table 3.

| No. of time and date | Type of pots (Traps) | No. of catch | No. of empty | total | Bait |
|---|---|---|---|---|---|
| 1, 2/4/93 | - Shrimp pot | 22 | 8 | 30 | - Carapace of tiger prawn |
| | - Collapsible trap | 31 | 39 | 70 | - Yellowsirpe travelly |
| 2, 3/4/93 | - Shrimp pot | 20 | 10 | 30 | - Crab mackerel |
| | - Collapsible trap | 25 | 48 | 73 | - Anchovy |

Table 4. Species which Caught by Experiment

| No. of time | Type of Gear | Species | No. of catch | Total weight (kg.) |
|---|---|---|---|---|
| 1. | Shrimp pot | - PARADISE FISH (Pentapodus setosus) | 51 | 4.2 |
| | | - GROUPER (Epinephelus sp.) | 2 | 0.5 |
| | | - THREDFIN BREAM (Nemipterus sp.) | 10 | 3.0 |
| | | - LEATHER JACKET (Alutera monoceros) | 2 | 0.05 |
| | | Total | 65 | 7.75 |
| | Collapsible trap | - CRAB (Portunus pelagicus) | 12 | 2.5 |
| | | - PARADISE FISH (Pentapodus setosus) | 2 | 0.8 |
| | | - THREDFIN BREAM (Nemipterus sp.) | 12 | 4.0 |
| | | - LEATHER JACKET (Alutera monoceros) | 5 | 0.1 |
| | | - FLATHEAD LOBSTER (Thenus orientalis) | 1 | 0.05 |
| | | Total | 32 | 7.45 |
| 2. | Shrimp pot | - CRAB (Portunus pelagicus) | 5 | 2.5 |
| | | - PARADISE FISH (Pentapodus setosus) | 5 | 1.5 |
| | | - THREDFIN BREAM (Nemipterus sp.) | 2 | 0.2 |
| | | - CROAKER | 30 | 4.5 |
| | | Total | 42 | 8.7 |
| | Collapsible trap | - CRAB (Portunus pelagicus) | 12 | 2 |
| | | - THREDFIN BREAM (Nemipterus sp.) | 8 | 3 |
| | | - PARADISE FISH (Pentapodus setosus) | 1 | 0.3 |
| | | - LEATHER JACKET (Alutera monoceros) | 2 | 0.02 |
| | | Total | 23 | 5.32 |

## SUMMARY

The catch efficiency of shrimp pot able to catch more species than 60% from number of pots and also able to catch more species than collapsible trap. However, on this operation of shrimps pot was first time for experiment, the data are insufficient enough to concerned, how to use this shrimp pot has efficiency or eligible for some area in Thailand. We have to continue experiment so that we want to get more result and information for successful. That will be presents in future experiment.

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