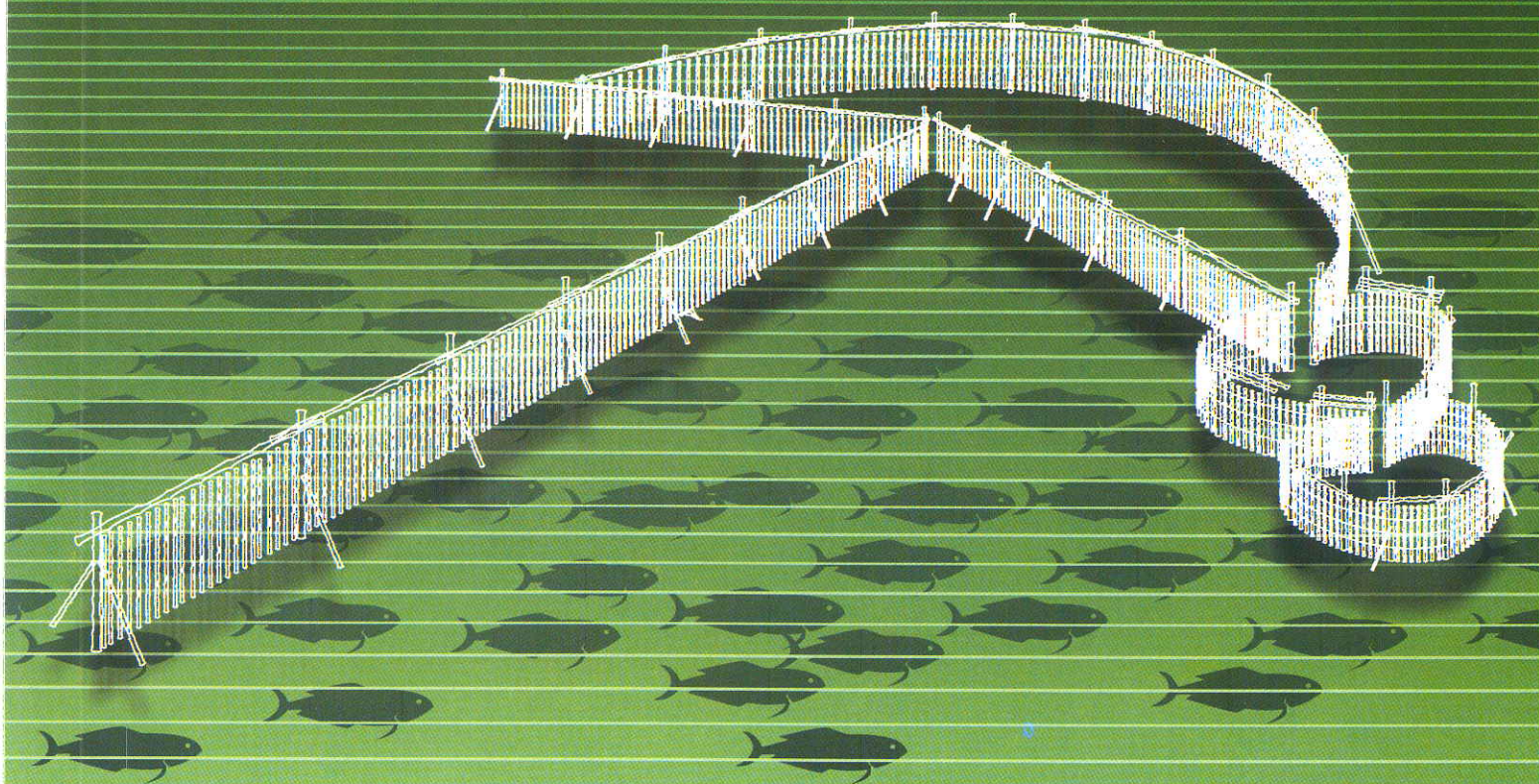


FISHING GEAR AND METHODS IN SOUTHEAST ASIA :

III. PHILIPPINES PART 2



SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER

FISHING GEAR AND METHODS IN SOUTHEAST ASIA: III. Philippines, Part 2

Edited by

**Narong Ruangsivakul, Pratakphol Prajakjitt
Songphon Chindakarn and Somboon Siriraksophon**

Southeast Asian Fisheries Development Center/ Training Department,
P.O.Box 97, Phrasamutchedi, Samut-Prakan, 10290, Thailand

Preparation by

**Jonathan O. Dickson¹, Elmer B. Alba¹, Aussanee Munprasit²
Bundit Chokesanguan² and Somboon Siriraksophon²**

¹) Bureau of Fisheries and Aquatic Resources (BFAR) of the Philippines

²) Southeast Asian Fisheries Development Center/ Training Department,
P.O.Box 97, Phrasamutchedi, Samut-Prakan, 10290, Thailand



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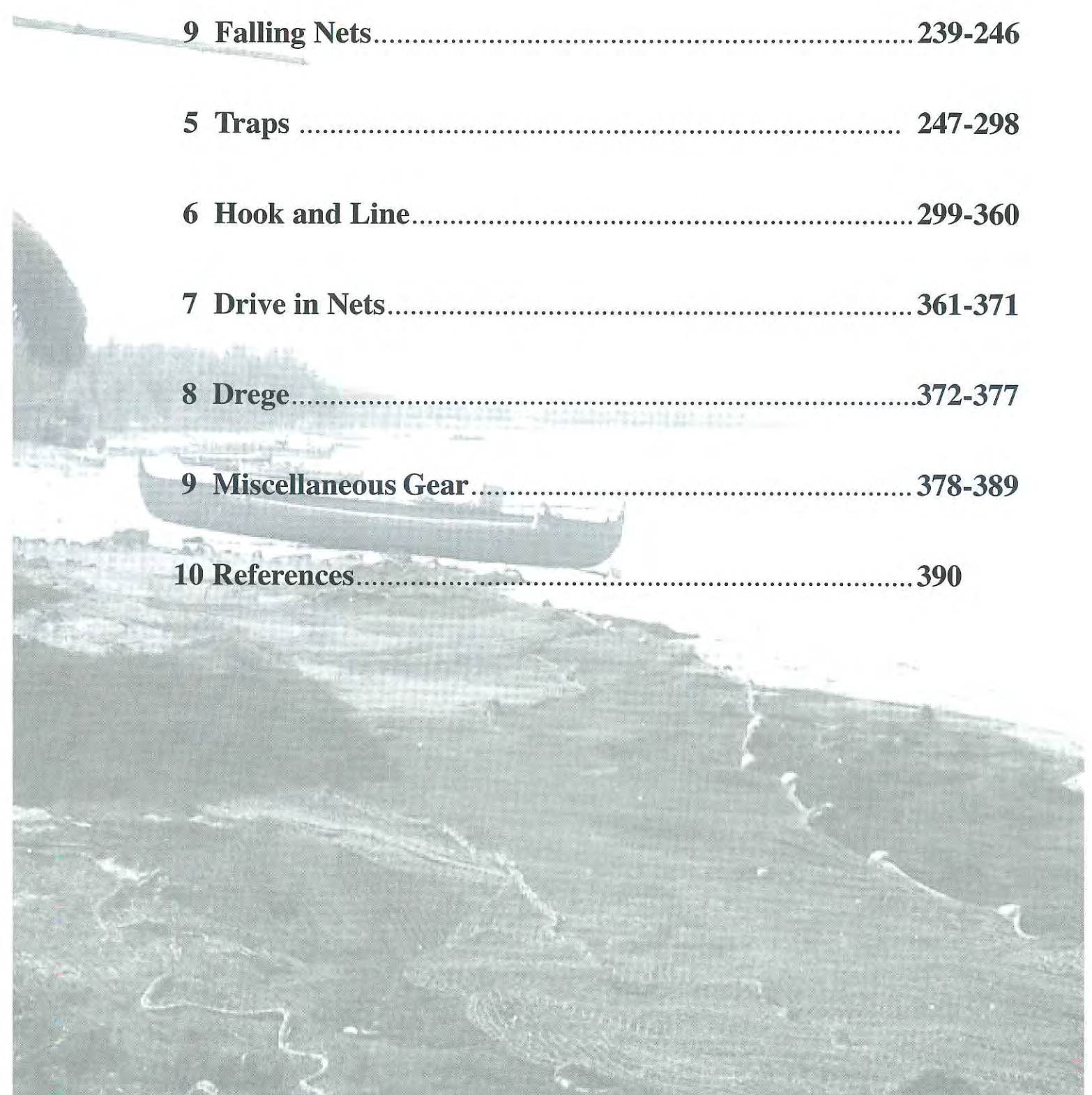
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CONTENTS

	Page
8 Lift Nets	211-238
9 Falling Nets	239-246
5 Traps	247-298
6 Hook and Line	299-360
7 Drive in Nets	361-371
8 Drege	372-377
9 Miscellaneous Gear	378-389
10 References	390





< Chapter 8 >

Lift Nets



Lift Net Fishing

The liftnet is one of the major fishing gear types in both the municipal and commercial fishing sectors. The commercial liftnets namely, bagnet and round haul seine ranked fourth and ninth, respectively among the commercial gear by contribution 8.5% of the 1995 commercial fishery production. The municipal lift nets composed of the bagnet and crab liftnet contributed 1.88% of the 1995 municipal fishery production.

The production of the different types of municipal and commercial liftnets are shown below. The bagnet increasing in catch while the round haul seine declined in 1995 as shown in **Table 23**. The bagnet among the liftnets is the most important gear in the municipal fishery contributing the highest production as shown in **Table 24**.

TABLE 23 PRODUCTION OF COMMERCIAL BAGNET AND ROUND-HAUL SEINE 1993-1995 (METRIC TONS)

Fishing Gear	Volume (metric tons)		
	1993	1994	1995
Bagnet	53,889	76,499	77,891
Round Haul Seine	242	2,225	1,528

TABLE 24 PRODUCTION OF MUNICIPAL BAGNET, CRABLIFTNET, ROUND HAUL SEINE AND LIFTNET, 1995 (METRIC TONS)

Fishing Gear	Volume	Percentage share to total municipal production
Bagnet	8,663	35.78
Crab liftnet	6,148	25.35
Round Haul Seine	6,467	26.67
Liftnet	2,970	12.25

Source : Fisheries Statistics, 1993-1995. BAS

Fishing Gear & Methods in Philippines

Commercial and municipal liftnets have similar species in the catch composition. The dominant species are roundscad, sardines and anchovies. The 1995 statistics indicated an increase in production for almost all species as shown in **Table 25 and 26**.

Liftnets are mostly operated in municipal waters. Some liftnets like the crab liftnet, shrimp lift net and stationary lift net are set in shallow waters while other kinds of fish liftnet and round haul seine are operated in deeper waters. These are classified according to the targeted species and method of operation.

TABLE 25 DOMINANT FISH SPECIES CAUGHT BY COMMERCIAL BAGNET, 1993-1995 (METRIC TONS)

Species	1994	1995
Roundscad	25,187	27,505
Anchovies	10,872	14,114
Indian Sardines	18,466	16,979
Fimbriated Sardines	4,367	4,417
Frigate Tuna	5,000	2,895
Squid	1,779	1,817
Slipmouth	1,310	1,911

TABLE 26 DOMINANT FISH SPECIES CAUGHT BY COMMERCIAL ROUND HAUL SEINE, 1993-1995 (METRIC TONS)

Species	1994	1995
Anchovies	98	1,206
Roundscad	594	5
Fimbriated Sardines	34	28
Frigate Tuna	173	47
Slipmouth	10	134
Crevalle	58	-
Indian Sardines	837	-
Deep-Bodied Sardines	123	-

Source : Fisheries Statistics, 1993-1995, BAS



Fishing Gear and Methods

1.1 Portable Liftnets

1.1.1 Crab Liftnets

The gear consists of a sheet of netting supported by bamboo frames which effect the capture of crab by entanglement as the net is lifted to the sea surface. The frame is usually square, 40-60 cm along the sides. The height for the frame varies from 7-20 cm and measure 70 cm by 1 cm diameter. The net is either nylon monofilament or multifilament 210d/3 and PA mono ϕ 0.25-0.50 mm with 30-76 mm mesh size. A retrieving line made of PE ϕ 4 mm with styrofoam or bamboo floats is tied to the center of the frame. Stone or lead weights are tied at the tips of the bamboo frames.

Bait is provided at the center of the frame during operation. Normally, liftnets can be operated or set without bait. The fishermen can operate the gear in shallow water, from a rowing banca or by simply walking along the shore. The set liftnets are inspected very often to determine if there is a catch. Catch consists primarily of mangrove crab and blue swimming crab. Fishing is done is the day or night time, all year round.

1.1.2 Shrimp Liftnet

The gear resembles the structure of the crab liftnet but with longer frames and bigger netting. The bamboo frame measures 2.6 m long by 1.5 cm diameter with a height of 1.1 m. The net is made of nylon mono 0.7 mm or nylon multifilament 210d/2 with 10 mm mesh size. It is square, being 75 cm on all sides. Along the bamboo frames at 60 cm above the net are stones weighing 100-200 g.

The gear is provided with some boiled fish as bait at the center of the frame and is set along the river during night time with one fisherman setting 10 units. Caught shrimps and goby are used as baits for bottom set longline.

1.2 Fish Liftnets

The group is the most advanced and diverse type of liftnet. They have many peculiar techniques and methods of operations which vary between types of boats and fishing areas.

The simplest is the liftnet for small pelagics, and uses a small outriggered, motorized, banca. The size of the net depends on the length of the boat, outriggers and length of the extension booms. The mesh size depends on the target fish.

A unique method of operation is the small-scale bagnet of Zambales, locally termed "singapong". The net is 10.8 m long by 9 m wide and 4.2 m deep. It is made of nylon multifilament 210d/4 with 8 mm mesh size. The wooden outriggered banca has a length of 8-10 m, powered by a 10-16 hp gasoline engine. It is usually manned by two fishermen.

Upon arrival in the fishing ground at dusk, the banca is anchored and starts lighting using two kerosene lamps, of 500 watts each (petromax). When sufficient fish schools are

attracted, the lamps are transferred to a bamboo float with a 20-m retrieving line which is allowed to drift for some distance from the banca. The fishermen prepare four bamboo poles, 7 m long, with a base diameter of 6-8 cm and the end portion diameter is 3-4 cm. The pull ropes are passed through the pulleys which are tied at the end of the bamboo poles. The net is lowered beneath the banca while simultaneously retrieving the floating lamps into their original position. A conical-shaped covering is placed around the lamp to concentrate the fish school. At a given signal, the fishermen start hauling the net until the catch is brought on board. Operations may be done 3 to 5 times per night. Major species caught are anchovy, scad, sardine and small caesio.

The other type of liftnet uses eight booms to spread the net. The eight booms are supported by ropes which are connected to one or three masts of the boat. A manual winch is provided at the center of the boat to facilitate hauling of the pull ropes. In some fishing grounds, lights (200-1,000 watts/bulb) are only placed in the bow but the majority of the lights are distributed around the boat. Ten to twenty bulbs are used depending on the size of the boat and power of the generating set.

The latest development in fish liftnet fishing is the provision of 10-20 halogen lights from 1,000-5,000 watts per bulb. Underwater metal halide lights are also being used to attract deeper swimming fish to come to the surface.

The biggest fish liftnets are found in Cavite, Quezon, Davao, and Zamboanga. The outriggered boat measures 25-30 m long by 3-4 m wide and has 2-3 m draft. Commonly used engines range from 80-220 hp with a generator of 10-24 KVA. The boats have one or three masts along the center part to support the extension booms during operations. They are provided with 19x1,000 watt bulbs or 2-8 units of high wattage metal halide bulbs of 1,000-5,000 watts. The net measures from 20-40 m long by 15-20 m wide and is 8-15 m deep.

Lighting is the method of fish attraction. At dusk, all lights are turned-on until a sufficient fish school has been attracted. The lights are then turned-off one by one until one light remains. A conical shaped cover is placed on the light to concentrate the fish school. The net is then lowered and remains on the bottom for some minutes. After the fish school is concentrated at the center of the net, the fishermen start pulling the pull ropes until the net is hauled on board. The catch is poured on deck for sorting and storage. The light are again turned-on for the next operation.

1.3 Stationary Liftnets

The stationary liftnet is usually set in shallow waters. The depth of the gear depends on the length of bamboo or palm stakes which serve as the posts. The framework consists of two or more rows of bamboos set parallel to each other and have four equal sides, permanently stacked on the seabed. The two rows are supported with braces and catwalks, one meter above the highest tide where fishermen lift the net. The posts are provided with pulleys and rings where the pull ropes pass through. In some structures, a platform is constructed where a manual winch is installed for hauling operations. Other areas have corner posts provided with a vertical rope with a 50 kg weight at the end where the ring of the pull ropes passes through during hauling.

The size of the net depends on the length, width and depth of the bamboo structure, or framework. Generally, a stationary liftnet has a length of 10-15 m and a width of 10-14 m and



is 5 to 10 m deep. The material for the net can be either PE 380/6-9 with 0.2 mm mesh size, 400d/6, 4 mm minnow net or nylon multifilament 210d/9 with 16 mm mesh size. Sometimes, the fine meshed B-net is used to catch anchovies. A kerosene lamp or pressurized gas lamp is used for attraction and is hung at the center of the structure. The corner ends of the bagnet for tying the pull ropes are provided with 2-3 stone or lead weights to facilitate sinking of the net. When the fish numbers are sufficient, the pull ropes are hauled until the bag portion is brought to the banca. Several sets can be conducted during the night depending on the abundance of fish schools. Major species caught are anchovies, sardines, scad and mackerels. Stationary liftnets are mostly distributed in the Davao Gulf, Sorsogon, Bohol, Iloilo, Negros, Palawan, Capiz, and Quezon.

1.4 Round Haul Seine

This gear is a type of liftnet where operation consists of 3 non-motorized light boats, two (2) flatboats, and one outriggered motorized banca. In going to the fishing ground, the outriggered banca tows the two flatboats and the 3 light boats. The light boats anchor at 300-500 m distance from each other while the two flatboats wait in the area. When a sufficient fish school is detected, the light boat signals the flatboats to prepare for the operation. The flatboats proceed near to the lightboat with the fish school and drop anchor taking into account the current direction. The flatboat with the net transfers one side of the net to the other flatboat and they separate sideways thus spreading the net. The lightboat with the fish school will slowly pay out some of its anchor line to drift towards the center of the net. As soon as the fish school is at the center of the net, the pull ropes on both flatboats are hauled simultaneously until the leadline is at the sea surface. The fish are then concentrated in the bag portion where it is brought to one of the flatboat for sorting. The operation is repeated when there is another fish school with the other light boat.

The flatboats are 13.7 m long, and are powered by 16 hp engines. The lightboats are non-motorized dugout canoes, 4.9 m long. Each lightboat has 2 or 3 pressurized kerosene lamps. The service banca is 13 m long, powered by an 80 hp fuizo engine.

The main net is made of knotless nylon 210d/6 with an 8 mm mesh size. The selvage uses polyethylene 400d/18 with 33.7 mm mesh size. The floatline measuring 73.2 m long is made of polyethylene rope ϕ 10 and with 40 styrofoam floats. The leadline has a length of 36.6 m long and made of PE ϕ 10 mm diameter PE. Both sides of the net are provided with 6 pull ropes but only the lower three are provided with weights varying from 15 kg, 30 kg, and 40 kg.

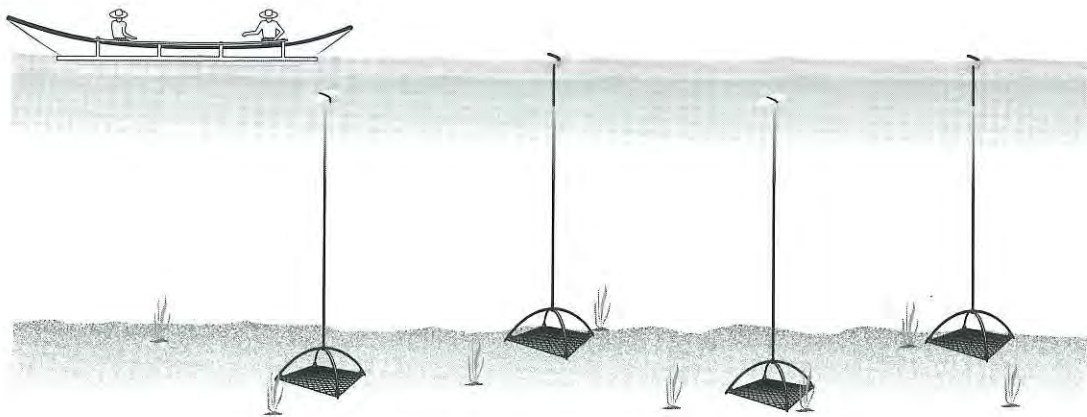
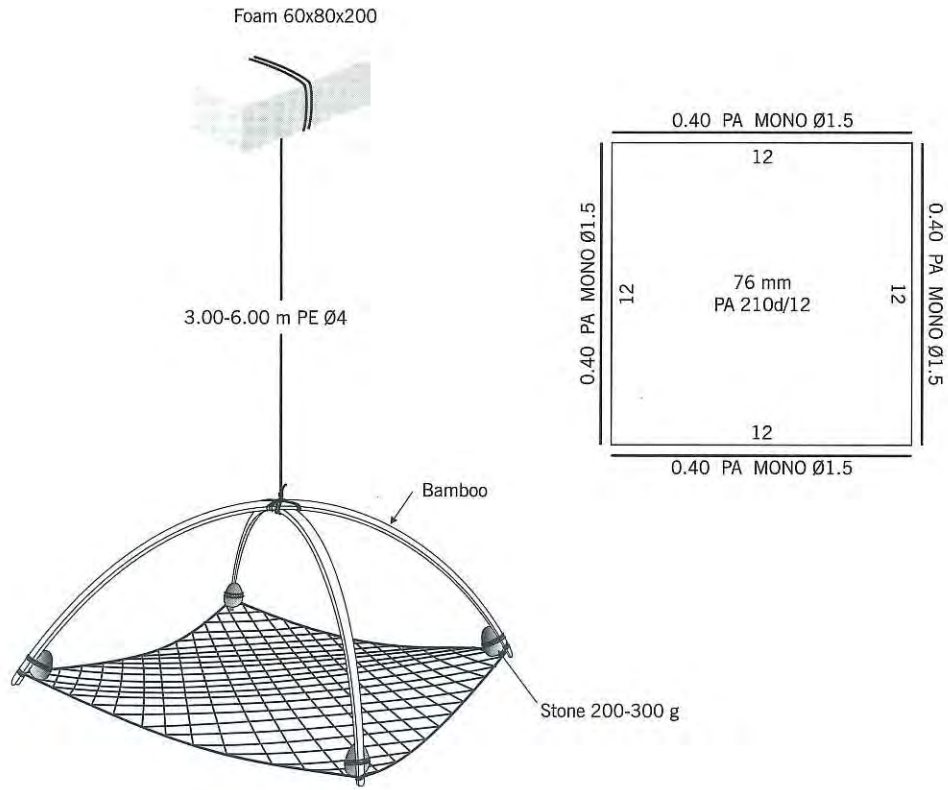
At present, the round-haul-seines are found in the Cagayan, Quezon, Capiz and Bohol provinces.

Fishing Gear & Methods in Philippines

LIFT NET
 Portable liftnet
Bintol
 Mangrove crab,
 Blue swimming crab

VESSEL
 Loa : 3-4 m
 Hp : -

LOCATION
 Cavite City
Cavite





LIFT NET

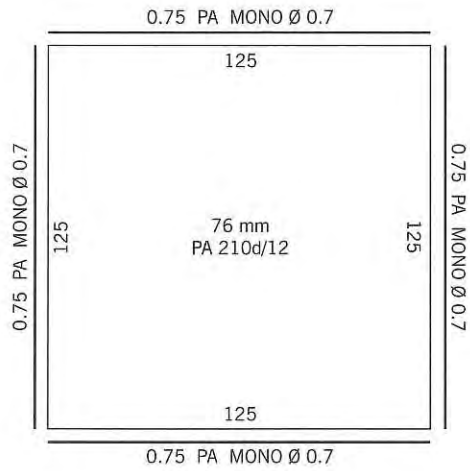
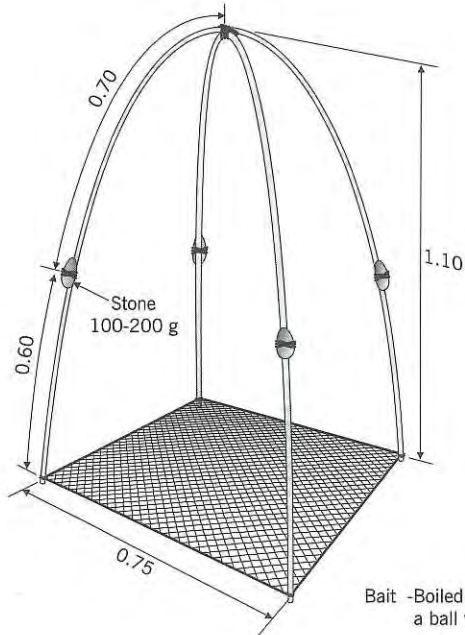
Portable liftnet
Pakik kik
Shrimp, Goby

VESSEL

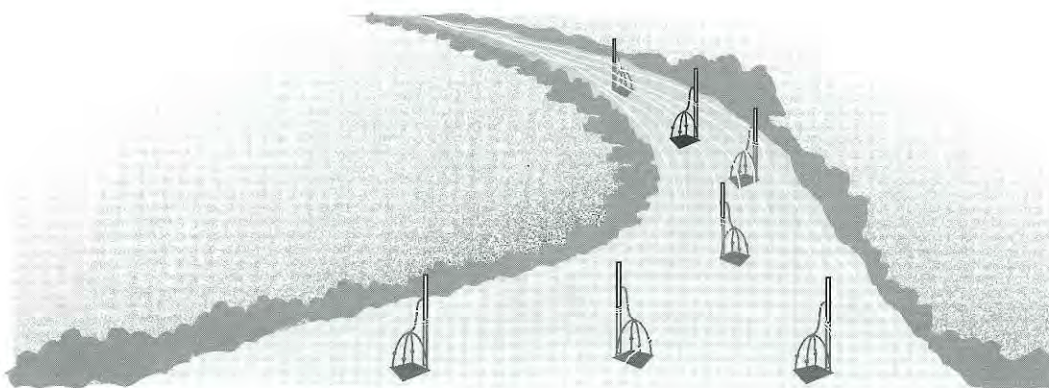
Loa : Bamboo raft
Hp : -

LOCATION

Bangar
La Union



Bait -Boiled fish and
a ball with sand and iron



Fishing Gear & Methods in Philippines

LIFT NET

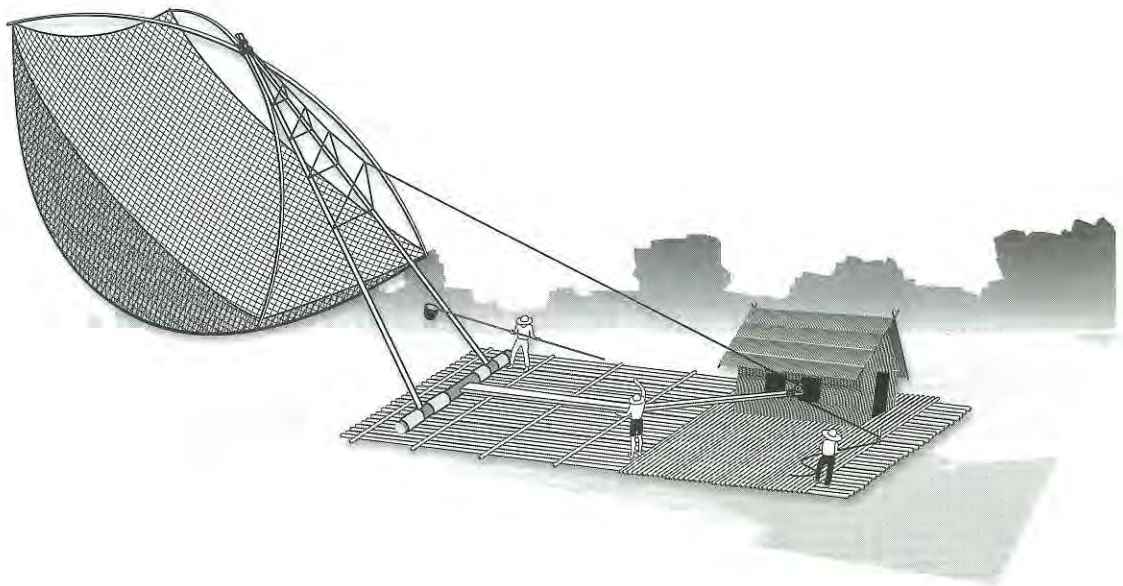
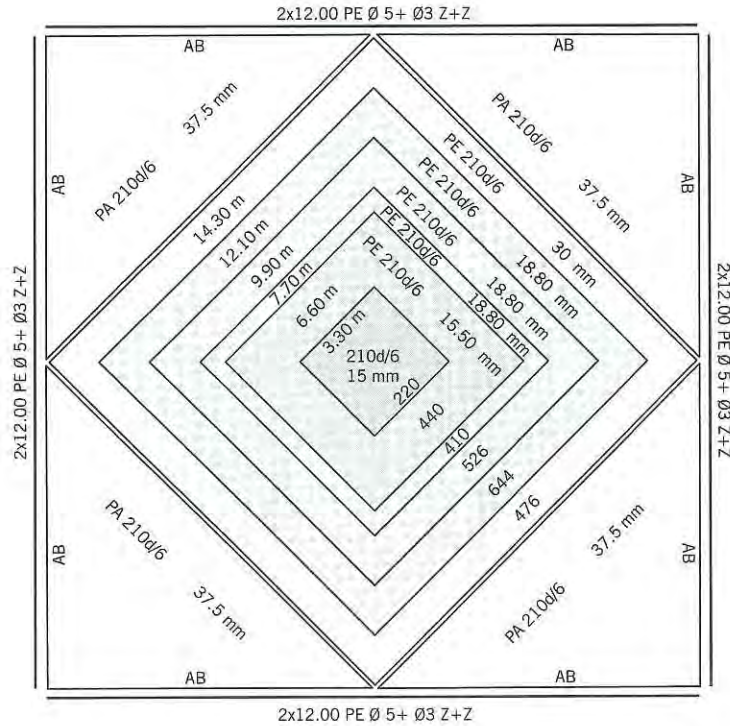
Raft liftnet
Salambaw
 Siganids, Mullet, Shrimp,
 Slipmouth, Halfbeak, Tilapia

VESSEL

Loa : Bamboo raft
 Hp : -

LOCATION

Lingayen
Pangasinan





LIFT NET

Shrimp lift net, Portable
Bintol sa hipon

VESSEL

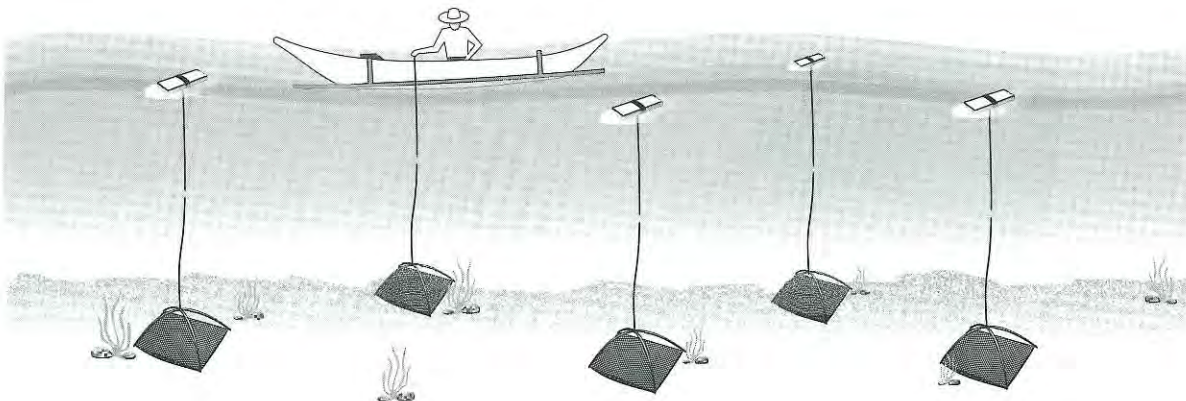
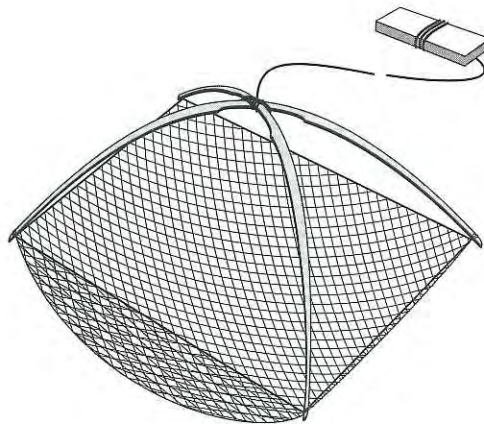
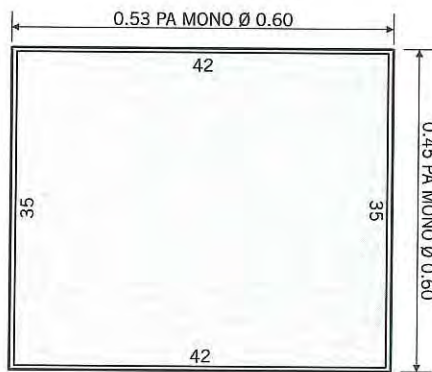
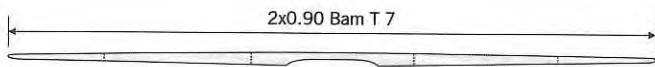
Loa : 4.50 m

Hp : -

LOCATION

Del Gallego

Camarines Sur

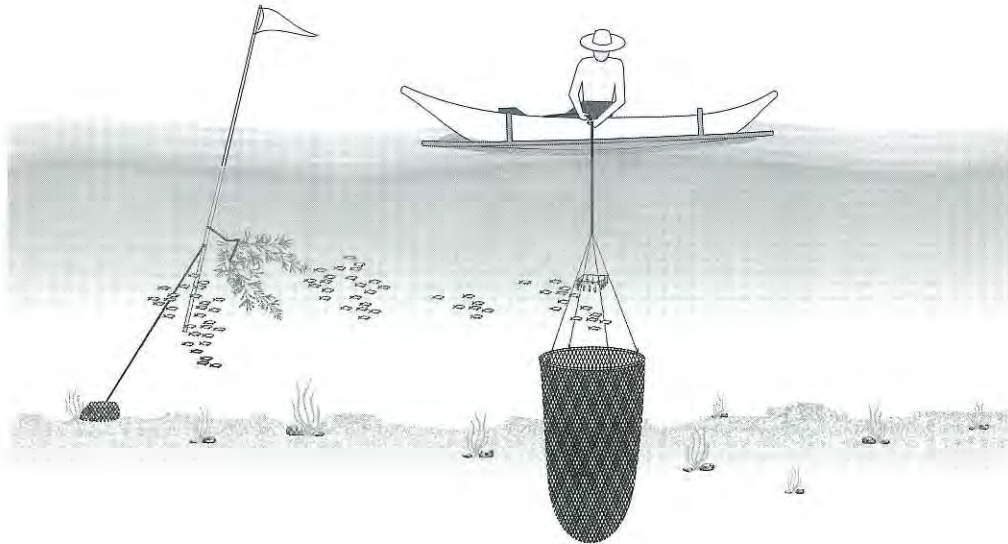
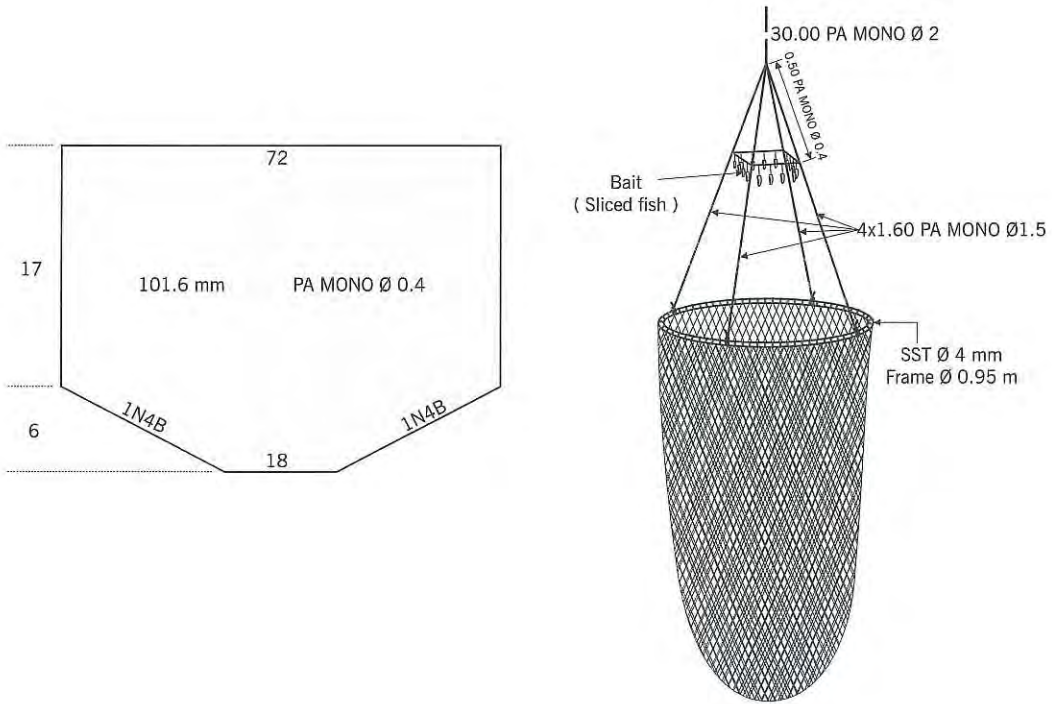


Fishing Gear & Methods in Philippines

LIFT NET
 Fish lift net
Pantalukap
Scrawled tile fish

VESSEL
 Loa : 9.34 m
 Hp : 16

LOCATION
 Quezon
Quezon





LIFT NET

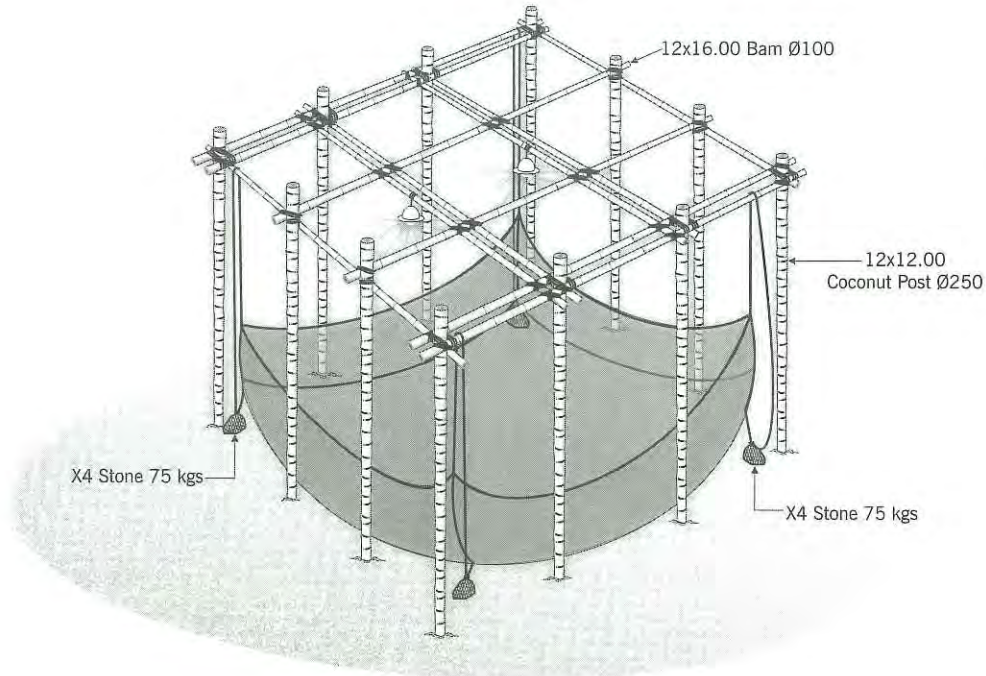
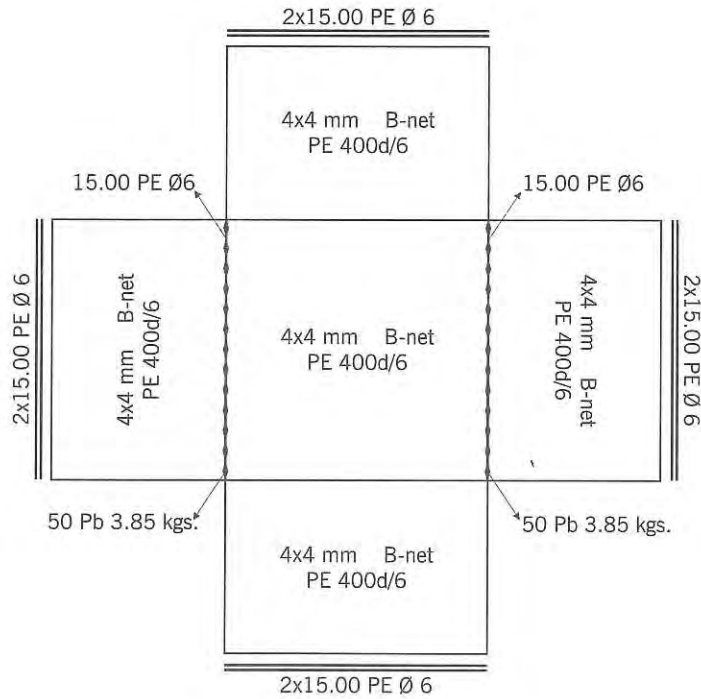
Fish lift net
Bukatot
Anchovy

VESSEL

Loa : 7.92 m
Hp : 10

LOCATION

Mercedes
Camarines Norte

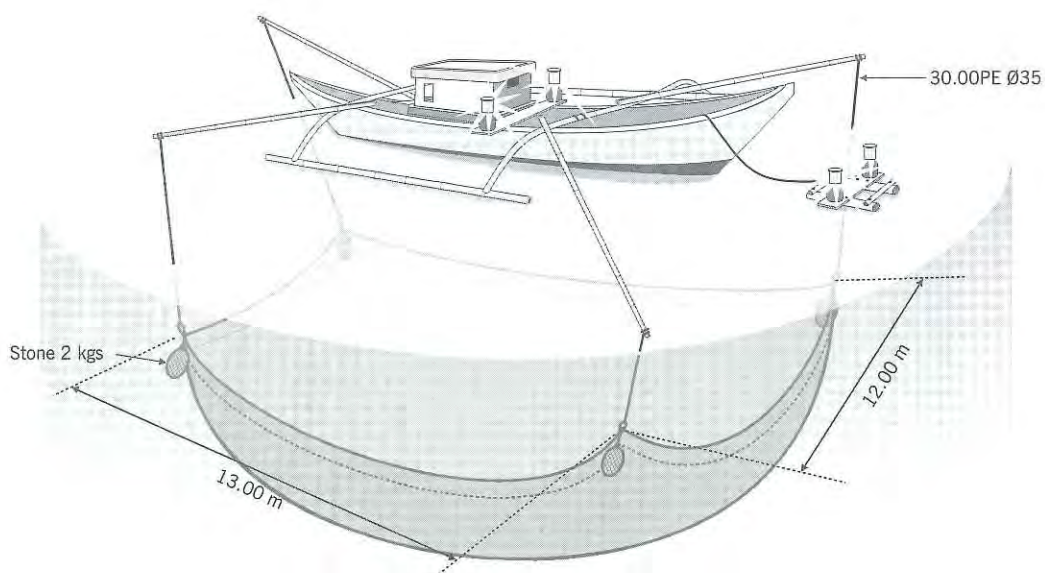
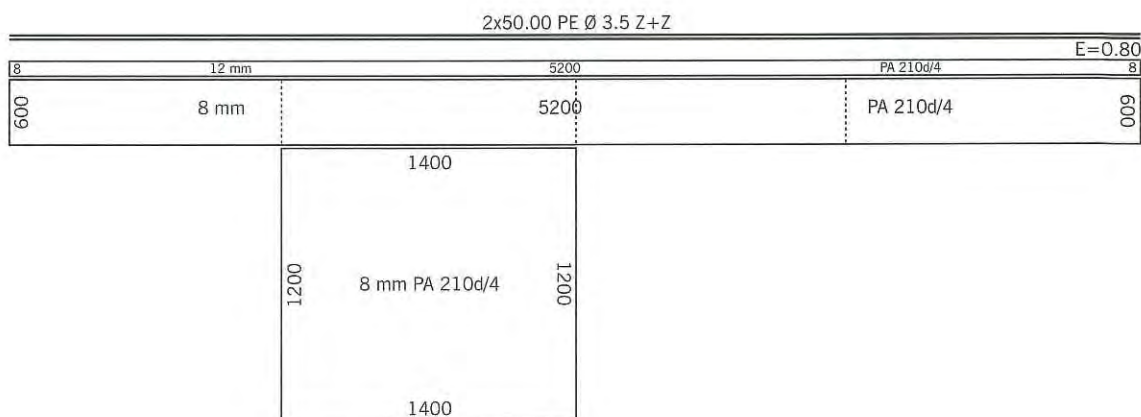


Fishing Gear & Methods in Philippines

LIFT NET
 Fish lift net
Singapong
 Anchovy, Sardine, Scad,
 Small caesio

VESSEL
 Loa : 8 m
 Hp : 16

LOCATION
 Botolan
Zambales





LIFT NET

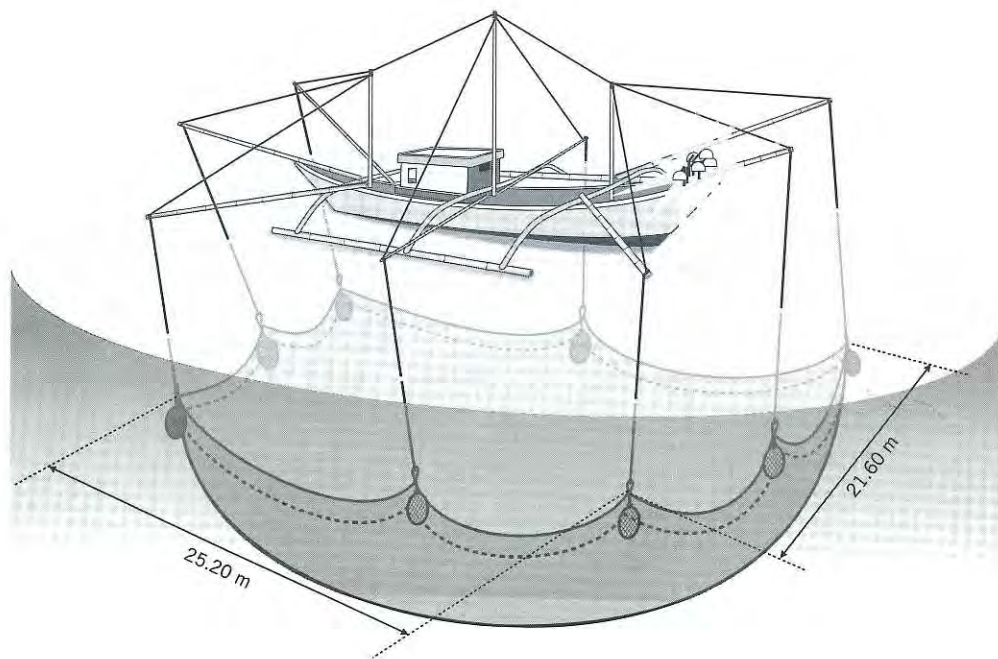
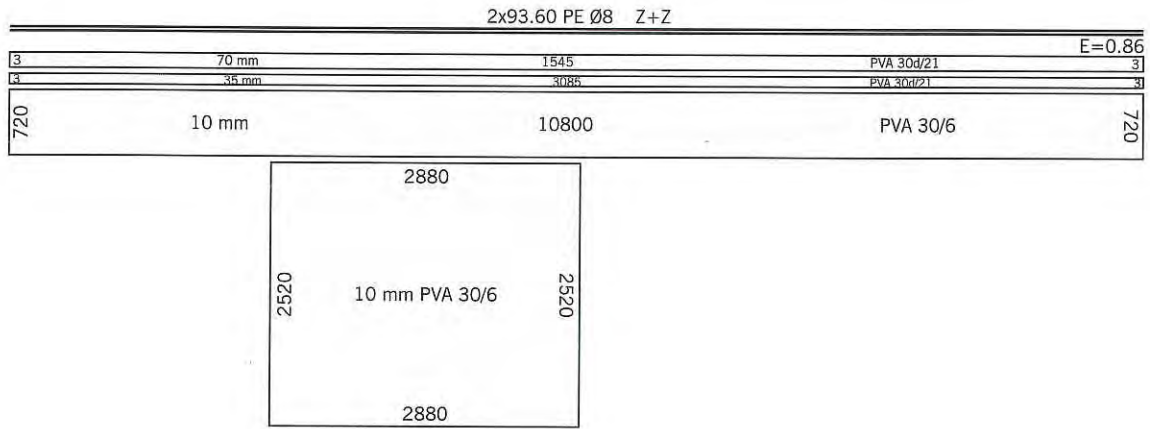
Fish lift net
Basnig
 Anchovy, Scad, Sardines,
 Makerel

VESSEL

Loa : 18 m
 GT : 6-7
 Hp : 16

LOCATION

Narra
 Palawan

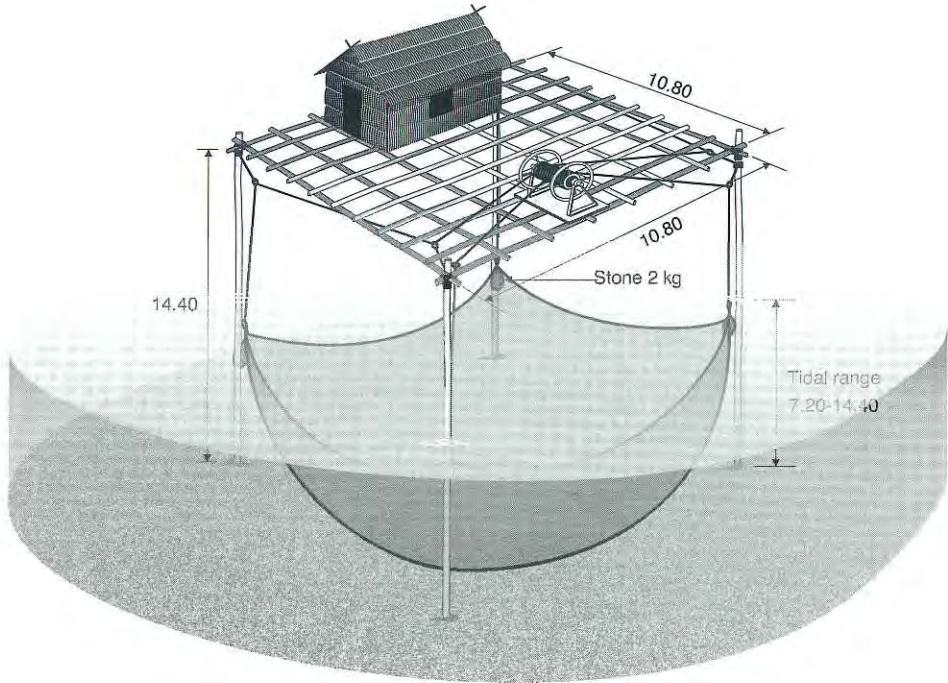
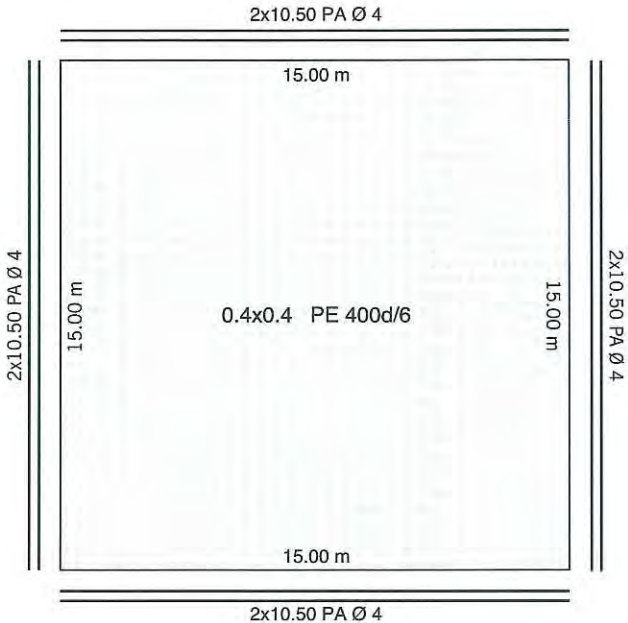


Fishing Gear & Methods in Philippines

LIFT NET
 Fish lift net
Bintol
 Anchovy, Sardine, Squid

VESSEL
 Loa : -
 Hp : -

LOCATION
 Garinan, Madaum
Tagum





LIFT NET

Stationary lift net
Bintahar/Tangab
Anchovy, Sardine, Herring,
Mackerel

VESSEL

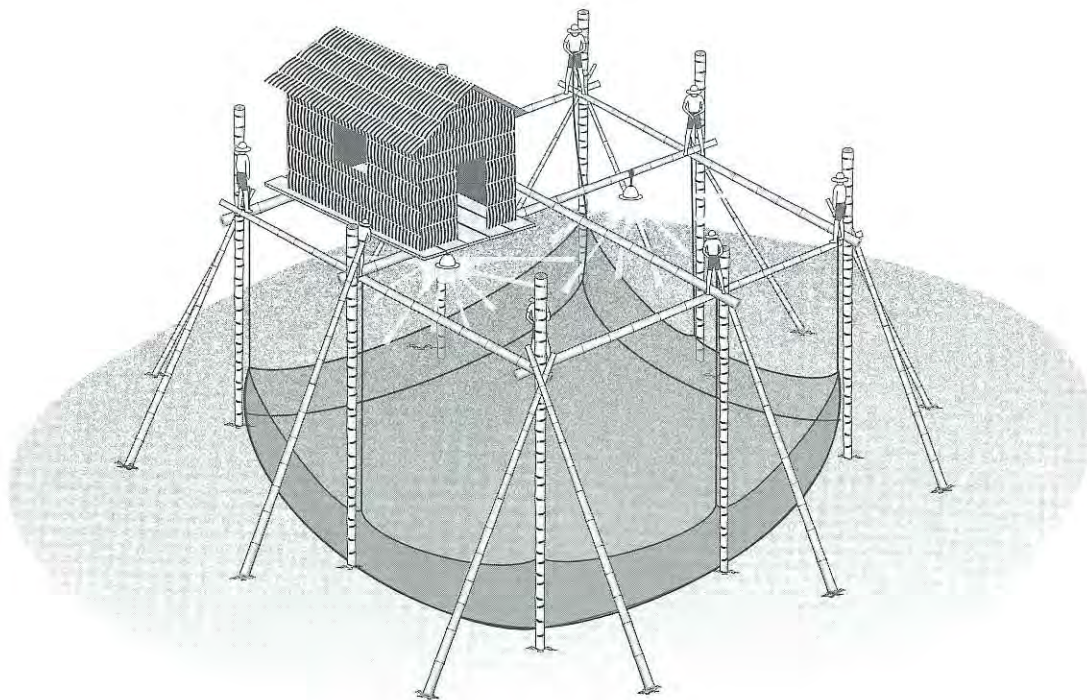
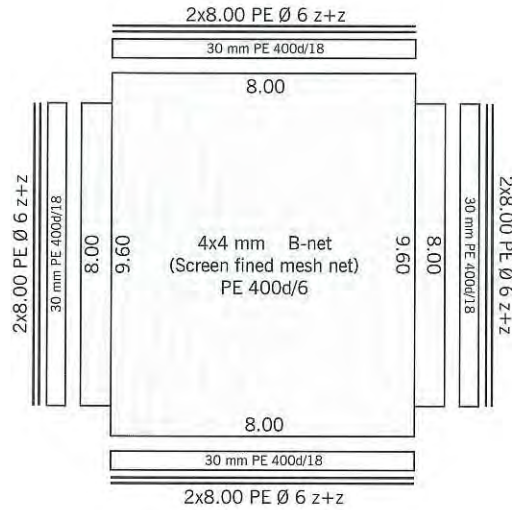
Loa : 12 m

Hp : 16

LOCATION

Polo, New Washington

Aklan





LIFT NET

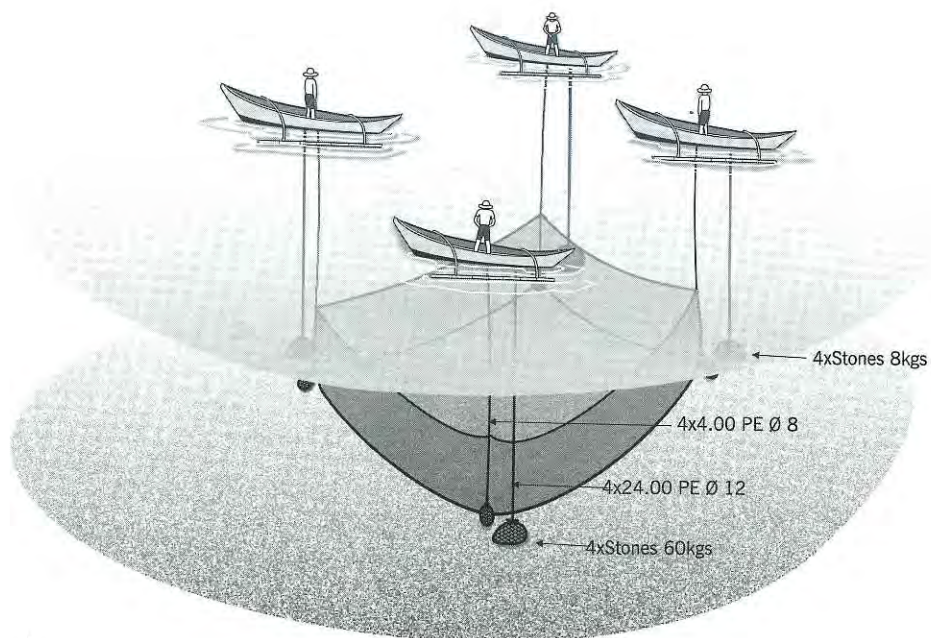
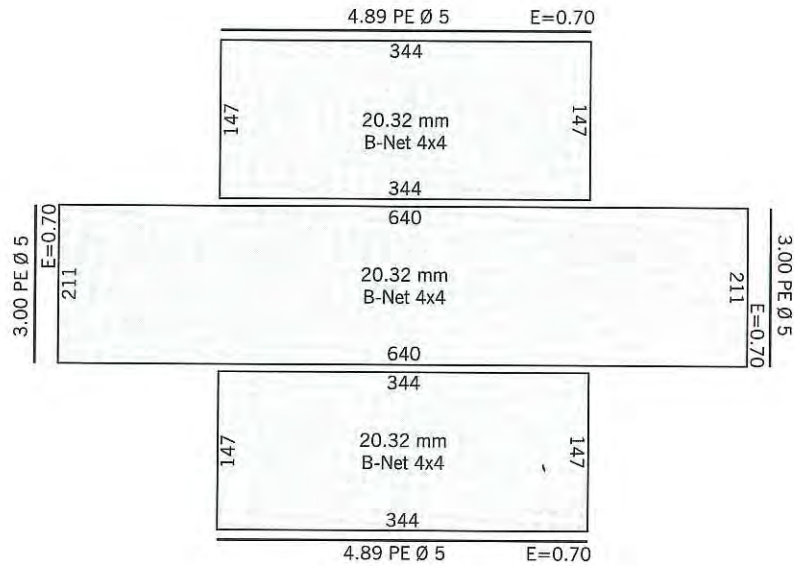
Stationary lift net
Pasangatan
Silvery therapon

VESSEL

Loa : 6.00 m x4
Hp : -

LOCATION

Buhi
Camarines Sur





LIFT NET

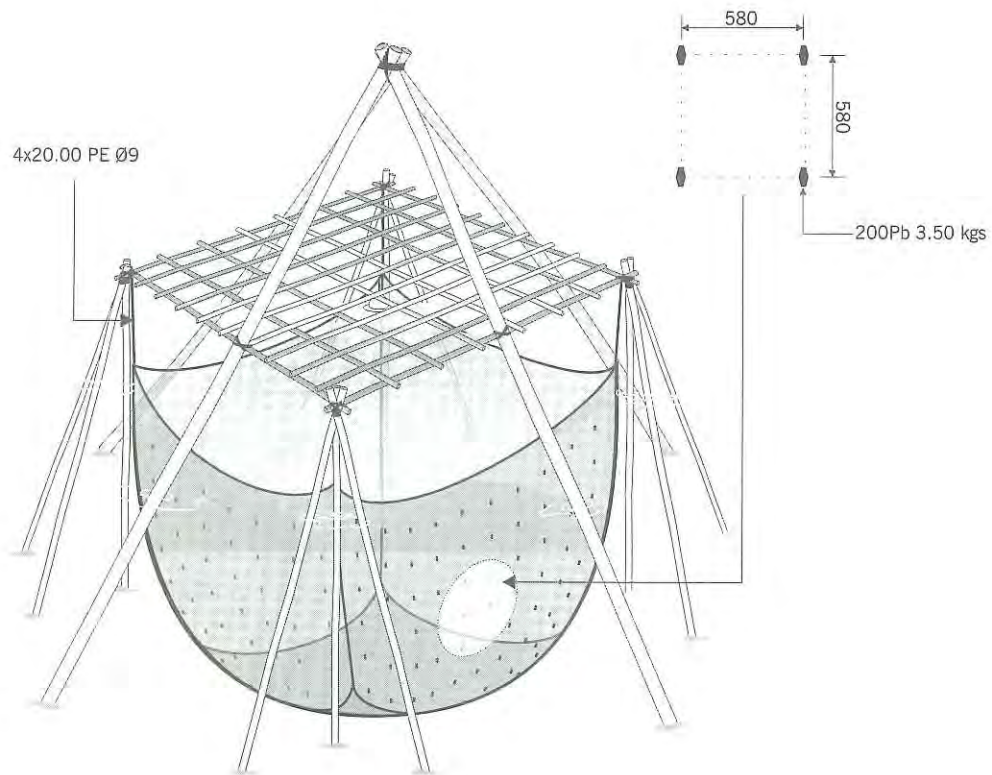
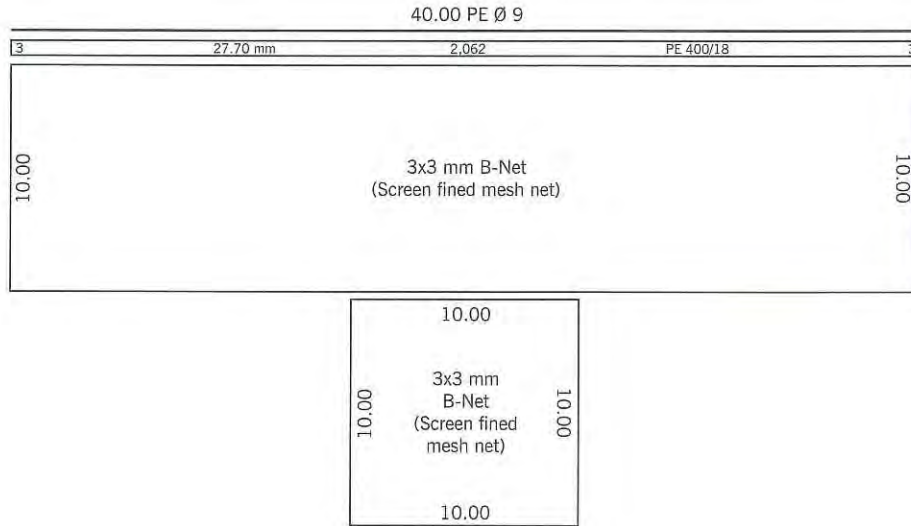
Stationary lift net
Tangkal
Anchovy, Mullet

VESSEL

Loa : 6.09 m
Hp : -

LOCATION

Bacolod City
Negros Occidental

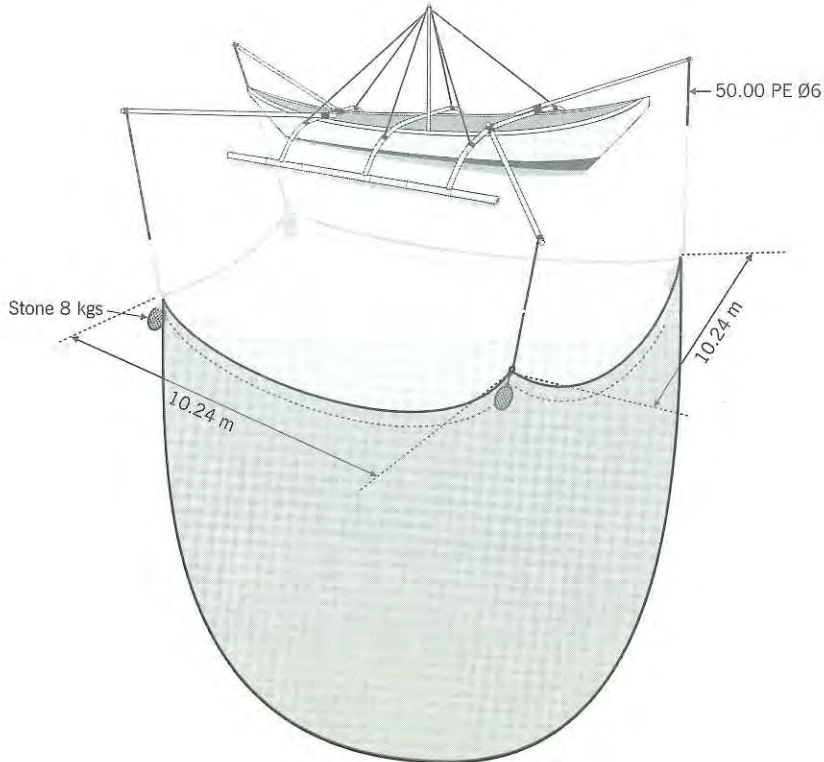
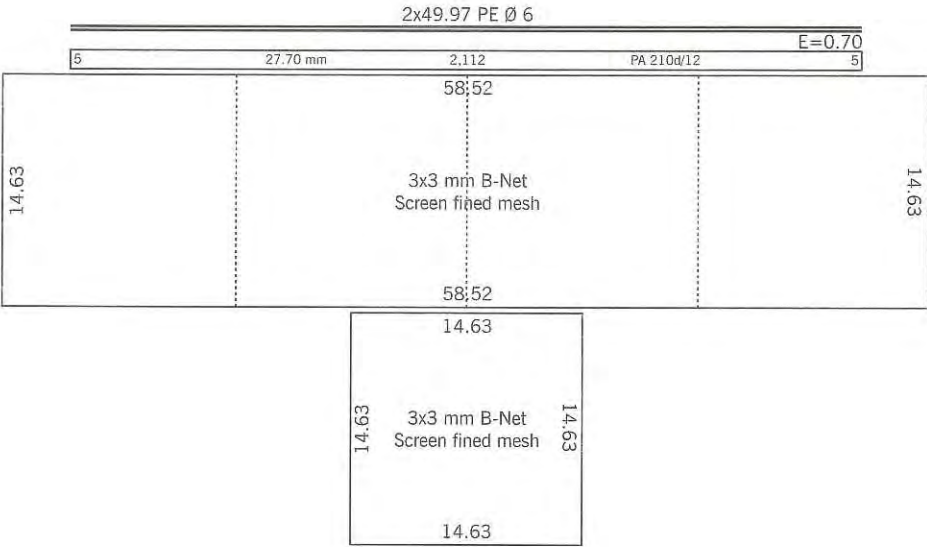


Fishing Gear & Methods in Philippines

LIFT NET
 Lift net
Basnig
 Anchovy

VESSEL
 Loa : 7.31 m
 Hp : 16

LOCATION
 Maasim
 Sarangani





LIFT NET

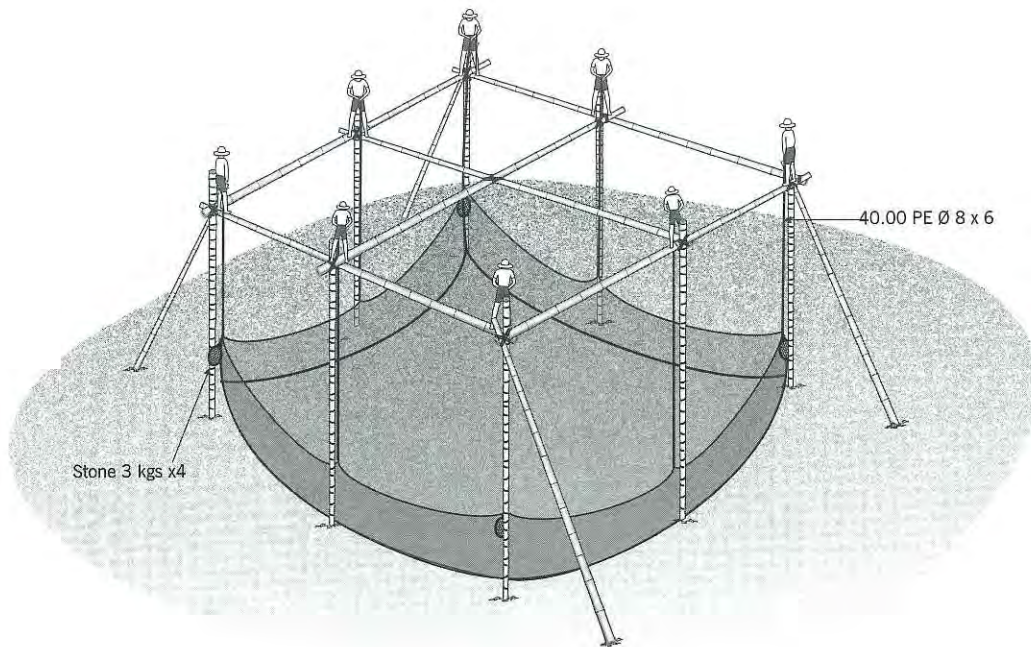
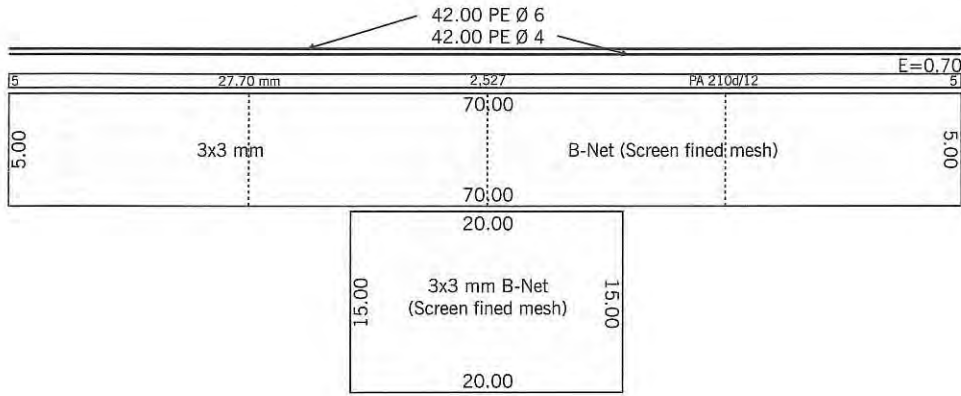
Stationary lift net
Tangkal
Anchovy, Hair tail

VESSEL

Loa : 6.00 m
Hp : 10

LOCATION

General Santos City
South Catabato



Fishing Gear & Methods in Philippines

LIFT NET

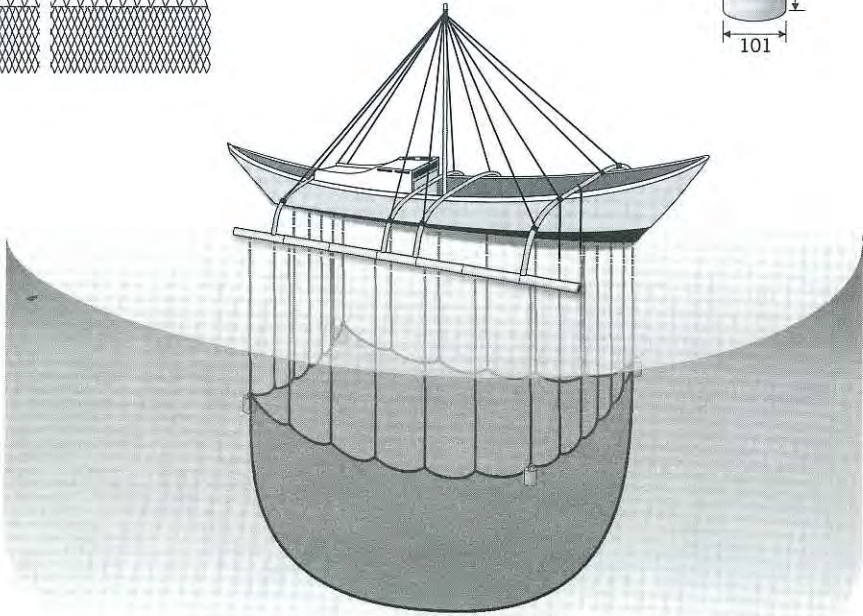
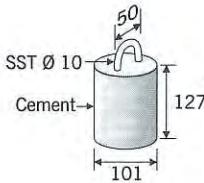
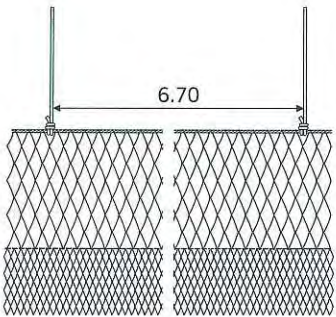
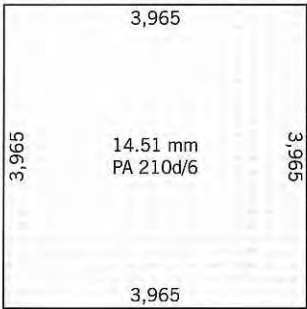
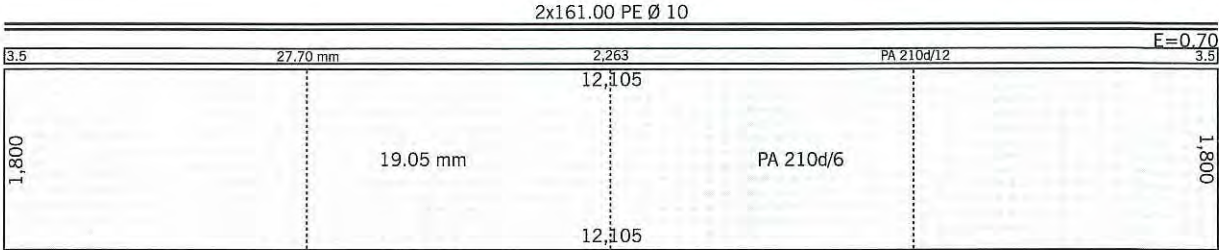
Fish lift net
Basnig
 Herring, Round scad,
 Anchovy, Frigate tuna

VESSEL

Loa : 21.34 m
 Hp : 310

LOCATION

Zamboanga City
 Zamboanga Del Sur





LIFT NET

Crab lift net, portable
Bintol Pangalimasag
Blue swimming crab

VESSEL

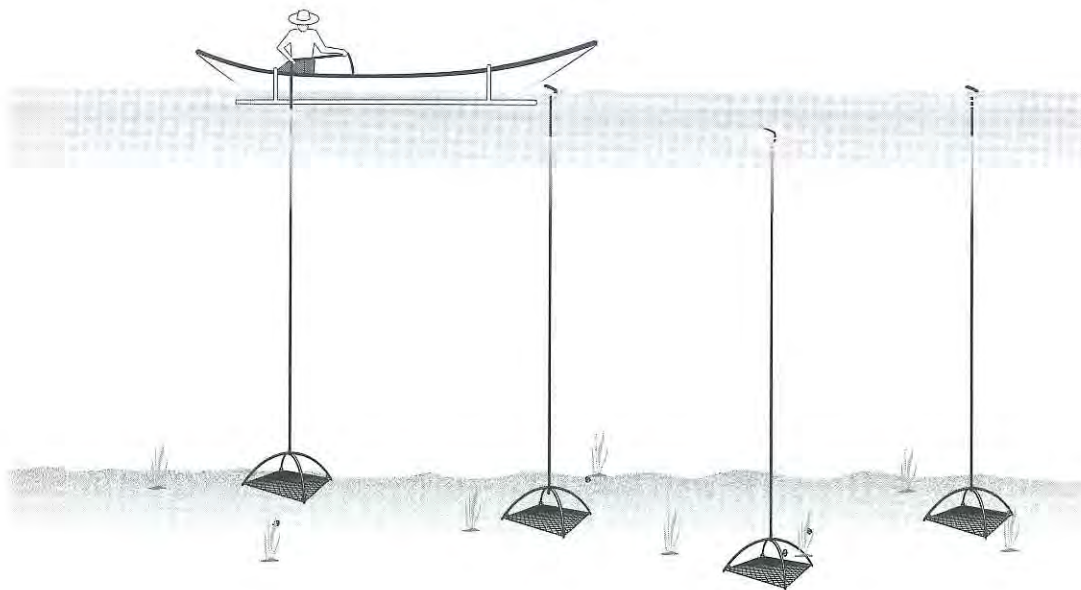
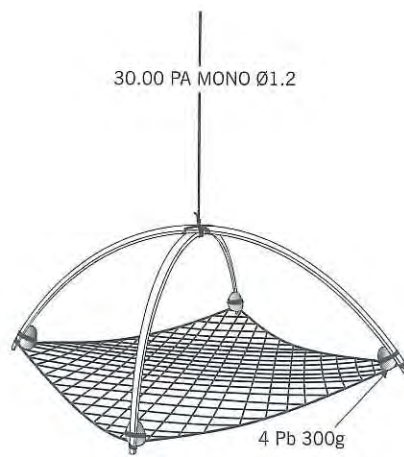
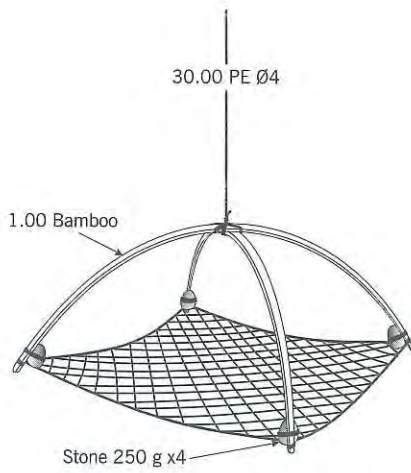
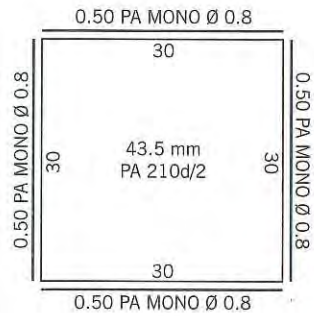
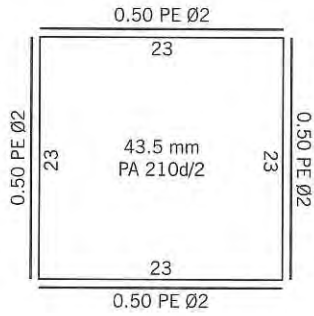
Loa : 4.27 m

Hp : -

LOCATION

Perez, Alabat, Atimonan

Quezon



Fishing Gear & Methods in Philippines

LIFT NET

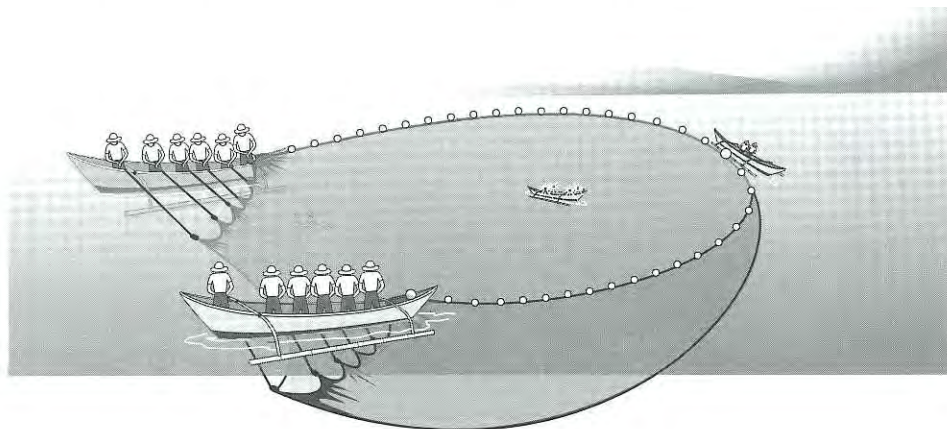
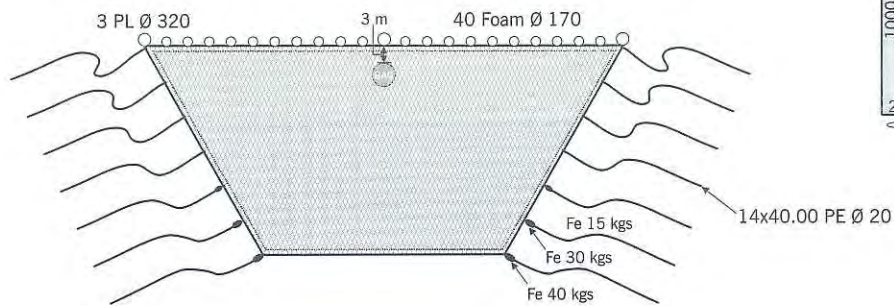
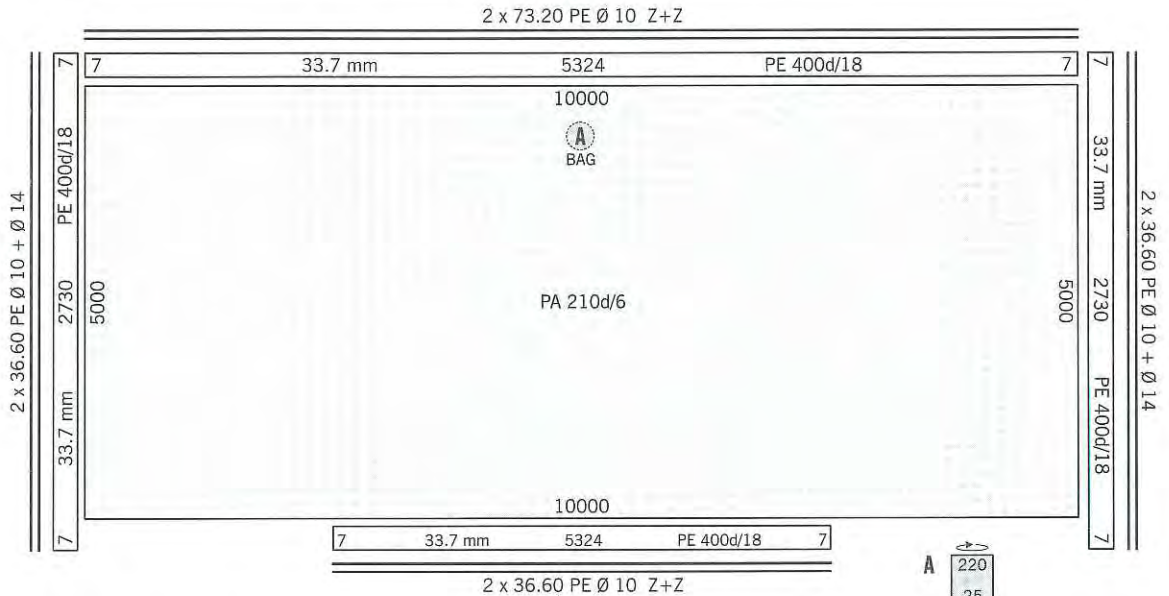
Round haul seine
Lawang, Sapyaw
 Sardine, Scad, Mackerel, Cavalla,
 Anchovy, Frigate tuna

VESSEL

Loa : 2x13.7 m
 3x 4.9 m
 13.0 m
 Hp : 2x16
 80

LOCATION

Talibon
 Bohol





LIFT NET

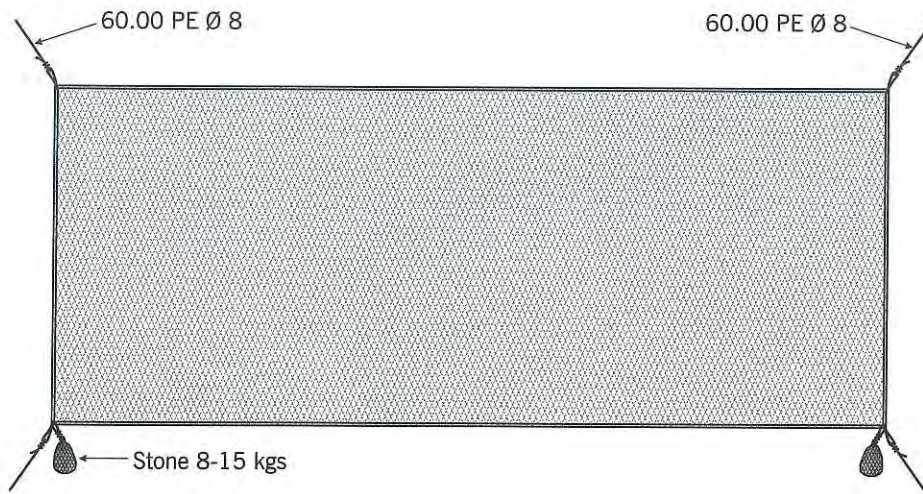
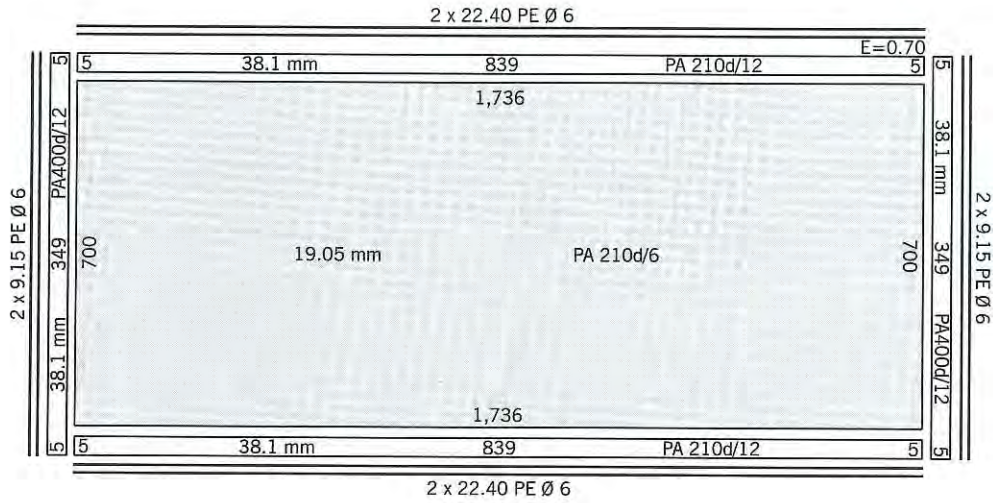
Round haul seine
Sapyaw
Herring, Scad, Skipjack

VESSEL

Loa : 2x10.20 m
Hp : 2x16

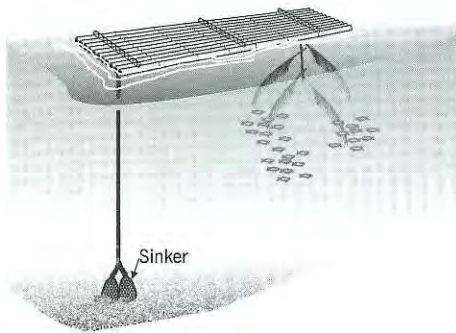
LOCATION

Tanauan
Leyte

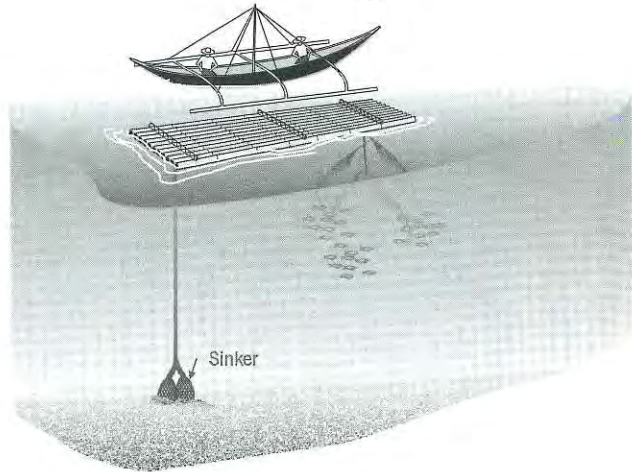


Fishing Gear & Methods in Philippines

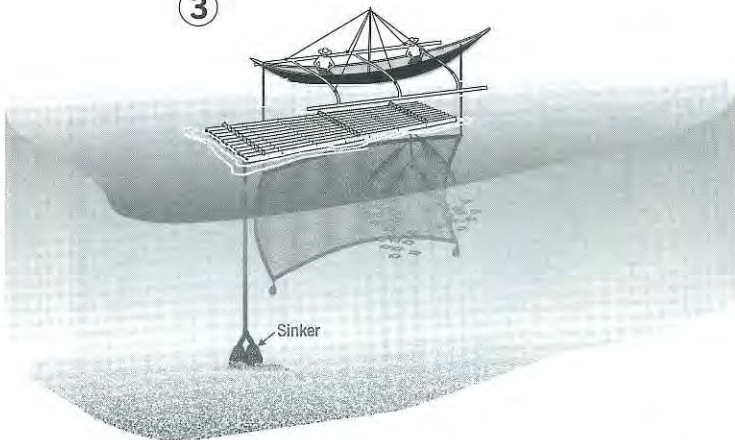
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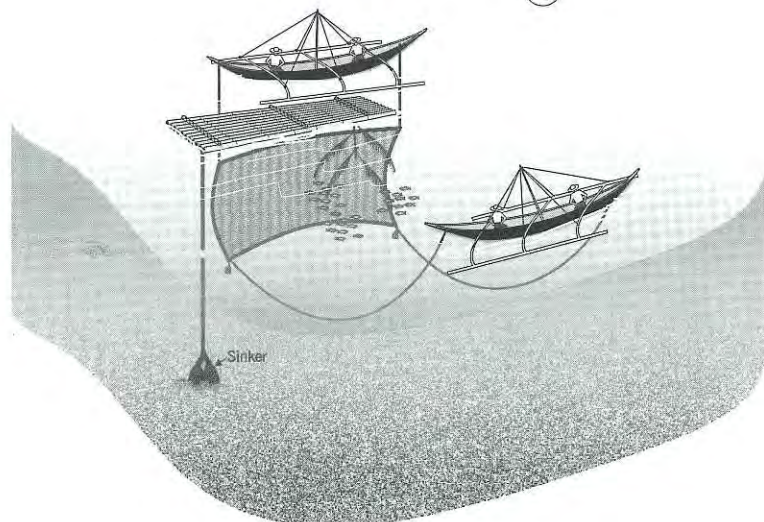
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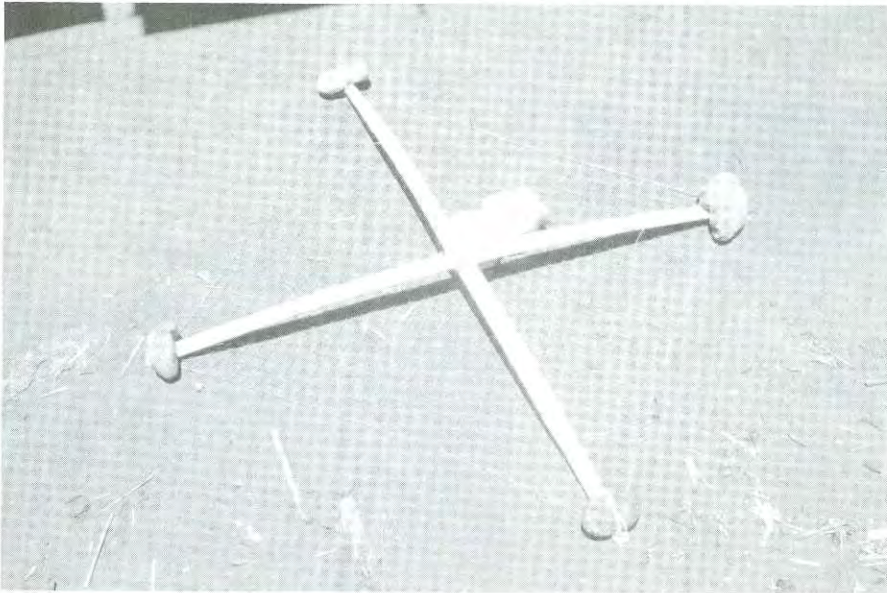


③



④





Simple Lift net



Cast net

< Chapter 9 >

Falling Nets



Falling Nets Fishing

Falling gear primarily refers to castnets. This is a traditional fishing gear, popular among small-scale fishermen living near the coasts and river banks. It is operated by a single fishermen in shallow waters with or without a banca or bamboo raft. It is mainly a municipal fishing gear where its major utilization is to catch fish for daily human consumption.

Prior to casting the net, the fisherman first scours the area for schools or individual fish. In wading depths, the fisherman just carry the net and cast into the fish. In deeper waters, the net is cast from a banca or bamboo raft by simultaneously releasing an extra length of the line for the net to reach the sea bottom. The net is retrieved by pulling the retrieving line. Target species are the sardines, scads, mackerels, mullet, shrimps, tilapia and other freshwater fish.

Cast nets are also used to cover stone aggregates in rivers. The stones are removed one by one until the fish are impounded by the net.

Fishing Gear and Methods

1 Freshwater Castnet

This castnet is a simple gear being used by fishermen, but its use is now limited. The net designs and methods of construction are the same for shallow and deep water operations.

The net is 4 m long with a 22 m mouth circumference. It is made of nylon multifilament PA 210d/2 with 13 mm mesh size. The mouth circumference also has about 126 pockets with each pocket measuring 18 cm long and 50 cm high. Leads or iron chain are attached to the bottom edge as sinkers. At the apex of the net, a 3-5 m PE ϕ 4 mm is tied as the retrieving line.

2 Marine-water Castnet

This castnet is operated in shallow marine waters to catch small sardines, mackerel, scads and mullets. Its design and structure is similar with the freshwater castnet.

The net is hand-made of multifilament nylon PA 210d/2 or PA mono of 0.20 mm diameter. The castnet for mullet has 20 mm mesh size and a 1.6 m deep by 22 m circumference rectangular shaped net between the upper part and selvage of the net. The selvage is nylon multifilament 210d/3 and 16 mm mesh size. It is 25 meshes deep and 22.4 m circumference. The total length of the mullet castnet is 3 m. It has 90 pockets along the mouth circumference. On the other hand, the sardine castnet has a 22 mm mesh size with a net length of 9 m. The mouth circumference is 40 m with 75 pockets. The retrieving line is made of 6 m long PE ϕ 4 mm. Both castnets are provided with lead or iron chain weights at the leadline.

Fishing Gear & Methods in Philippines

FALLING GEAR

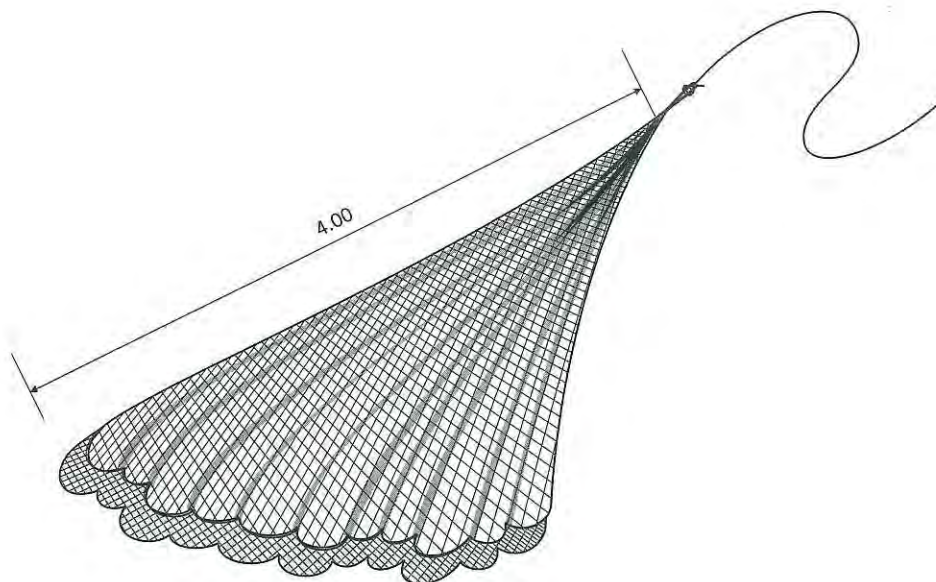
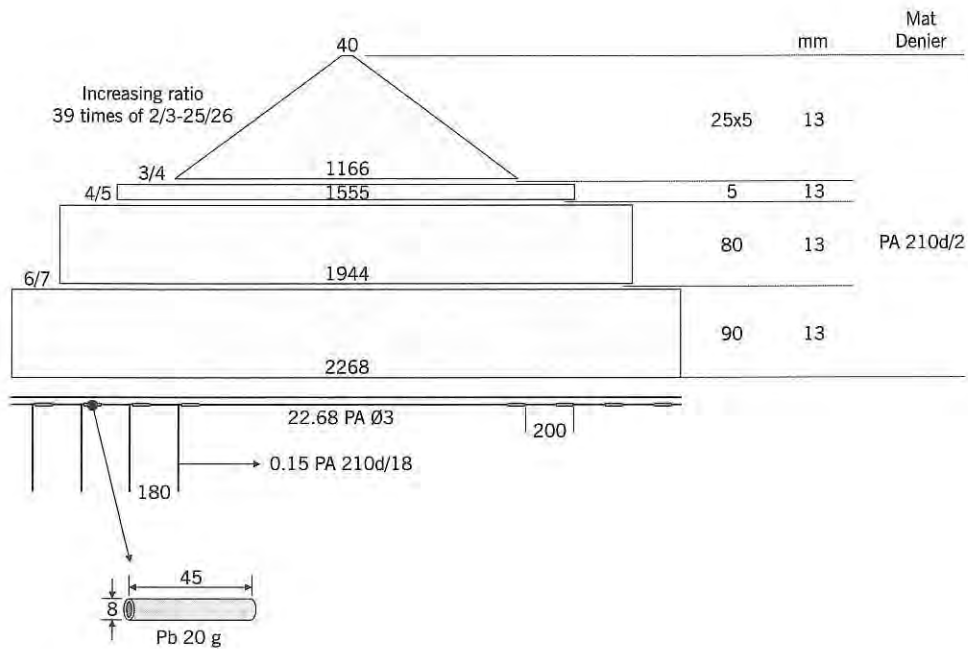
Freshwater cast net
Tabukol
 Shrimp, Tilapia, Goby

VESSEL

Loa :-
 Hp :-

LOCATION

Bauang
La Union





FALLING GEAR

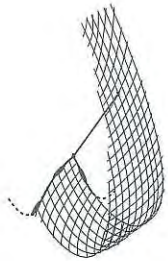
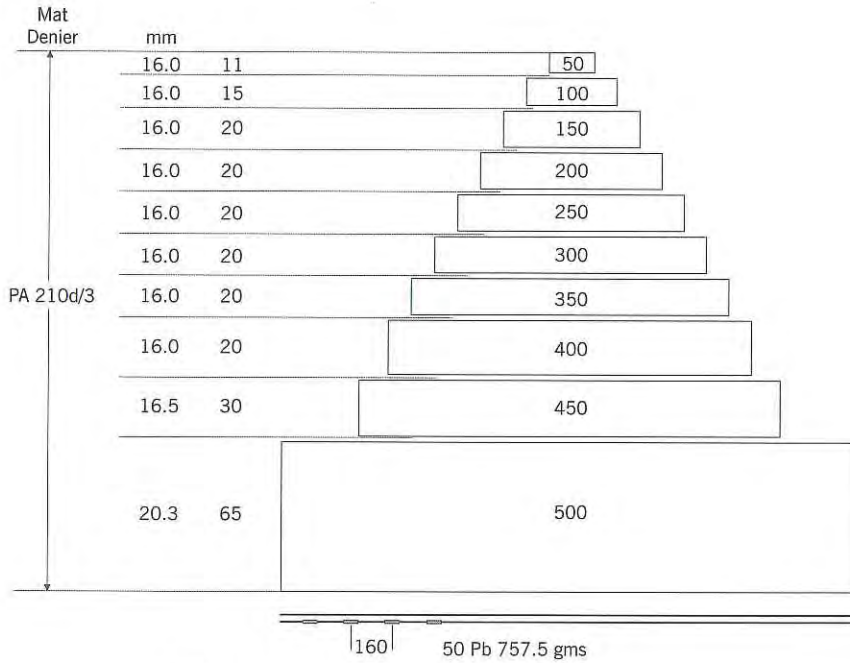
Freshwater cast net
Tabukol
Carp, Black finne mullet,
Therapon, Tilapia

VESSEL

Loa : 5.00
Hp : -

LOCATION

Aparri
Cagayan



Fishing Gear & Methods in Philippines

FALLING GEAR

Marine water cast net
Bintay
 Sardine, Mackerel, Scad

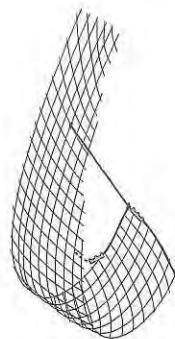
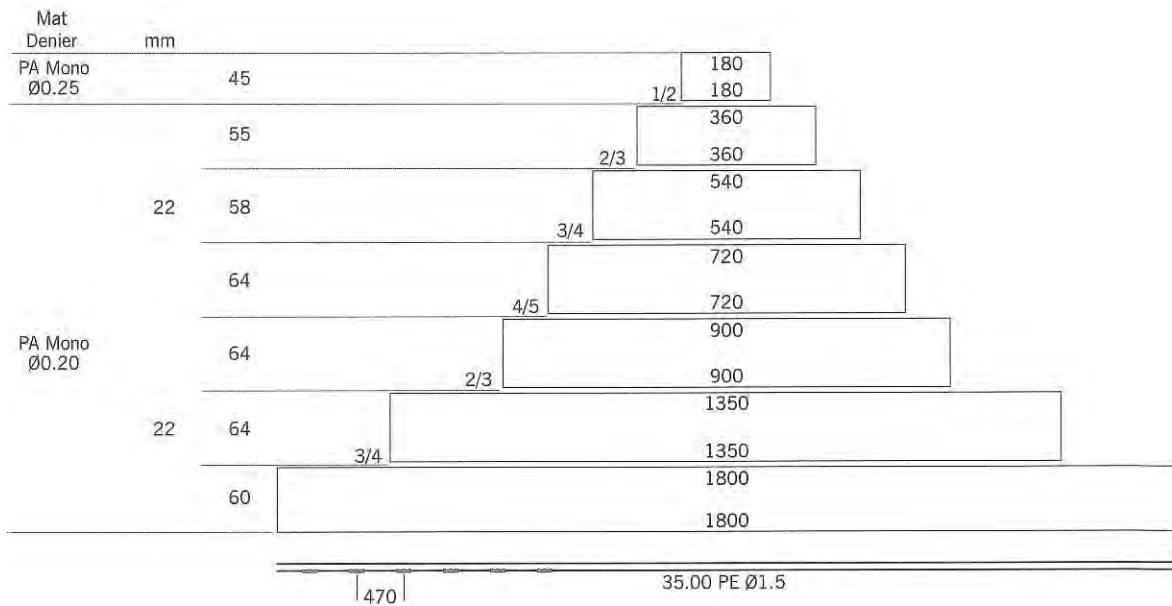
VESSEL

Loa : 5.00
 Hp : -

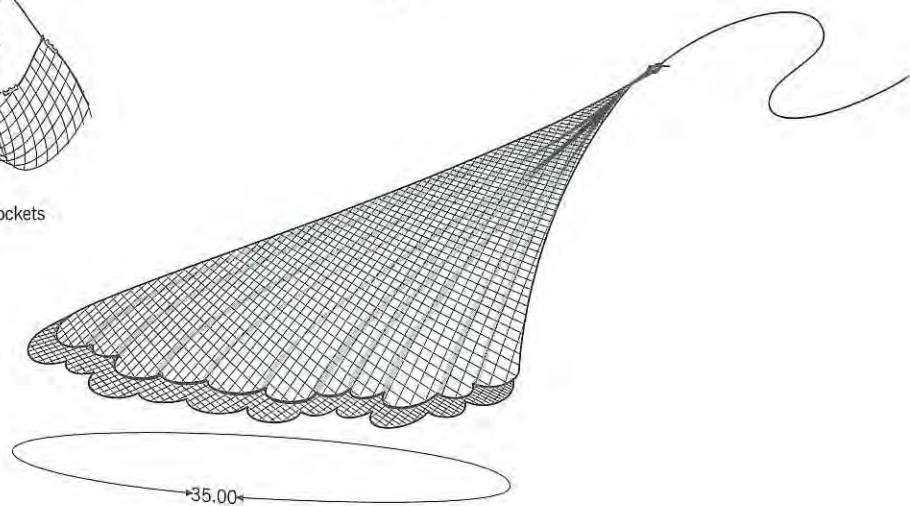
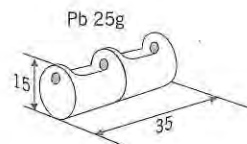
LOCATION

Poblacion, Lawa-any

Antique



X 75 pockets





FALLING GEAR

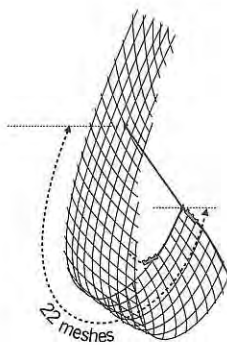
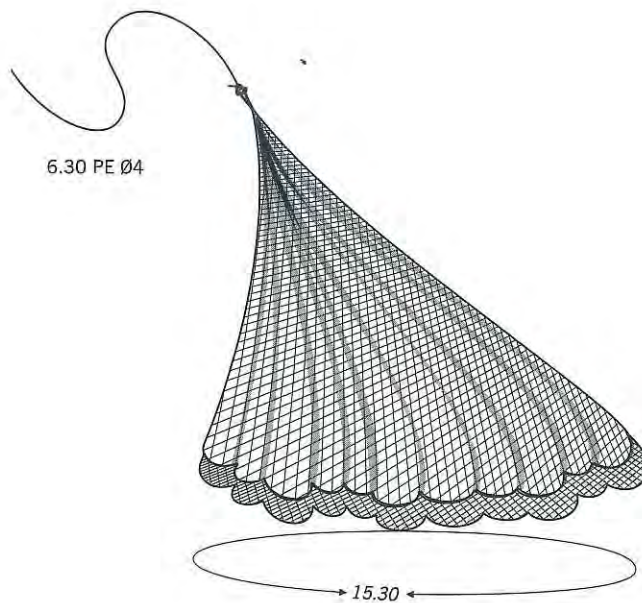
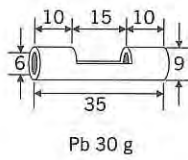
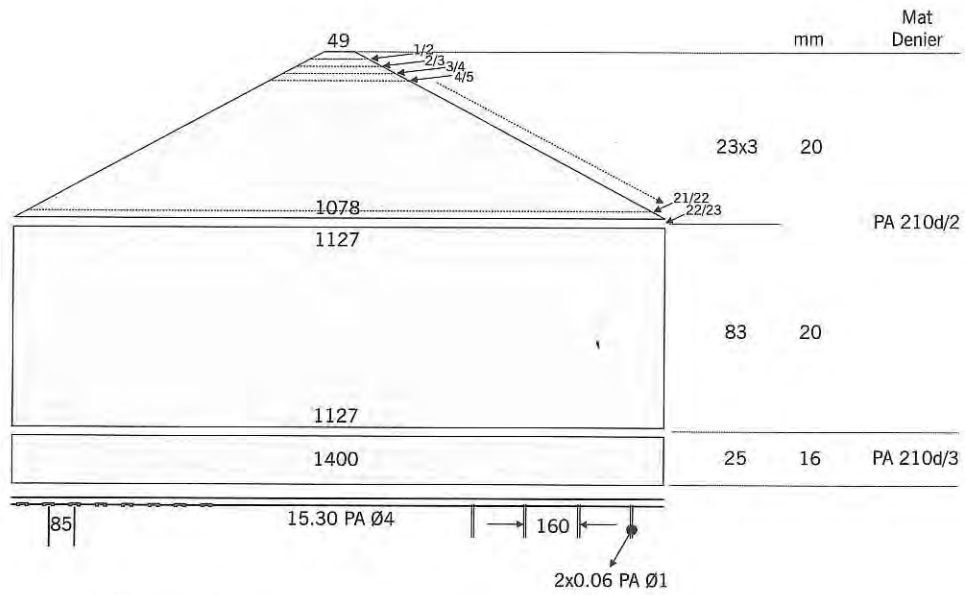
Marine water cast net
Data
Mullet

VESSEL

Loa : 7 m
Hp : -

LOCATION

Porac, Botolan
Zambales



Fishing Gear & Methods in Philippines

FALLING GEAR

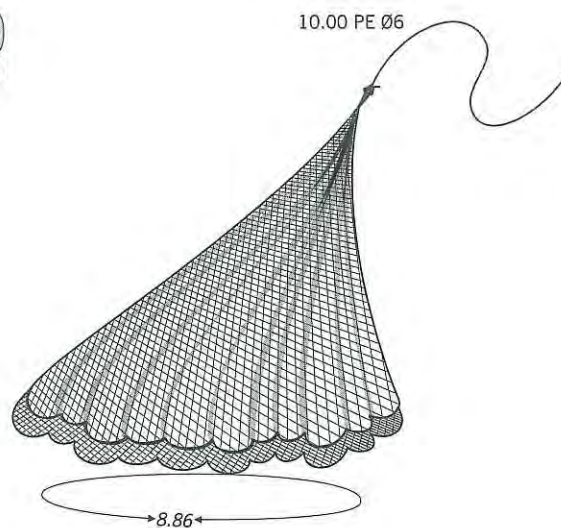
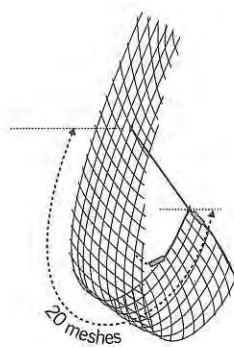
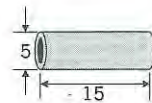
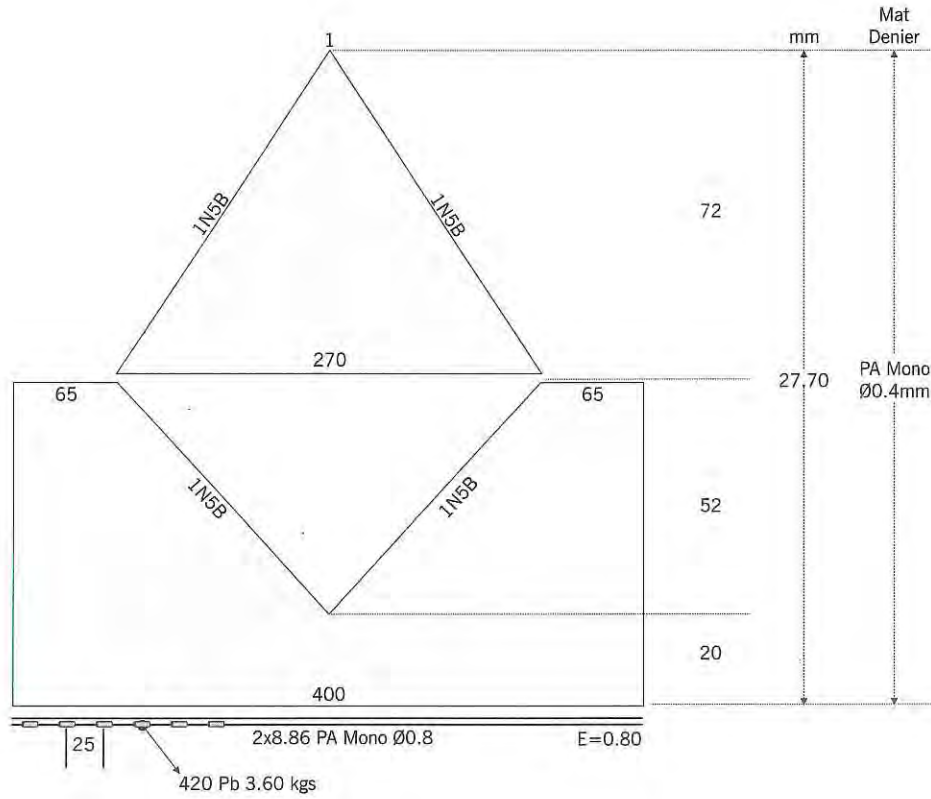
Marine water cast net
Laya
 Mullet, Shrimp, Siganid

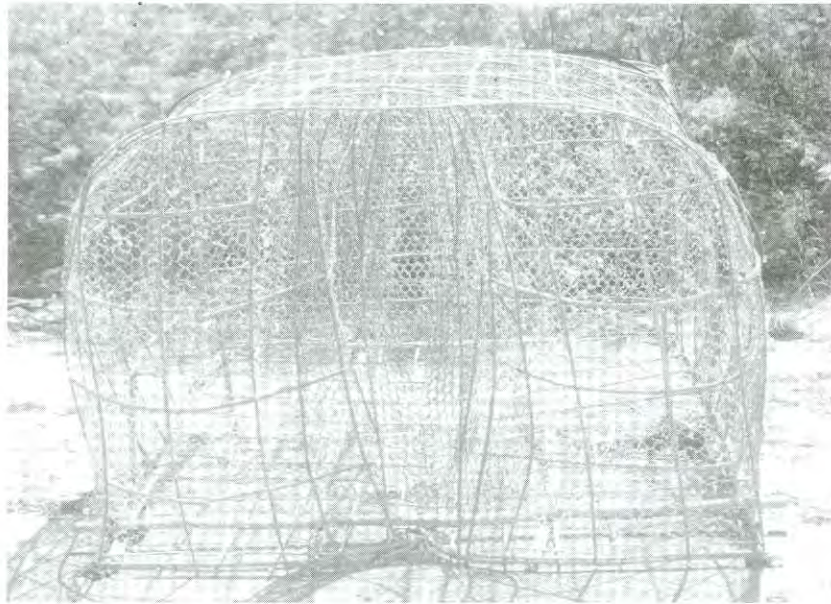
VESSEL

Loa : 4.26 m
 Hp : n/a

LOCATION

Cadiz City
 Negros Occidental





< Chapter 10 >

Trap Nets



Trap fishing is one of the stationary fishing gear with many variations in structural form, material used, operation techniques and targeted species. Various kinds of traps, such as fish trap, squid trap, nautilus trap, crab trap, shrimp trap, barrier net, fyke net/filter net, cover pot and fish corral are traditionally operated on a small scale. A big-scale trap, the Otoshi-ami or “Lambaklad” has been successfully used in some areas for the last 20 years.

Trap fishing is classified into four (4) types in the municipal fishing sector. They contributed 7.15% of the total municipal fishery production in 1995. The fishing statistics record shows declining catches for fish corral and fish pot with increasing trends for fyke net and filter net (see **Table 27**).

TABLE 27 MUNICIPAL FISH PRODUCTION OF TRAPS 1993-1995 (METRIC TONS)

Fishing Gear	1993	1994	1995
Fish Corral	48,943	38,155	31,056
Fish Pot	17,811	19,361	16,532
Filter Net	3,625	6,826	10,555
Fyke Net	2,203	1,442	3,147

Source : Fisheries Statistics 1993-1995-BAS

Fishing Gear and Methods

7.1 Fish-Trap

The fish-trap is commonly called a fish pot or “bubo” in local terms. Three main group can be distinguished based on their shape : cylindrical, rectangular and semi-cylindrical traps. Small traps are about 50 cm long, 40 cm wide and 20 cm in height. Large traps are about 160 cm long, 100 cm wide and 50 cm in height. However, there are some fish pots measuring 500 cm long, 320 cm wide and 100 cm in height.

Bamboo is the most widely used material for making trap frames, non-return funnels and the woven mattings that surround the trap. Nowadays, polyethylene or mononylon netting is the main material for smaller traps while the larger ones are made of steel wire. The wire netting has hexagonal meshes with leg size of about 2.0-2.5 cm long.

A majority of the fish traps have only one entrance. It has pointed bamboo funnels which prevent the escape of the fish after entering the trap. The number of traps to be set range from 10 to 20 depending on the size of the trap and the banca. The traps are provided with stone weights at each corner during operations. Small-sized traps are usually baited and are hauled daily. Large traps do not contain any bait and are kept on the bottom for several days. Some are

set in rocky coral bottoms by diving, while other traps are set in the bottom with a retrieving line. There are also set traps with no surface marker. The location is based on bearings of mountains or tall buildings. Retrieval, by hooking the line, or the trap itself, is by use of a weighted gaff. Removal of fish caught is through an opening located at the sides or lower portion of the trap.

7.2 Crab Trap

The crab trap varies in shape depending on the species to be caught. The circular flat type is 50 cm diameter and 14 cm in height. The single entrance is located on top with a 12 cm diameter opening. During operation, the trap is baited with fish while 2 stone weights of 100 g each are placed inside. It is set in shallow water and the fisherman can set as many as 42 units at six meters intervals. A square type crab trap is also used, having 2 entrances with an inside funnel where the crab can roam around. The frame is made of bamboo or wood with polyethylene 400d/12, 50 mm mesh size put around the trap. A bait case for fish is provided in the central portion of the trap. Both types of trap catch the blue swimming crab.

A cylindrical trap for mangrove crab is also commonly used. The length of the trap is about 70-150 cm, with the maximum diameter of about 25-58 cm at the cylindrical part. It is made of split bamboo with two entrances on opposite sides. The non-return funnels of different sizes are made of bamboo. The funnel length ranges from 25-40 cm long. The top of the trap is covered with coconut fronds and bait is put at the center during operation. It is set in the river, or near mangrove trees, along coastal areas. It is fixed into the bottom by means of a bamboo stake. The traps are hauled once or twice a day.

7.3 Squid Trap

Traps for big fin reef squid have many shapes and sizes. The most common are the semi-cylindrical and the cylindrical traps. The semi-cylindrical trap is about 120-155 cm long, 60-120 cm wide and 50-80 cm in height. The cylindrical trap is about 135 cm long and 120 cm diameter. Bamboo and rattan are widely used materials for making trap frames. The cover of the trap can be the polyethylene netting 380d/12, with 60 mm mesh size woven bamboo netting and nylon monofilament PA of 0.5 mm, 40 mm mesh size. Baits are coconut flower branches which are tied at the center of the traps. In some areas, the trap is placed on top of a platform consisting of bamboo branches to attract squid.

The traps are set in waters from 9-15 m deep. The common method is to set them along the sea bottom but another method is the suspension of the trap in a vertical bamboo which is fixed by a line to the bottom. The traps has only one entrance which is located on top or on one of its side.

7.4 Nautilus Trap

The Nautilus trap is operated by small scale fishermen to catch nautilus in deep waters. The nautilus shell commands a high price in the export market while its meat can be sold in the local market. The trap is a combination of bamboo and iron wire as its frame, while nylon monofilament PA of 0.80 mm, with a 110 mm mesh size and polyethylene 380d/15, 65 mm

mesh size as its netting. The rectangular traps are about 45-60 cm long, 35-60 cm wide and 29-37 cm in height. This type has 2-3 entrances located in the sides. The circular trap is 86 cm diameter at the base, 68 cm diameter in the upper portion and 36 cm in height.

Twenty to thirty traps can be set in one night. The traps are set at 200-400 m deep. All traps are provided with bait such as eel, suckerfish, sliced shark and stingray in the center part. The traps are connected to each other at 12 m interval using a PE ϕ 5 mm. rope. The whole assembly is anchored at both ends by stones weighing 500 g. A flagmarker is provided.

A hand winch is installed in the banca for hauling the traps.

7.5 Shrimp Trap

This trap is mainly used in rivers to catch shrimp. It is cylindrical in shape with the posterior end bigger in circumference than the anterior end. The length of the trap is 39 cm while the posterior opening is 8.5 cm diameter. The anterior opening of the trap has a diameter of 4 cm. The main material for the trap including, the male and female non-return funnels, is bamboo. During operation, the trap is baited with cooked rice bran and the anterior end is closed by coconut fibers. It is fixed in rivers during night time by crossed bamboo stakes or covered with stones on its upper side when set.

7.6 Barrier Net (Ebb-tide bamboo stake trap)

This trap is usually set on tidal flats, or on a sand bar at the mouth of a river, or along the shoreline at about one meter depth. Bamboo stakes are placed at 2-3 m intervals in a semi-circular shape near the shore. It is provided with bamboo braces to withstand the tidal currents. A terminal pound is installed at the central part of the circular structure.

During the highest tide, the fishermen will set the nylon net 210d/6, 16 mm mesh size or polyethylene netting along the semicircular structure and the terminal pound. After the lowest tide fishermen will check along the net and the terminal pound to see if some fish have been gilled or impounded.

7.7 Fyke Net

A fyke net is usually operated in shallow water 1-3 m deep, but some kinds are now set in deeper waters. In shallow waters, the trap is used to catch shrimp, planktonic shrimp and miscellaneous fish. The net shape is mostly conical but some are still cylindrical. The cylindrical fyke net is usually constructed of 1x1 mm. mesh size minnow net or PE of 0.2 mm with a length of 1.28 m and 24 cm diameter. It is provided with two non-return funnels 25 cm long with a 24 cm diameter posterior opening and 4 cm diameter anterior opening. One end of the trap is closed during operation. A bamboo pole is staked in the water where the fyke net is tied with the posterior end facing the current. The conical fyke net has two wings 20 m long, 20 mm mesh size and twine size 400d/6-9. The body is about 12.5 m long constructed of 6-15 mm mesh size polyethylene 400/3. The cod end is 3.65 m long with a 90 cm opening.

Fyke nets are operated year round during day or night, usually from after high tide to the lowest tide. The cod-end or the whole net is hauled frequently to collect the catch.

7.8 Bamboo Stake Trap

The bamboo stake trap is commonly termed “fish corral” and are of two types: the ordinary bamboo fish corral and the combination drive-in-fish corral. These two types vary primarily, in the materials used, and methods of guiding the fish school to the terminal pound.

The ordinary fish corral consists of three parts: leader, playground and terminal pound or cod end. The leaders are made of bamboo stakes, netting, wire or branches. Their length varies from 10 to 400 m, depending on the size of trap and the bottom topography. Usually, there is only one leader but in some fish corrals, 2-3 leaders may be found. The main leader is usually positioned perpendicular to the shore and the entrance faces the current at ebb tide. The leaders guide the fish into the playground which is a heart-shaped or C-shaped enclosure constructed of bamboo, coconut tree or wooden stakes driven into the sea bed, with a polyethylene or nylon monofilament netting cover. The fish are guided to the terminal pound where they are scooped out, or caught by a liftnet or spear. The cod-end or terminal pound is semicircular with a bamboo or palm-tree stake frames covered by polyethylene or wire netting.

The drive-in fish corral is mainly operated along the sheltered coastal waters of South Cotabato, Sultan Kudarat and Maguindanao provinces. It is set at about 20-30 m deep and is used to catch skipjack and yellowfin tuna that come near the shore. The leader consists of 3-5 bamboos which are bundled together as raft. The length of the bamboo is about 9 m and is 50-80 mm in diameter. The rafts are connected to each other by rope. One end of the leader is tied with the cod-end or terminal pound while the other is anchored by stones. The length of the leader is 225 m and set almost parallel to the coastline. Attached, beneath the rafts are vertical ropes with split coconut or palm fronds as scaring devices. The length depends on the depth of the water where the rafts are anchored. The semicircular shaped terminal pound is located at the slope of the shore. It has 30-50 coconut trunks (10-20 m long) which are driven to the sea bed at 3-4 m intervals as the posts for the polyethylene netting cover. The front of the pound is also provided with coconut posts leaving a 16-m entrance opening at the center. A net measuring 18 m long by 16 m deep is hung at the entrance opening.

When tuna schools are seen around 30 paddled bancas drive the fish towards the trap. After the fish enter the enclosure, the net at the entrance is lowered to prevent escape of the fish. A bagnet or a scoops is used to collect the catch.

7.9 Cover Pot

This trap is usually operated by one-man in paddy fields, swamps and rivers at knee-depth. When a fish is detected in the water, the fishermen suddenly covers the fish. The cover pot has an opening at the upper portion where the hand could be inserted and take out the fish inside. The lower portion of the pot is open and with other construction lower has a non-return funnel. The gear targets mudfish, goby and other freshwater fish.

7.10 Otoshi-Ami (Lambaklad)

Otoshi-ami is a Japanese fishing gear and was introduced thirty years ago in Paluan, Mindoro. Locally called “Lambaklad”, it is now widely used in Zambales, Ilocos Norte/Sur, Leyte, Bataan, Antique, Aklan and Iloilo provinces. It is the most expensive trap and costs about



P800,000.00 to P1.3 million per unit nowadays.

The gear with one or two entrances is installed in coastal waters at 25-35 m deep. It resembles the operation of the ordinary bamboo stake trap but differs mainly in the materials and method of construction. It consists of four main parts: the leader, playground, the inner and outer slopes, and the bag. The leader is made from hand woven polyethylene netting with a 304.8 mm mesh size and 400/18 twine size. The bag, slopes and playground are made of the same twine, nylon 210/30 but the mesh sizes vary from 25.4 -152.4 mm. The leader length varies from 200-450 m, while its depth depends on the topography and inclination of the area. It is usually set perpendicular to the shoreline. The leader netting is hung on a 32 mm diameter polypropylene rope. The leader guides the fish into the playground, then to the slopes and finally to the bag where they are impounded. The slope or the ramp is constructed at a 15 to 45 degrees inclination from the seabed to the bag with flooring and side netting. The bag compartment has a floor, seaside and shoreside, entrance and impounding netting

The gear, when constructed, is 200 m long and 40 m wide. There are 2 parallel mainframes of 36 mm diameter polypropylene ropes. The opposite ends are tied to the round steel main buoys (180 cm x 1.3 cm thick) or rectangular steel buoys (2.4 m x 1.2 m x 0.6 m) which are anchored by sandbags. The mainframes are spread sideways to the predetermined width of the playground slope and bag using the division ropes. It is then provided with cylindrical styrofoam floats (40 cm x 30 cm) with distribution closer at the bag part. The various net parts are hung on the mainframe using PP 6 mm tying ropes. Additional sandbags are then anchored on both sides.

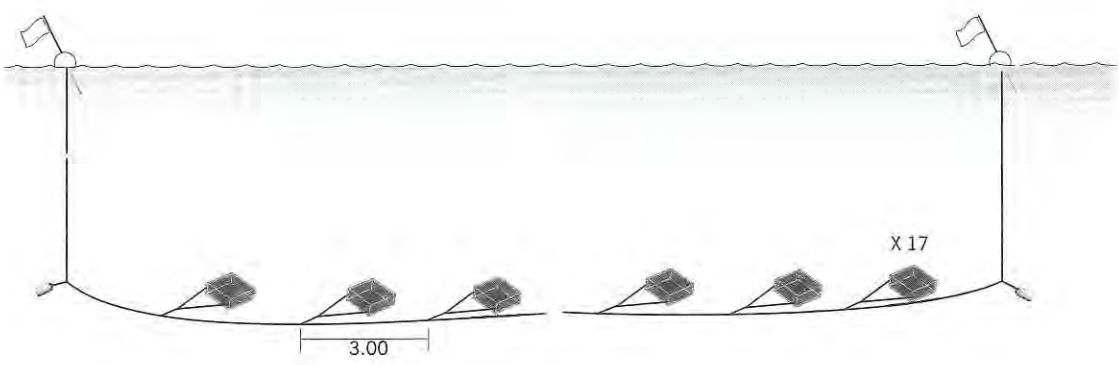
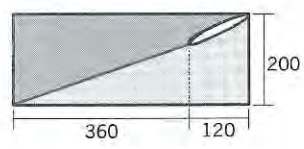
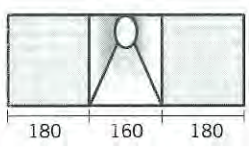
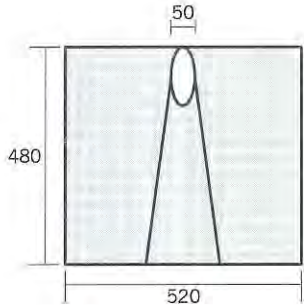
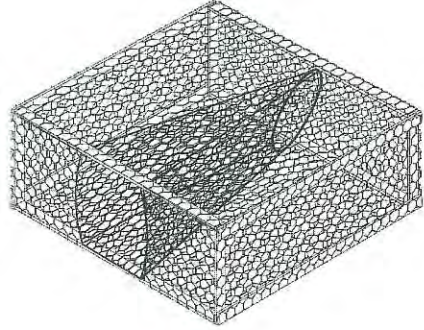
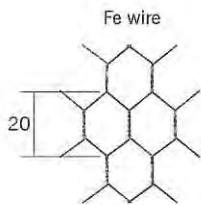
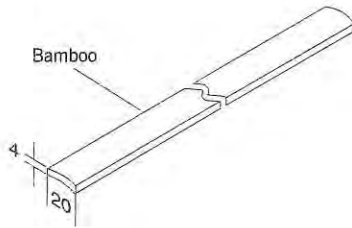
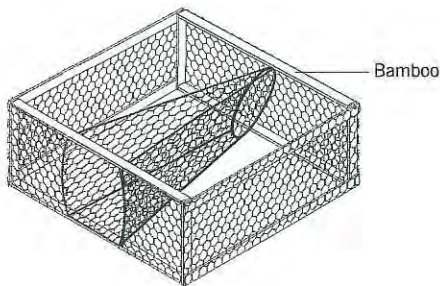
Hauling is usually done in the morning and the afternoon. Two wooden flatboats (7.3 m x 1.8 m x 0.6 m) towed by a motorized boat are used during hauling the bag part. The netting is lifted until the fish are impounded in the pocket. Major fish species caught are tuna, mackerel, cavalla, rays, marlin and sharks.

Fishing Gear & Methods in Philippines

TRAP
 Fish trap
Bubo
 Demersal fish

VESSEL
 Loa : 8 m
 Hp : 10

LOCATION
 Bunakan, Madridejos/
 Bantayan
Cebu

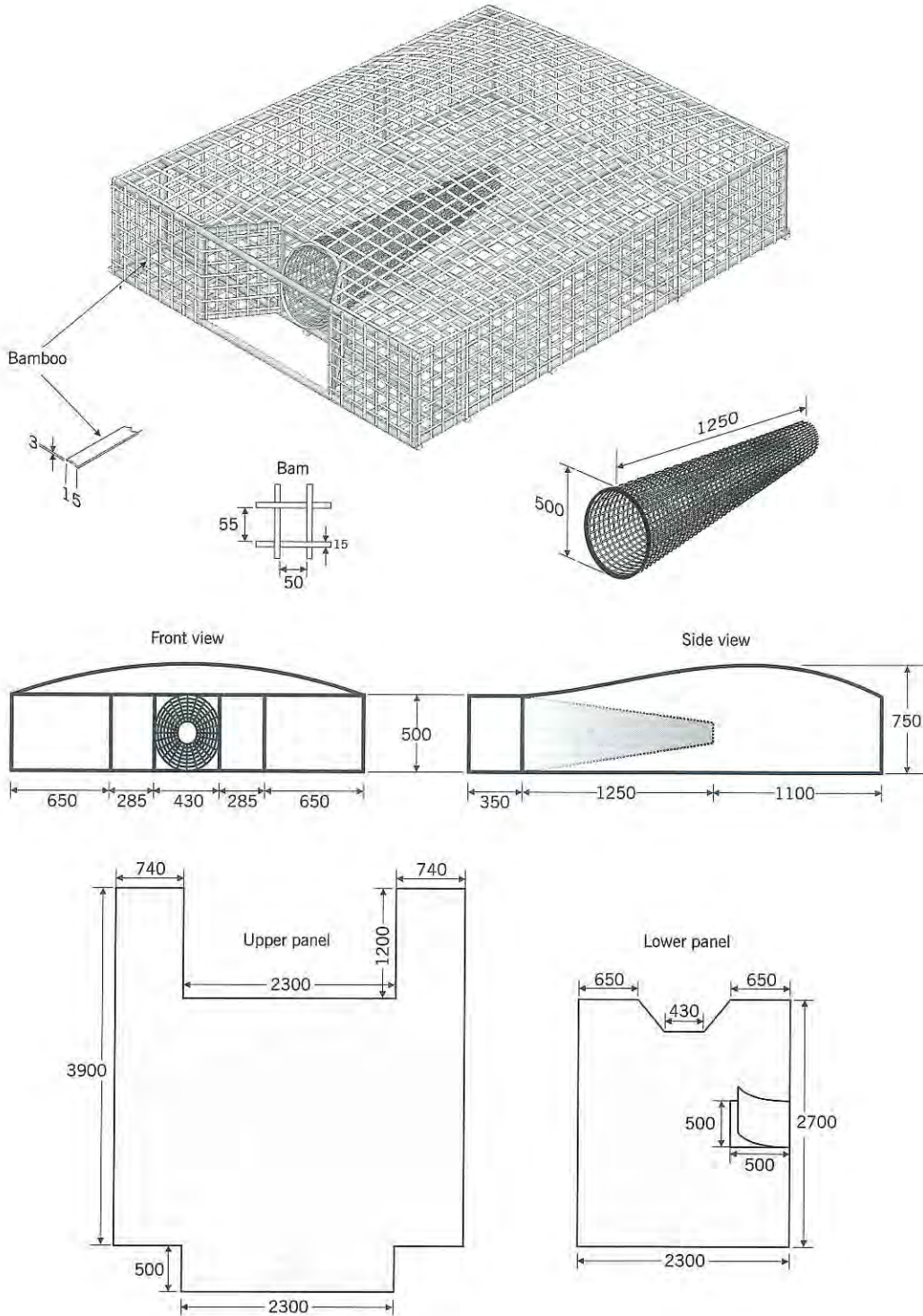




TRAP
Fish trap
Bubo
Demersal fish

VESSEL
Loa : 13 m
Hp : 80

LOCATION
Bagong Silang, Puerto
Princesa City
Palawan

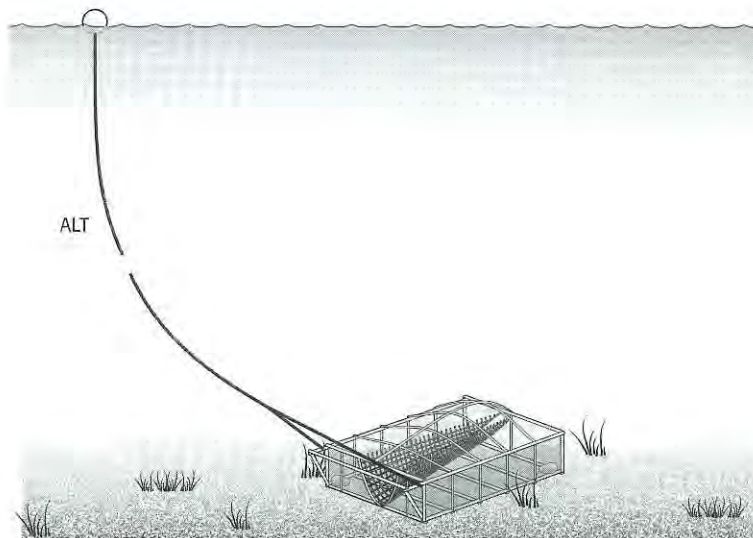
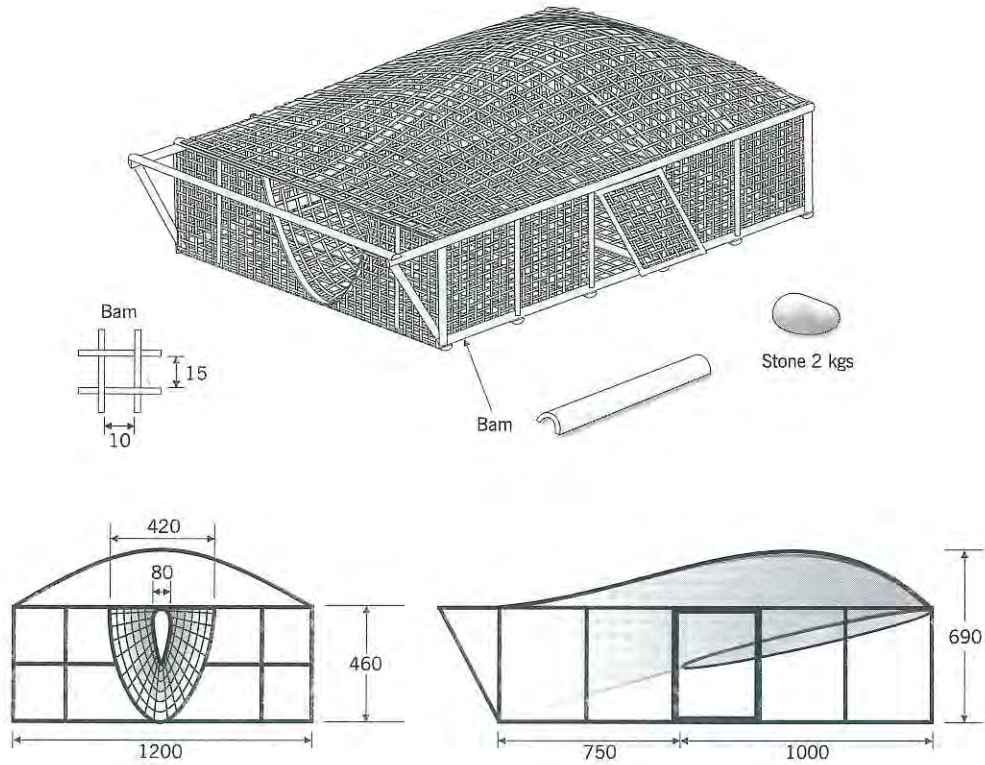


Fishing Gear & Methods in Philippines

TRAP
Fish trap
Bubo
Bream, Caesio

VESSEL
Loa : 6 m
Hp : -

LOCATION
East Canayaon, Garcia
Hernandez
Bohol





TRAP

Fish trap
Nasa

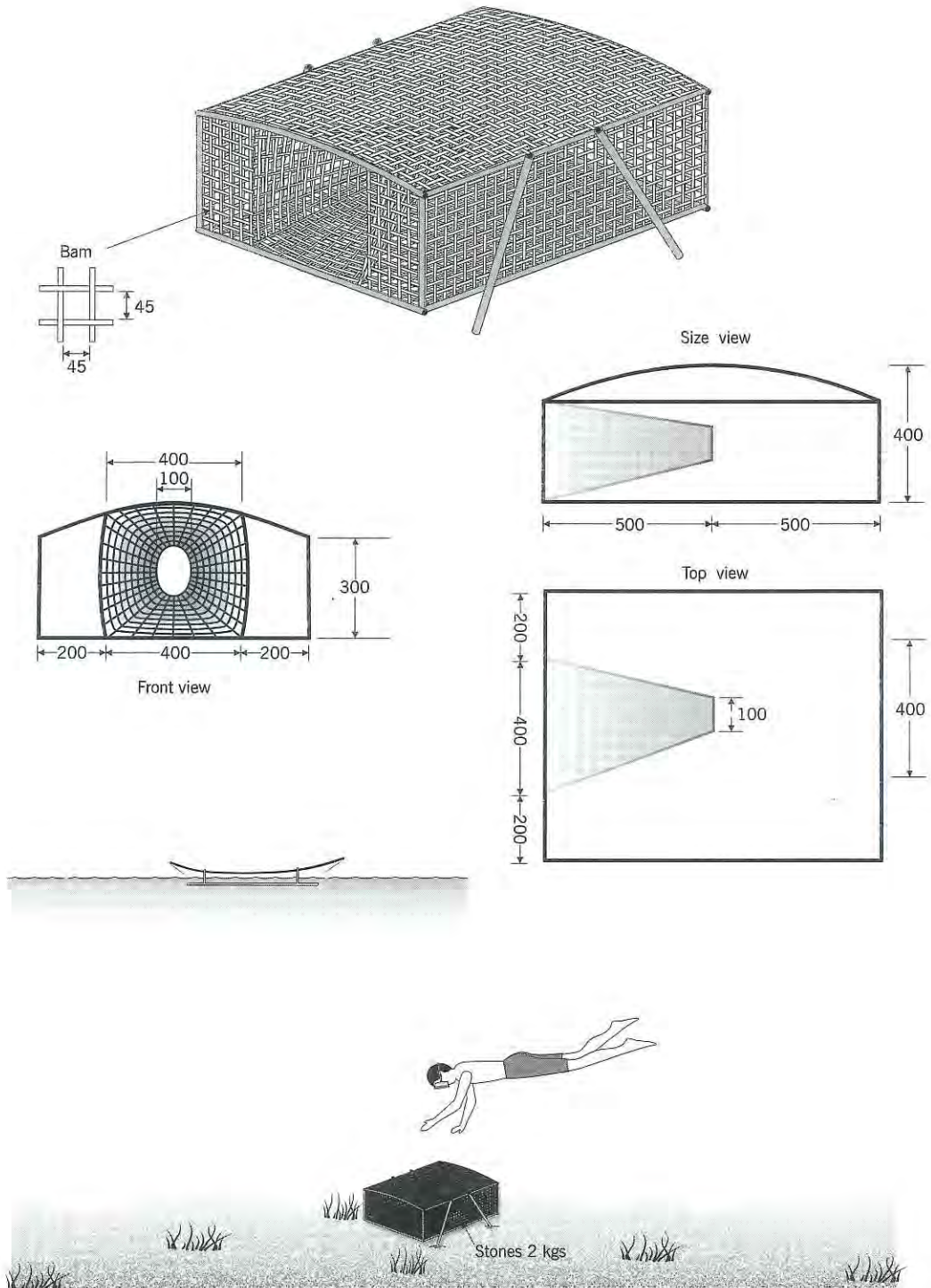
Grouper, Snapper, Cavalla,
Jack, Moray

VESSEL

Loa : 4-6 m
Bamboo raft
Hp : -

LOCATION

Cabugao
Ilocos Sur

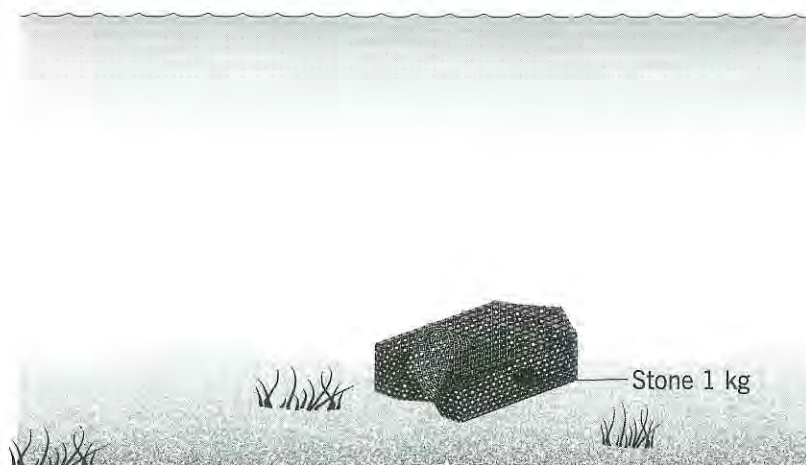
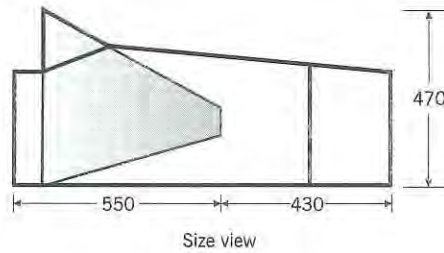
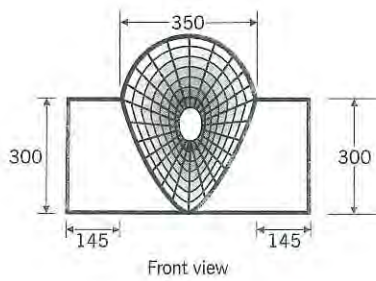
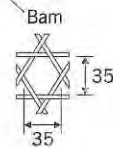
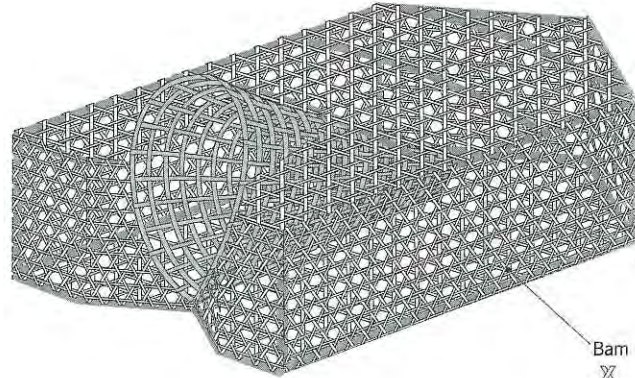


Fishing Gear & Methods in Philippines

TRAP
Fish trap
Bubo
Snapper, Grouper,
Coral fishes

VESSEL
Loa : 7 m
Hp : 16

LOCATION
Amaya, Tanza
Cavite





TRAP

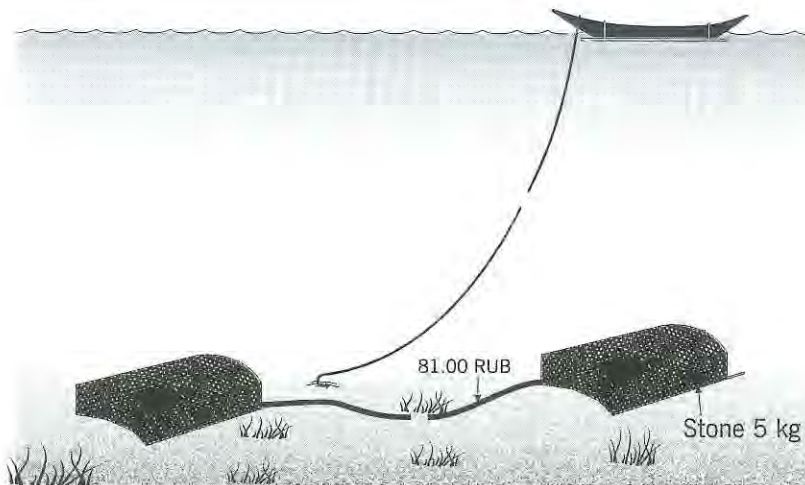
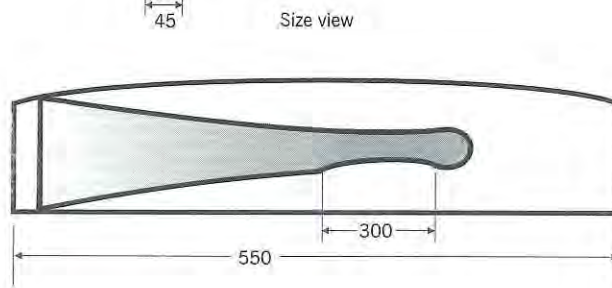
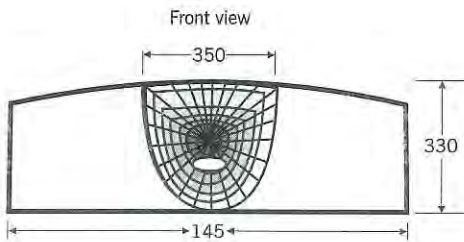
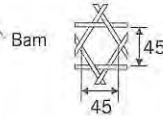
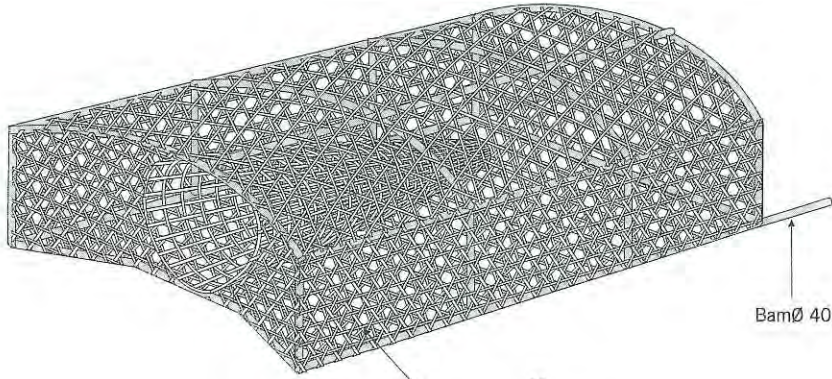
Fish trap
Bubo
Snapper, Grouper

VESSEL

Loa : 5 m
Hp : -

LOCATION

Dimino
Bohol

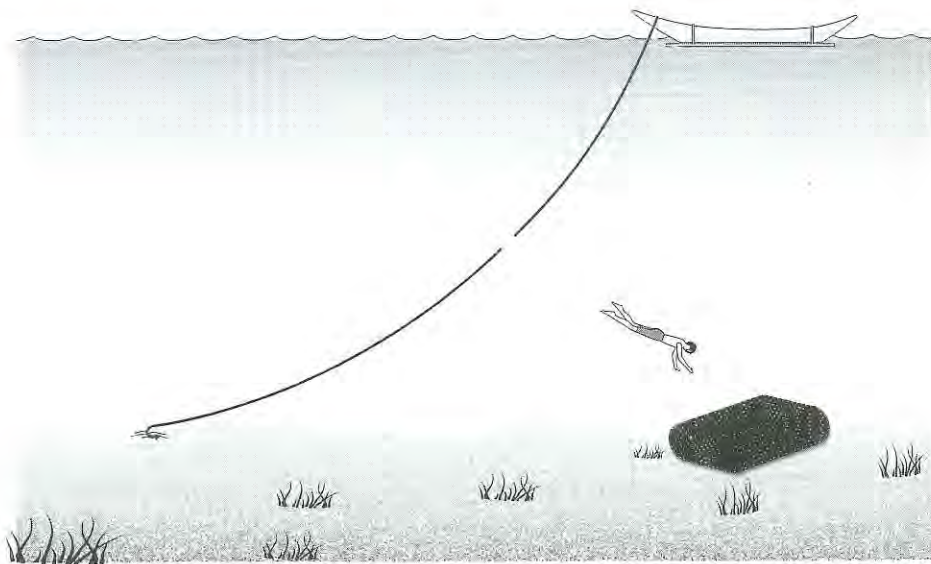
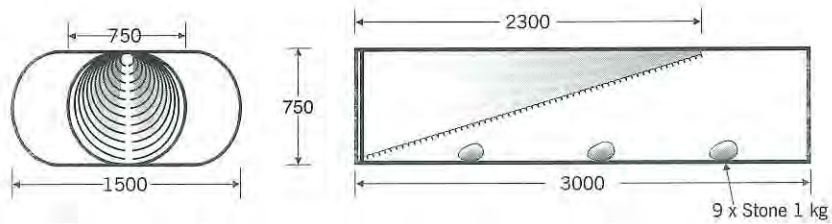
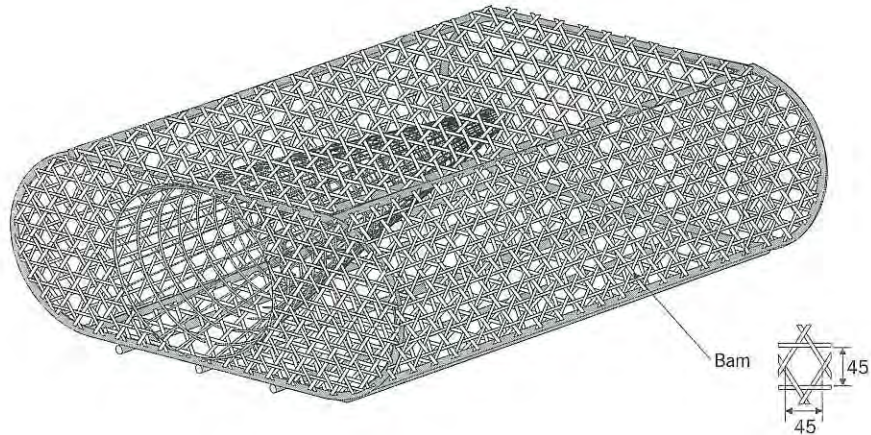


Fishing Gear & Methods in Philippines

TRAP
Fish trap
Bubo
Grouper, Snapper,
Parrot fish, Surgeon fish

VESSEL
Loa : 12 m
Hp : 16

LOCATION
Siocon, Bogo
Cebu





TRAP

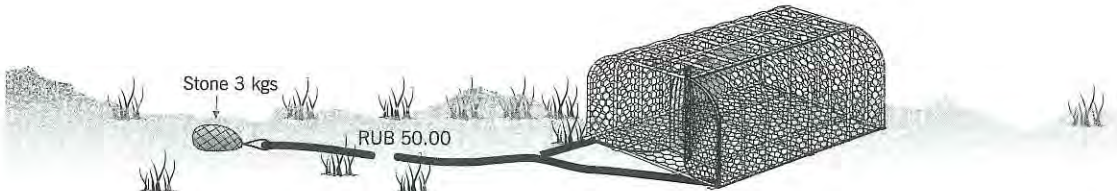
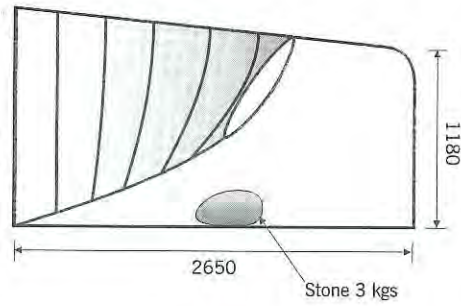
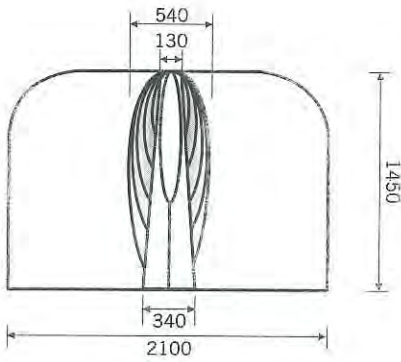
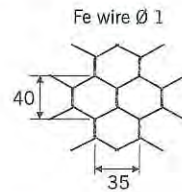
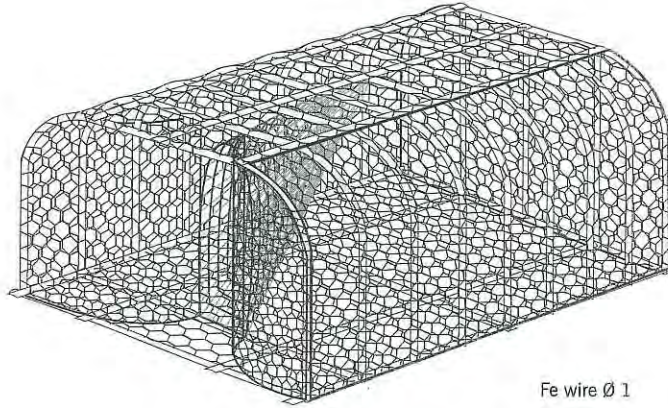
Fish trap
Bubo
Trevally, Cavalla

VESSEL

Loa : 6 m
Hp : 16

LOCATION

Pagapat, Sta. Cruz
Zambales



Fishing Gear & Methods in Philippines

TRAP

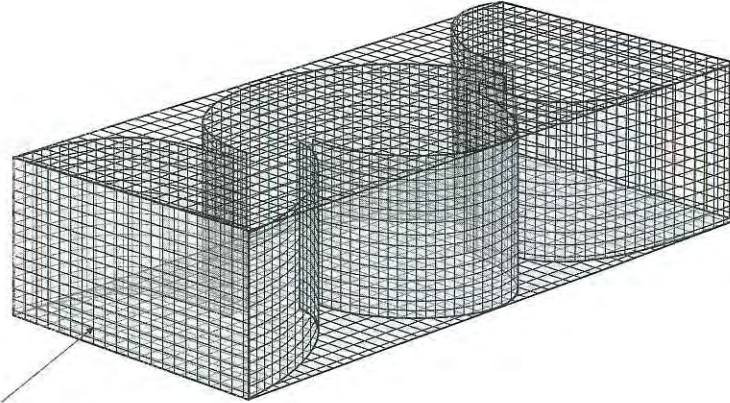
Fish pot
Patanga/Bubo
Fresh-water catfish,
Carp, Tilapia

VESSEL

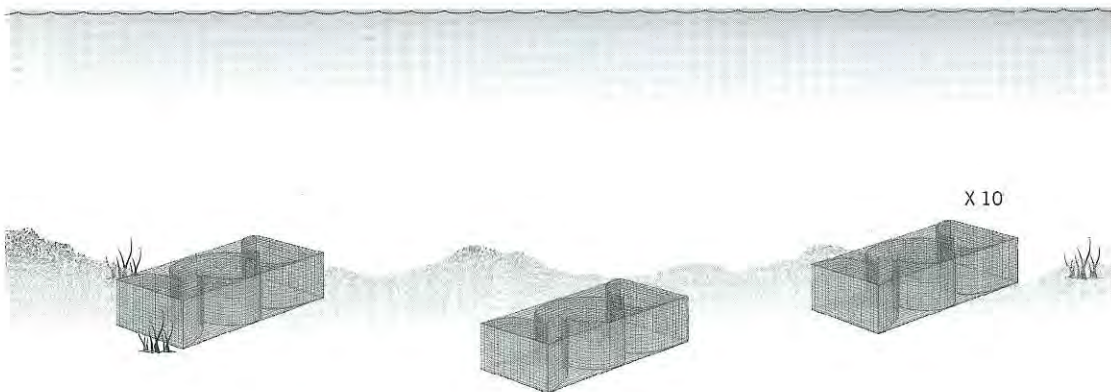
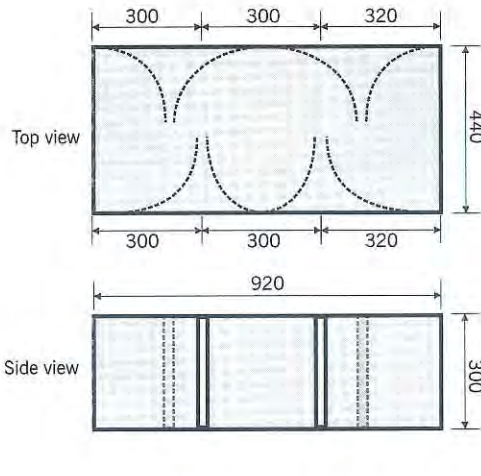
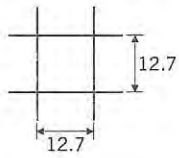
Loa : 6 m
Hp : 16

LOCATION

Pagapat, Sta. Cruz
Zambales



GAVL Wire
Ø 0.8 mm 12.7 x 12.7





TRAP

Fish pot
Bubo

Tilapia, Mud fish,
Fresh-water catfish

VESSEL

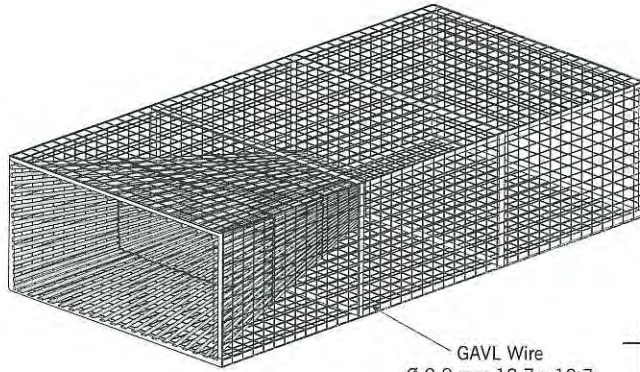
Loa : 5.48 m

Hp : -

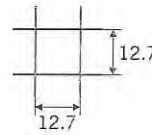
LOCATION

Bato & Buhi

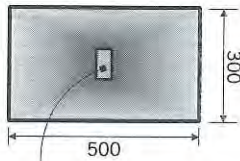
Camarines Sur



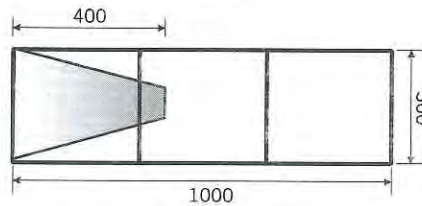
GAVL Wire
Ø 0.8 mm 12.7 x 12.7



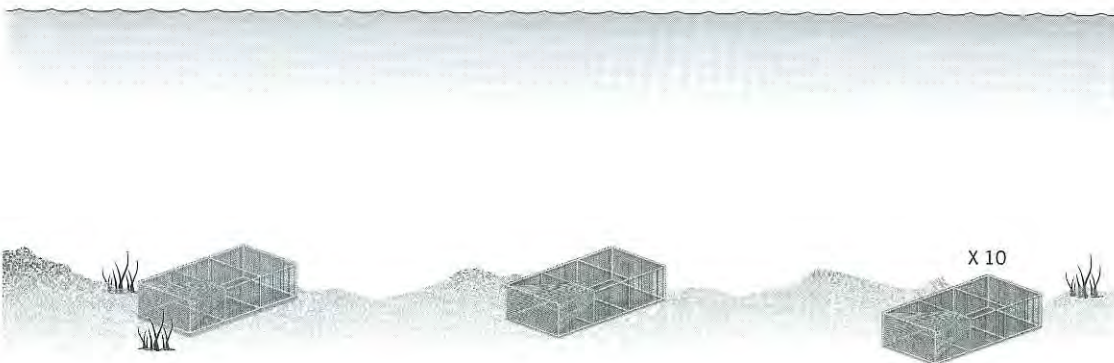
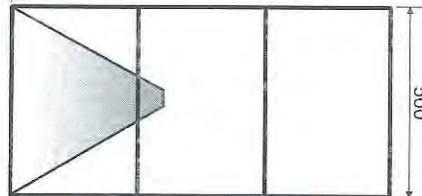
Front view



Side view



Top view

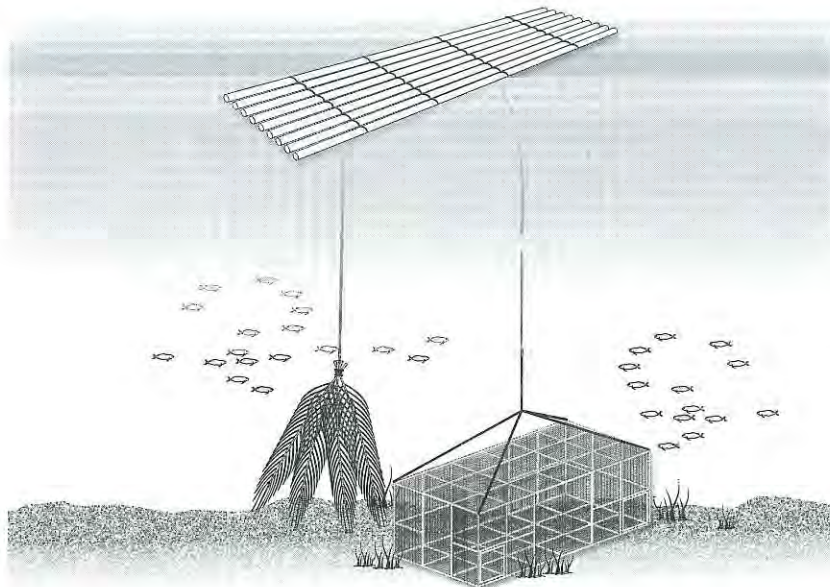
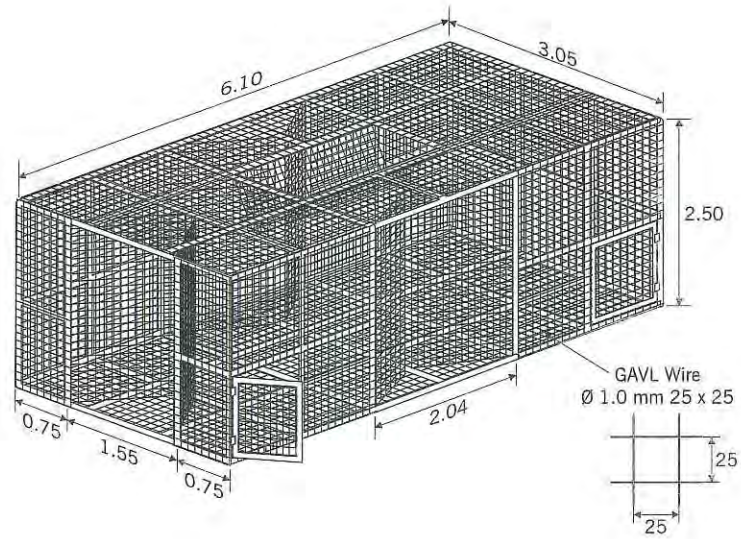


Fishing Gear & Methods in Philippines

TRAP
Giant fish pot
Bubo
Scad, Sardines

VESSEL
Loa : 9.75 m
Hp : 16

LOCATION
Quezon
Quezon





TRAP

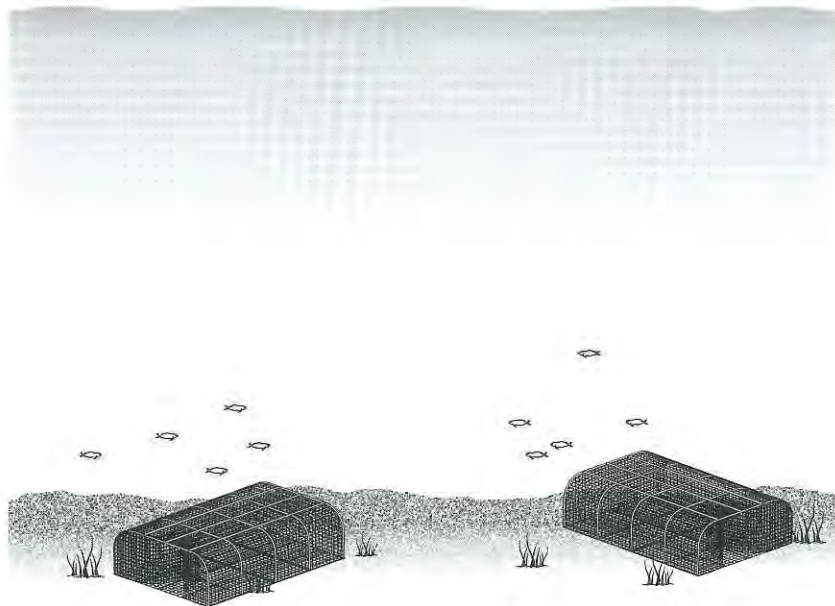
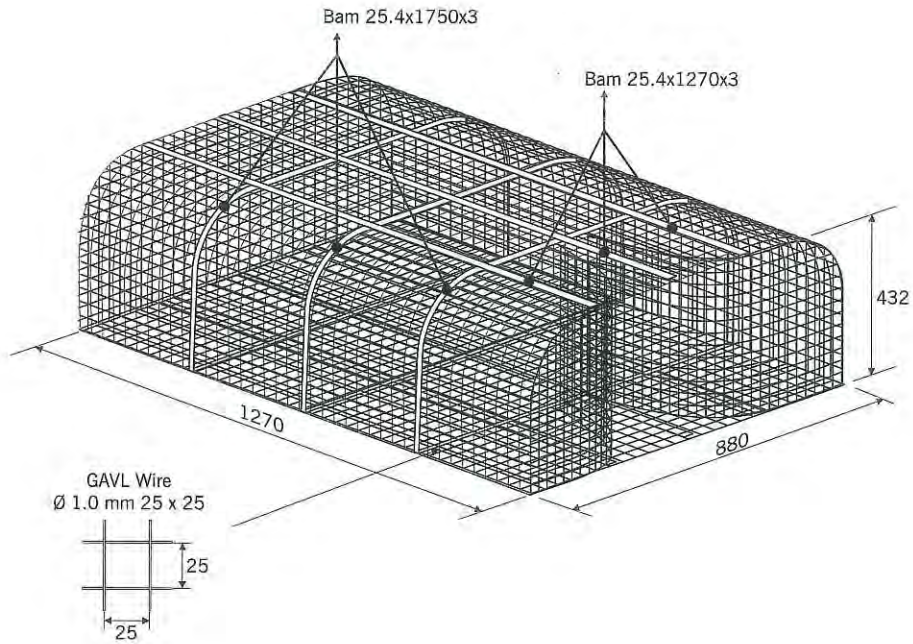
Fish pot
Bubo
Grouper, Eel, Snapper

VESSEL

Loa : 7.92 m
Hp : 10

LOCATION

Quezon
Quezon

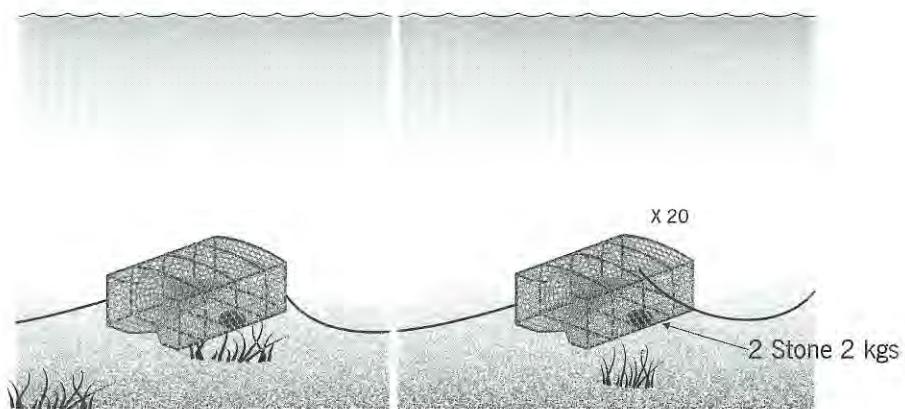
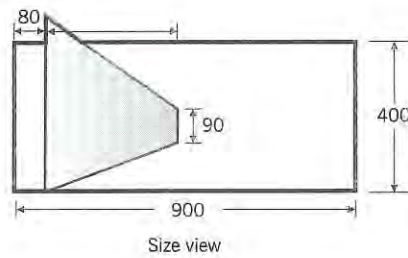
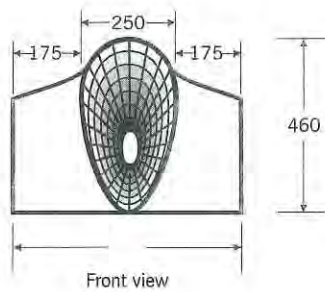
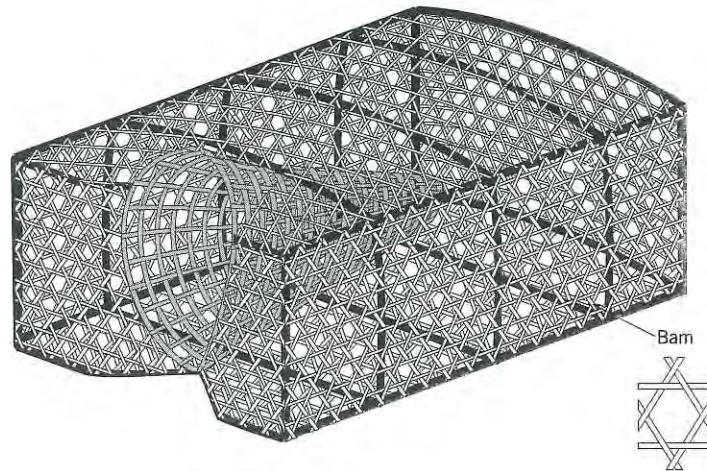


Fishing Gear & Methods in Philippines

TRAP
Fish trap
Bubo
Snapper, Grouper,

VESSEL
Loa : 5.48 m
Hp : -

LOCATION
San Pascual
Masbate





TRAP

Fish trap
Bubo

Grouper, Snapper,
Eel, Blue swimming crab

VESSEL

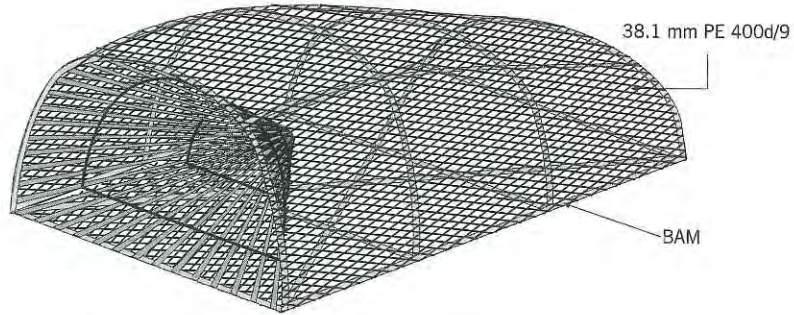
Loa : 6.00 m

Hp : -

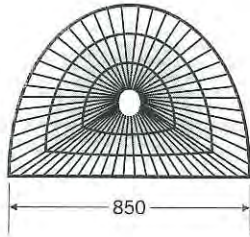
LOCATION

Capoocan

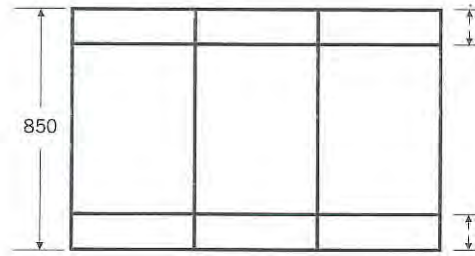
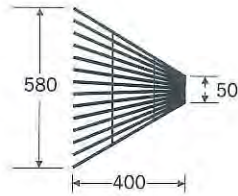
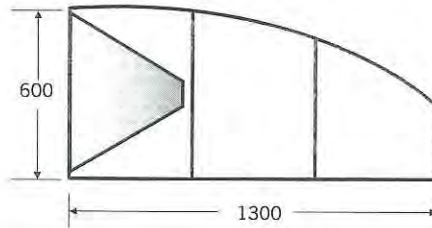
Leyte



Front view



Size view



Top view



Fishing Gear & Methods in Philippines

TRAP

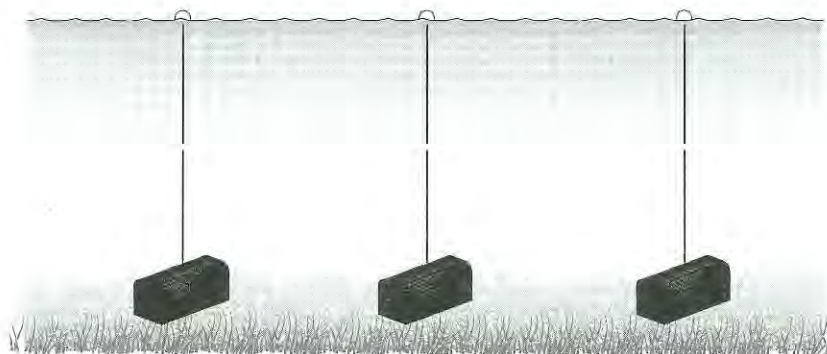
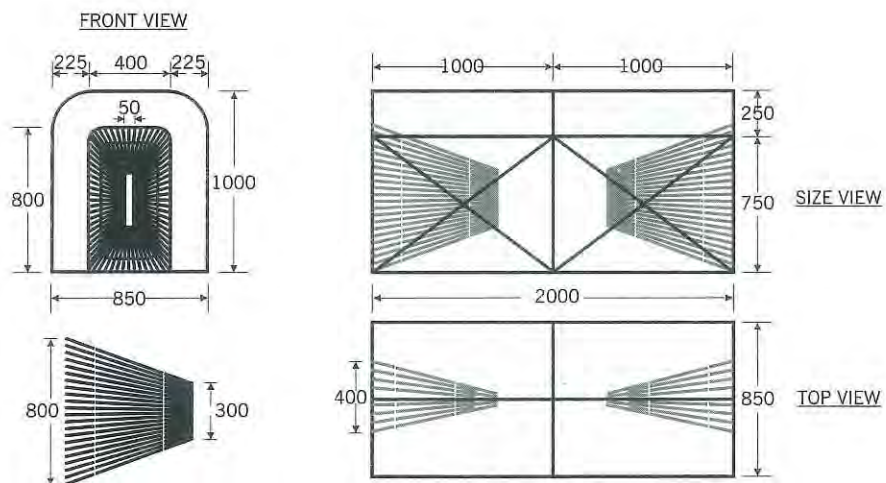
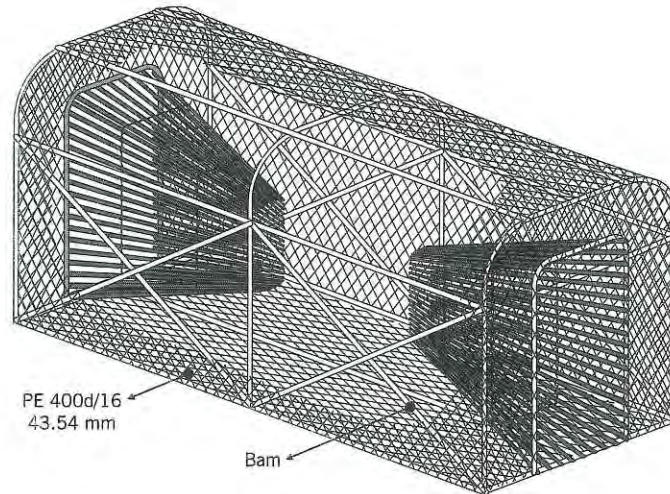
Fish pot
Bubo
 Grouper, Snapper,
 Blue swimming crab

VESSEL

Loa : 10.67 m
 Hp : 16

LOCATION

Naga
 Zamboanga Del Sur





TRAP

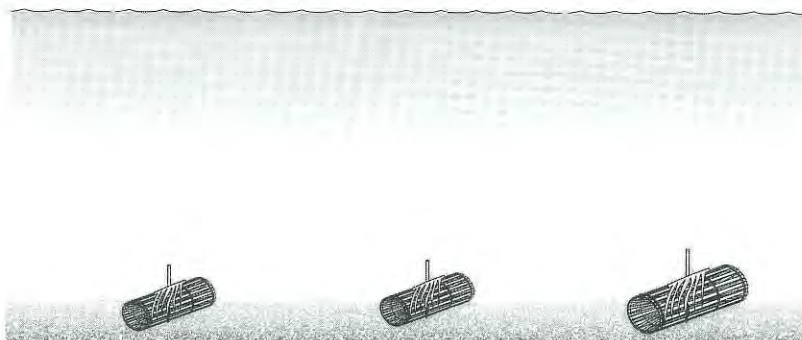
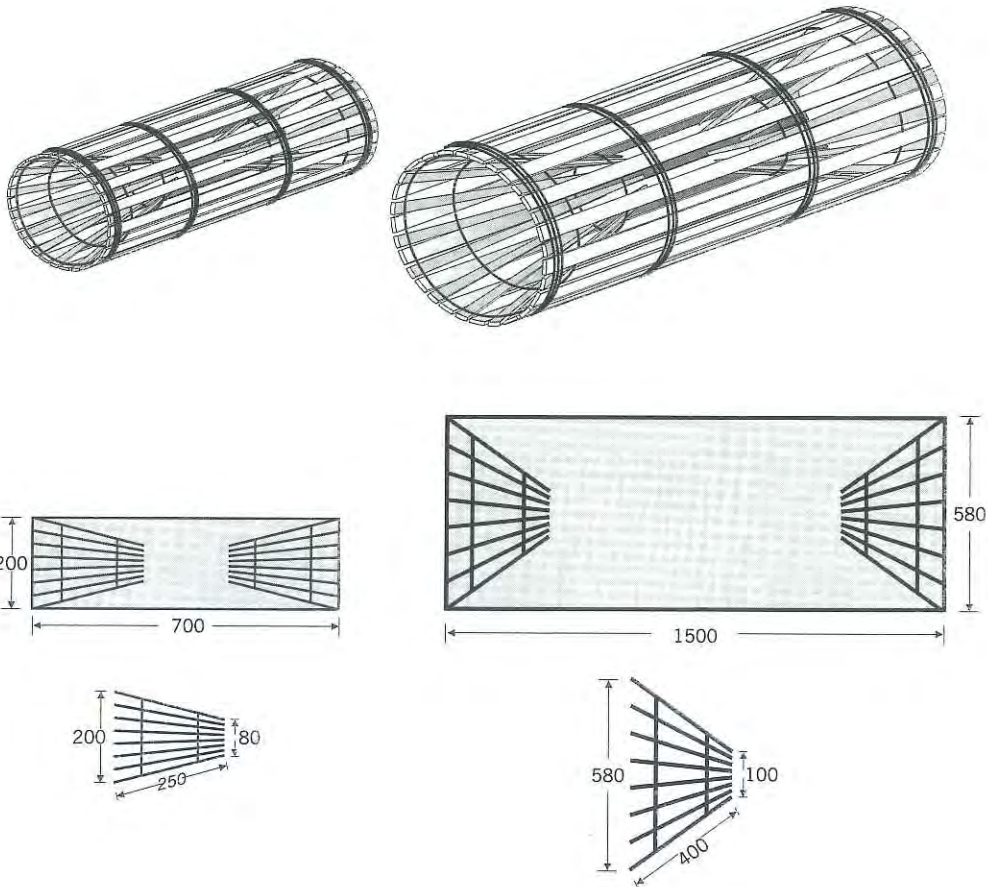
Crab trap
Bubo-Panggal
Mangrove crab

VESSEL

Loa : 3-4 m
Hp : -

LOCATION

Maoyon, Puerto
Princesa City
Palawan

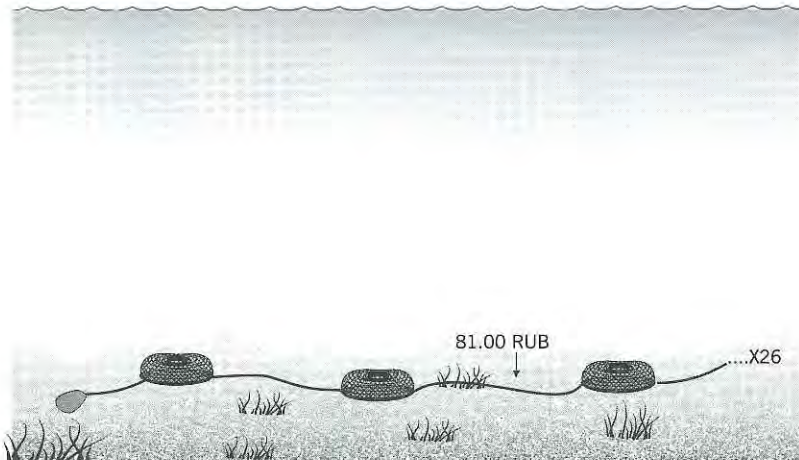
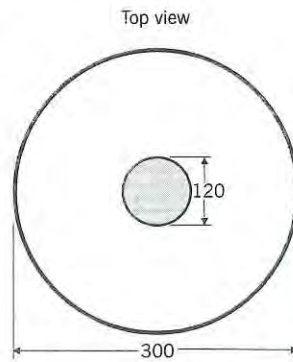
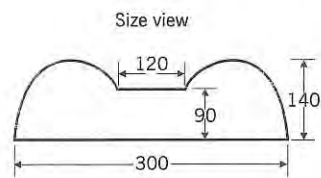
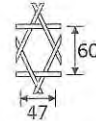


Fishing Gear & Methods in Philippines

TRAP
Crab trap
Bubo-Pangasag
Blue swimming crab

VESSEL
Loa : 5 m
Hp : -

LOCATION
Suba, Bantayan
Cebu





TRAP

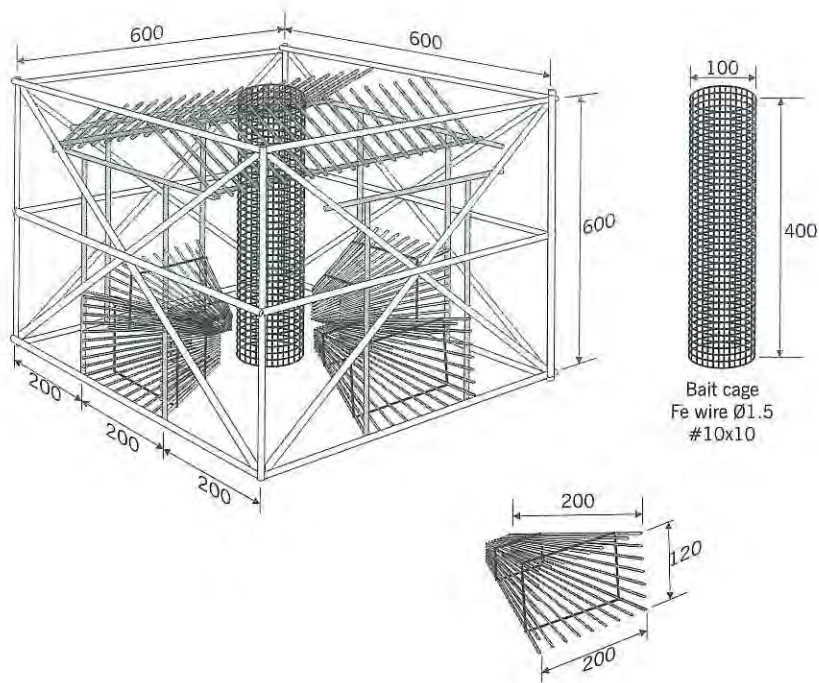
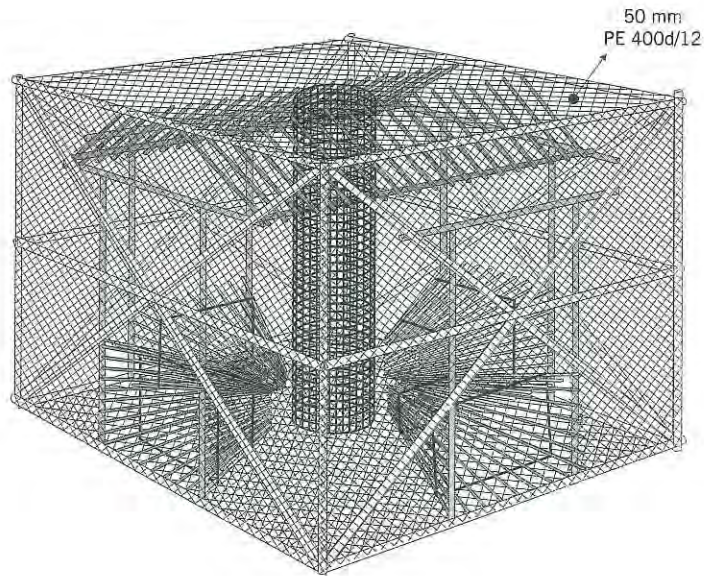
Crab trap
Pangasag
Blue swimming crab

VESSEL

Loa : 6 m
Hp : 10

LOCATION

Poblacion, Bantayan
Cebu

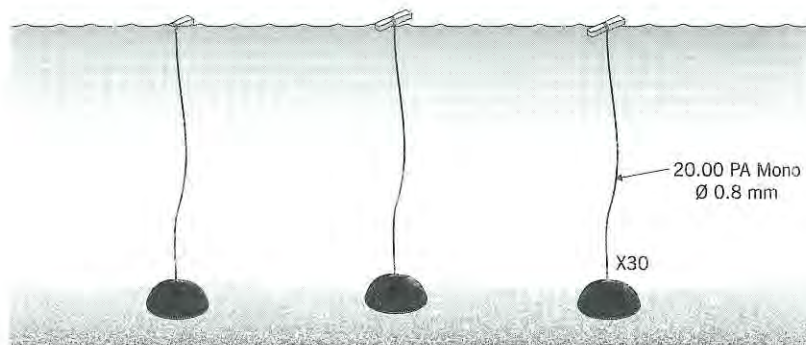
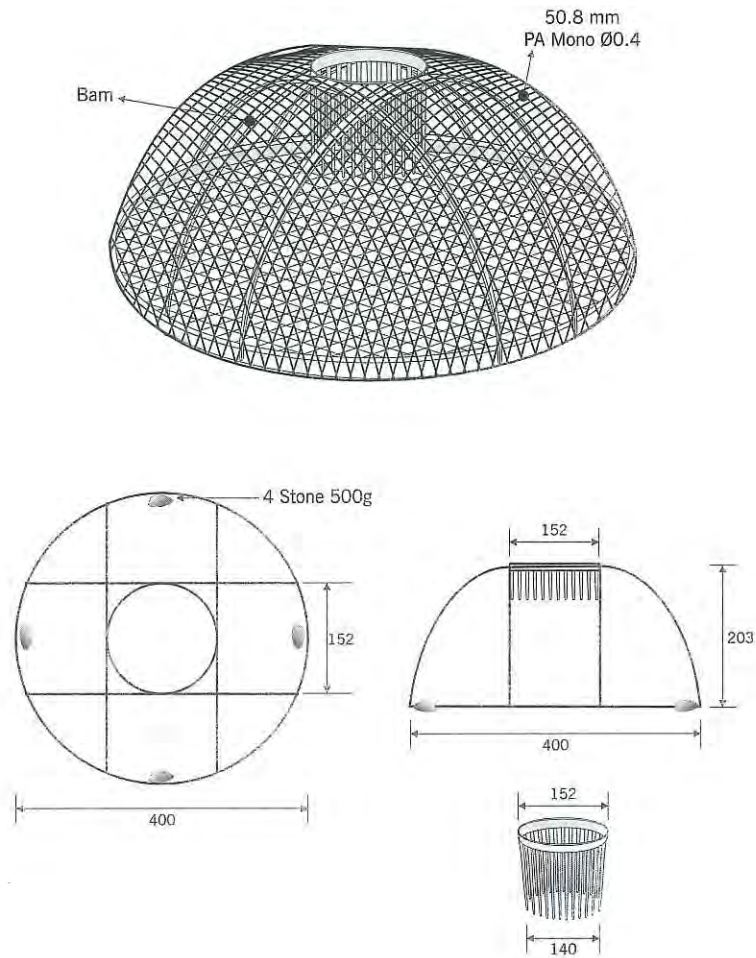


Fishing Gear & Methods in Philippines

TRAP
 Crab pot
Panak
 Blue swimming crab

VESSEL
 Loa : 4.26 m
 Hp : -

LOCATION
 Gasan
Marinduque





TRAP

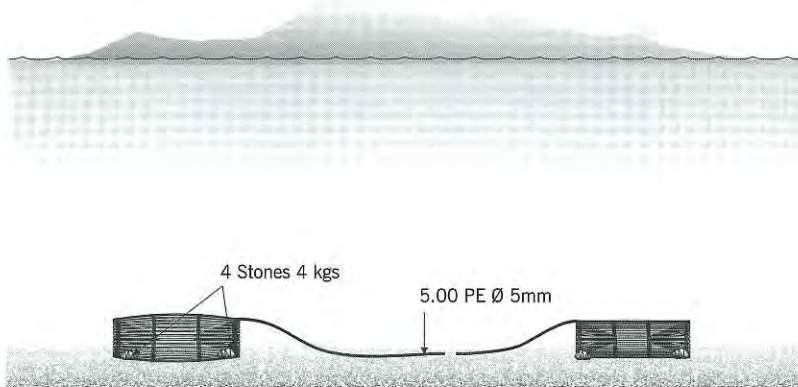
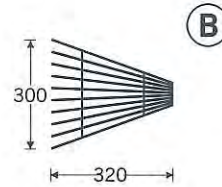
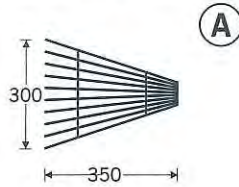
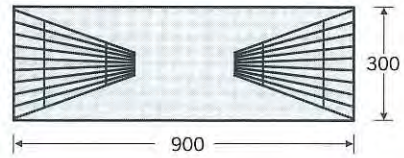
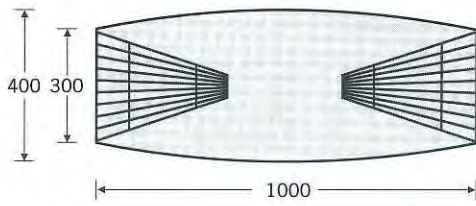
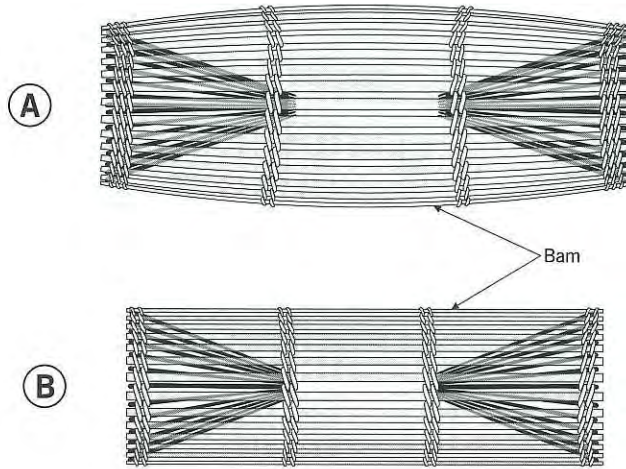
Fish/ crab pot
Tapangan
Mud crab, Grouper,
Blue swimming crab

VESSEL

Loa : 4.87m
Hp : -

LOCATION

Milagros
Masbate

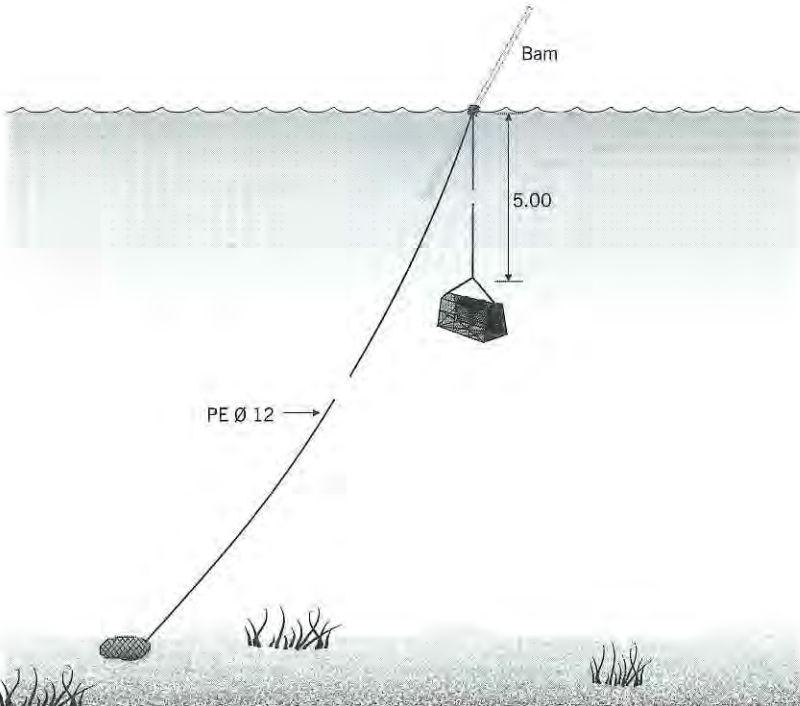
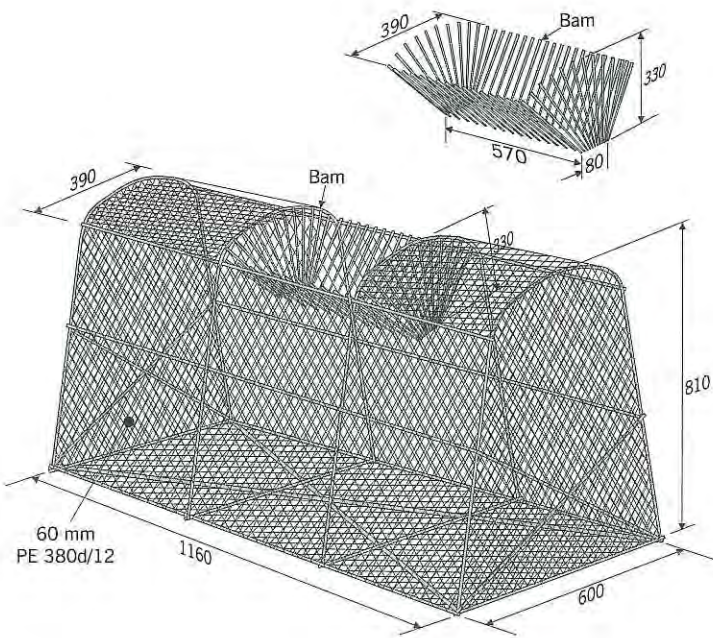


Fishing Gear & Methods in Philippines

TRAP
Squid trap
Bubo
Big fin reef squid

VESSEL
Loa : 8-10 m
Hp : 16

LOCATION
Bunakan-Madridejos
Bantayan
Cebu





TRAP

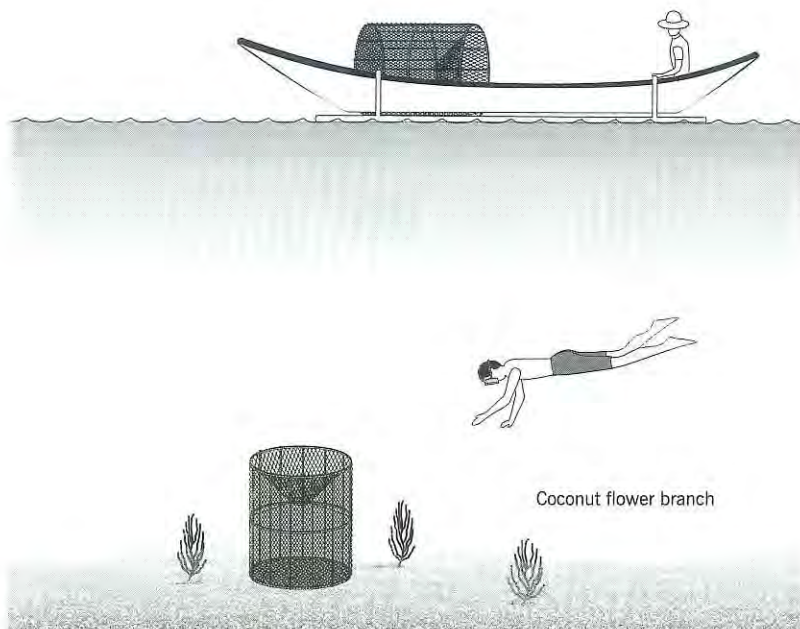
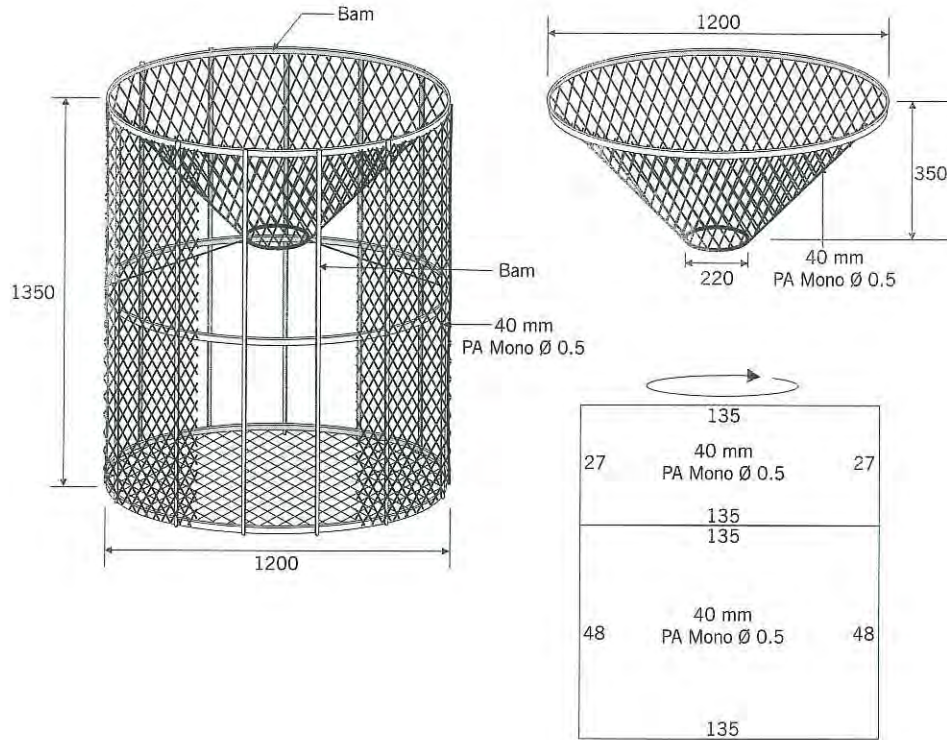
Squid trap
Bubo
Big fin reef squid

VESSEL

Loa : 4 m
Hp : -

LOCATION

Tagum
Davao del Norte

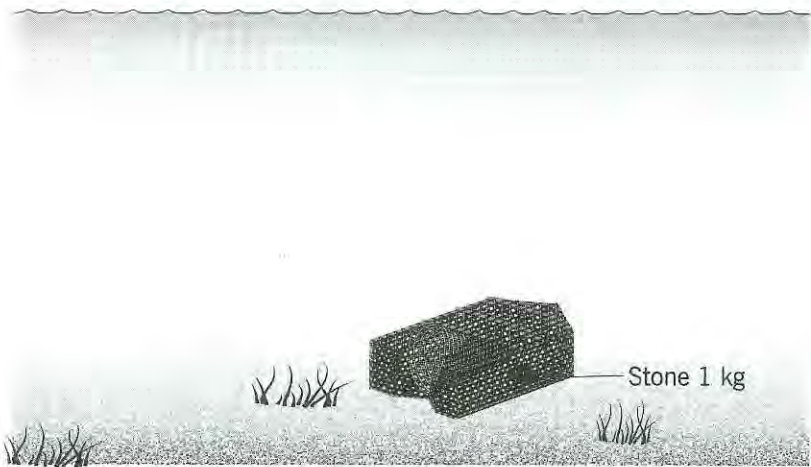
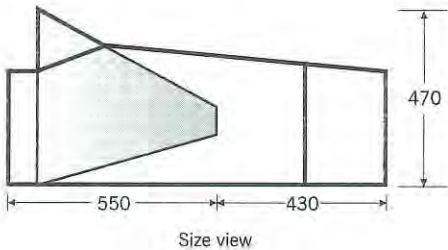
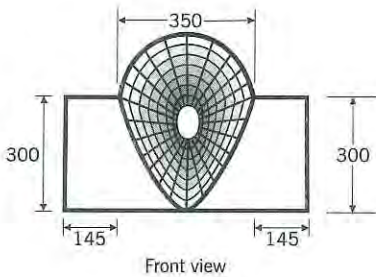
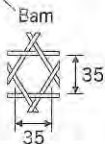
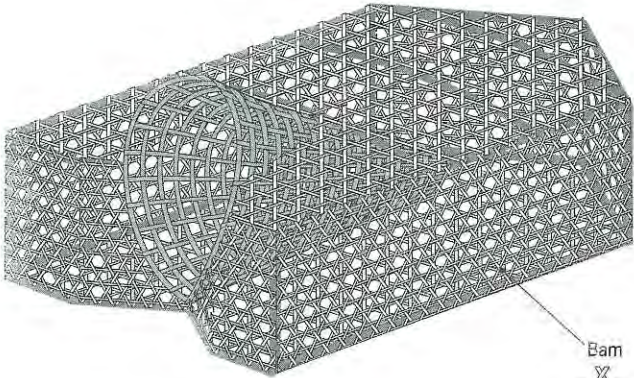


Fishing Gear & Methods in Philippines

TRAP
 Fish trap
Bubo
 Snapper, Grouper,
 Coral fishes

VESSEL
 Loa : 7 m
 Hp : 16

LOCATION
 Amaya, Tanza
Cavite





TRAP

Squid pot
Bubo
Squid

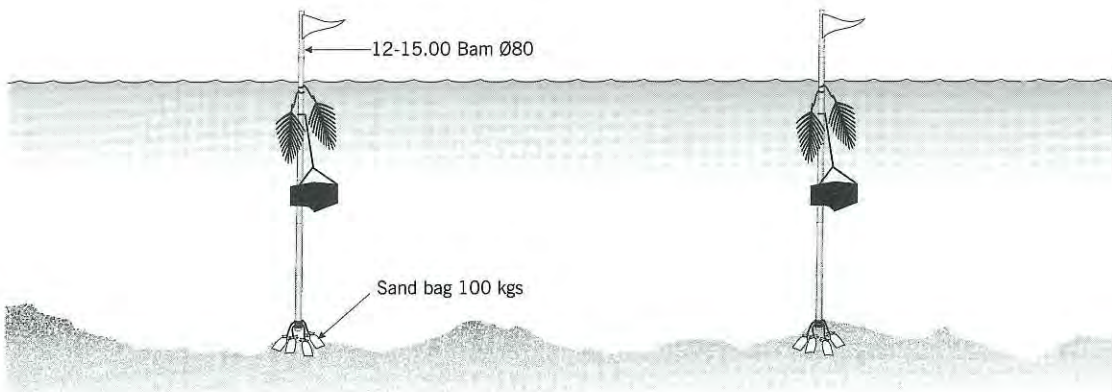
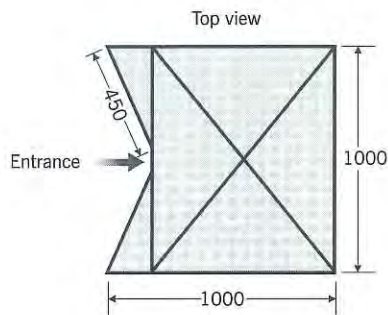
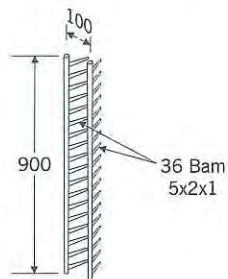
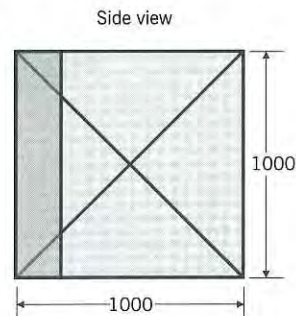
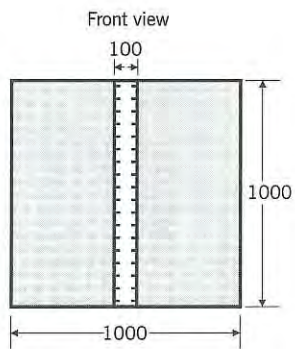
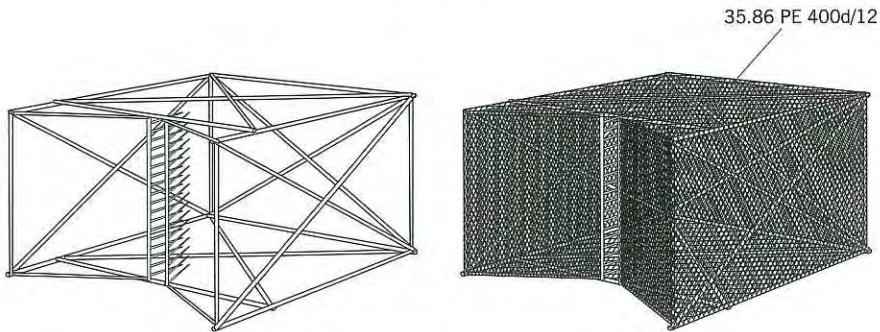
VESSEL

Loa : 9.50 m

Hp : 10

LOCATION

Leyte

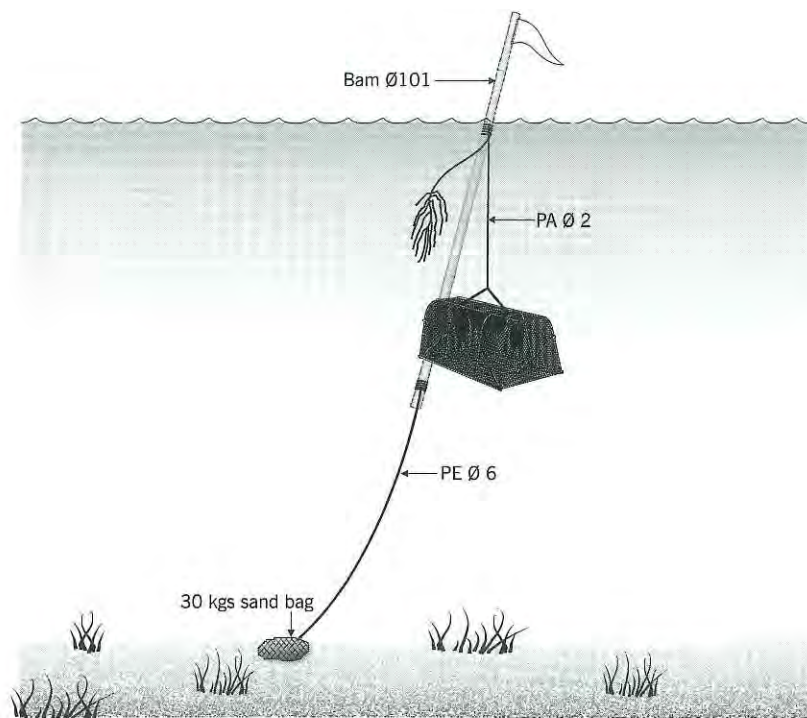
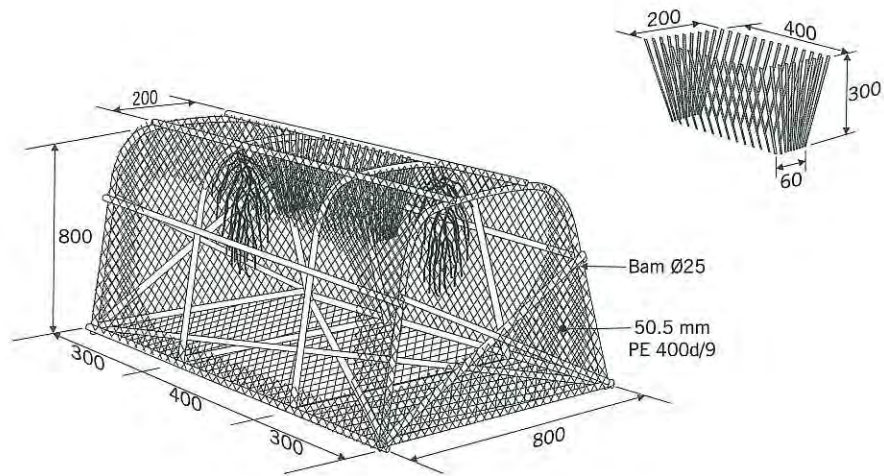


Fishing Gear & Methods in Philippines

TRAP
Squid trap
Bubo
Big fin reef squid

VESSEL
Loa : 5.50 m
Hp : -

LOCATION
Naval
Biliran





TRAP

Squid Pot
Bubo
Squid

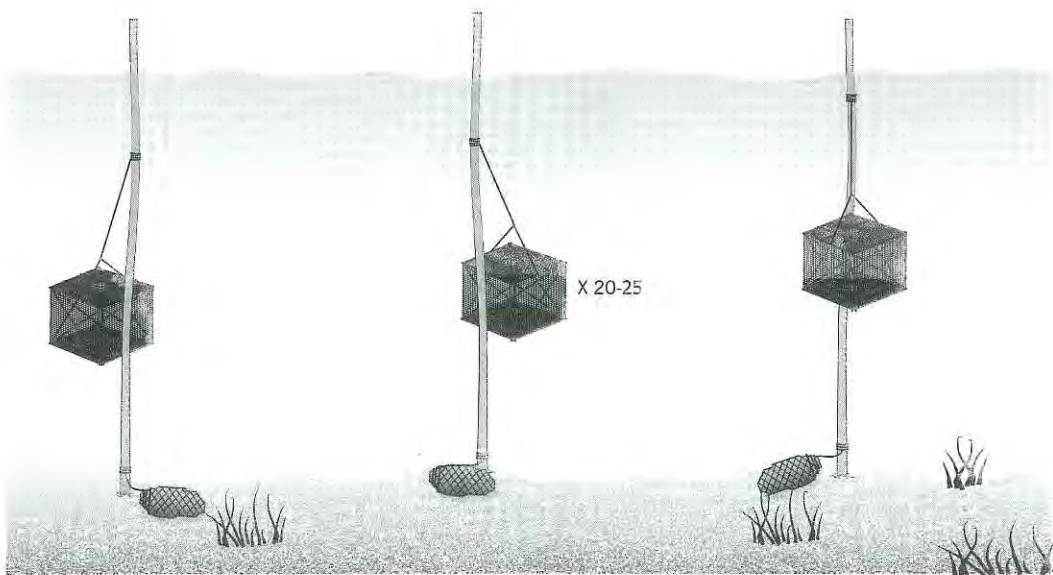
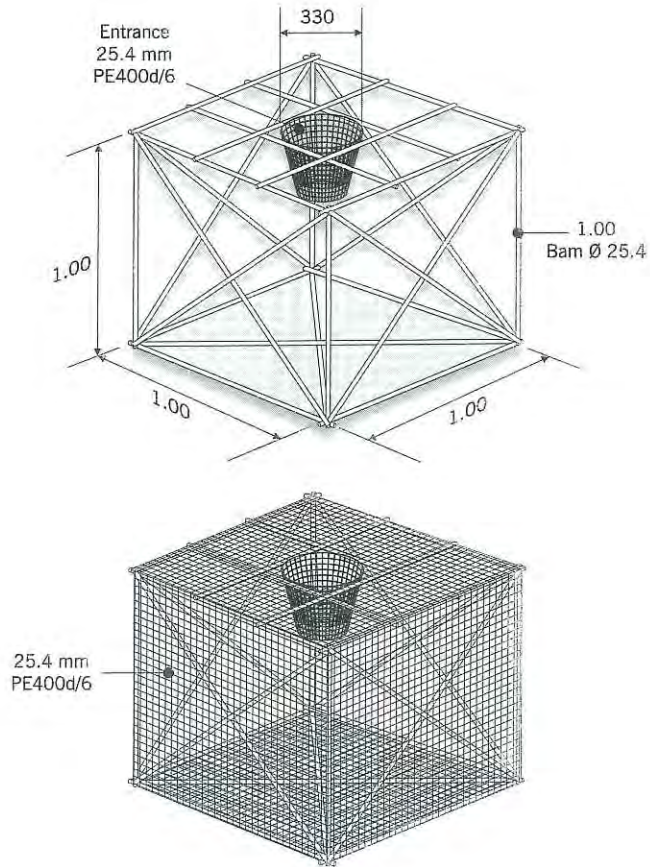
VESSEL

Loa : 9.34 m

Hp : 10

LOCATION

Atimonan
Quezon

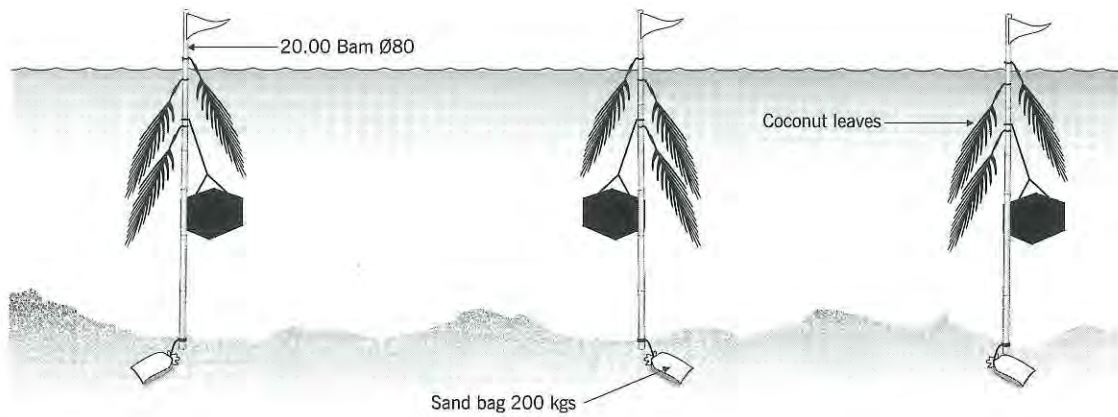
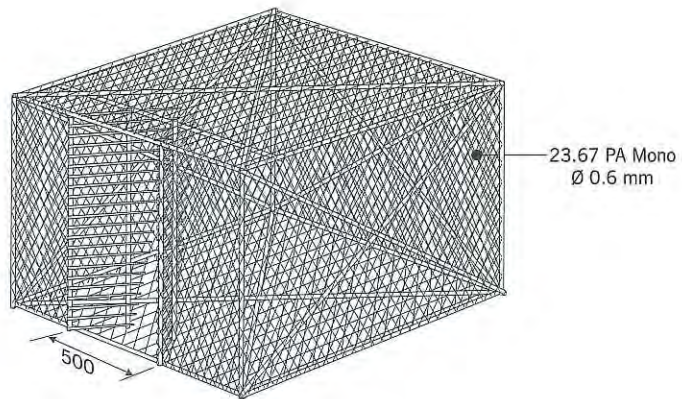
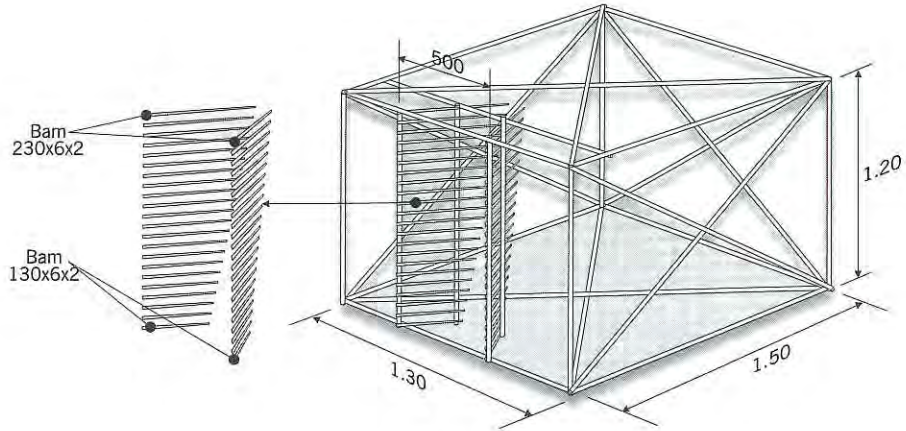


Fishing Gear & Methods in Philippines

TRAP
Squid Pot
Bubong pampusit
Squid

VESSEL
Loa : 10.00 m
Hp : 16

LOCATION
Calapan
Mindoro





TRAP

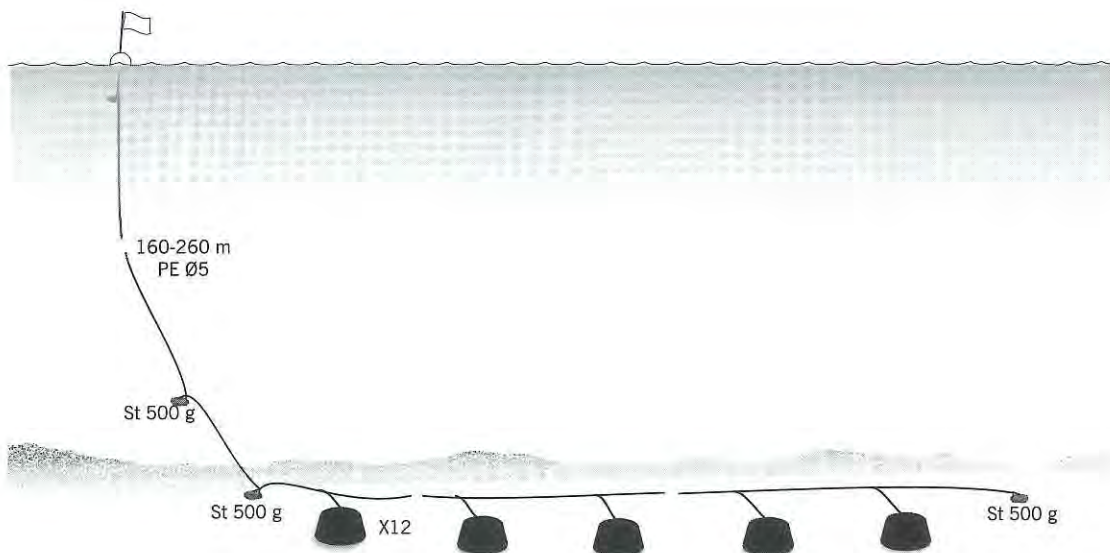
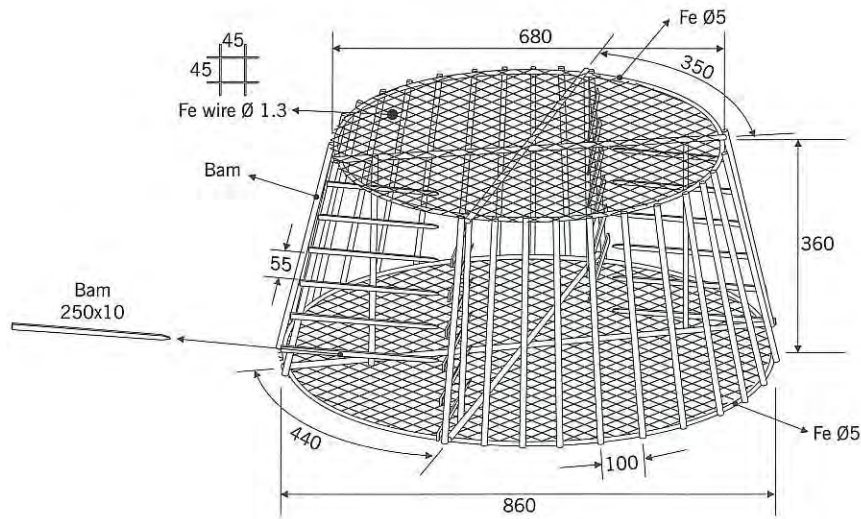
Nautilus trap
Bubo
Nautilus shell

VESSEL

Loa : 8.00 m
Hp : 16

LOCATION

Balaganon, Masinloc
Zambales

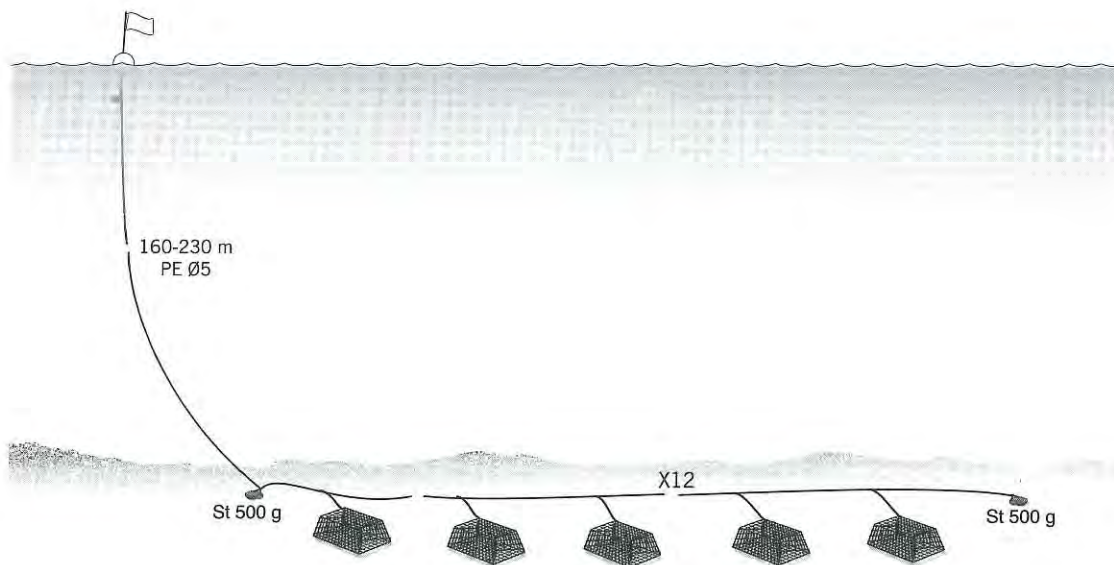
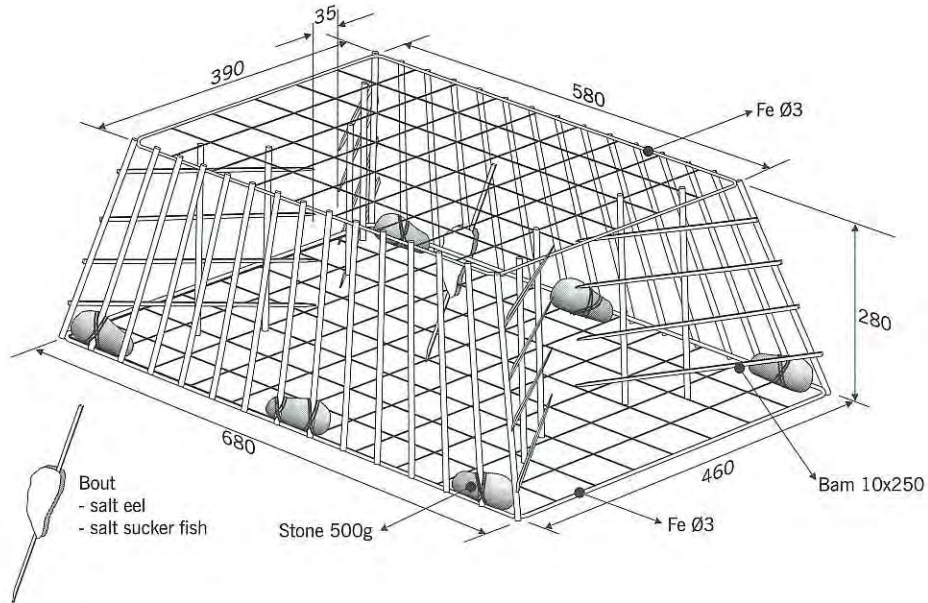


Fishing Gear & Methods in Philippines

TRAP
Nautilus trap
Bubo
Nautilus shell

VESSEL
Loa : 8.00 m
Hp : 16

LOCATION
Balaganon, Masinloc
Zambales





TRAP

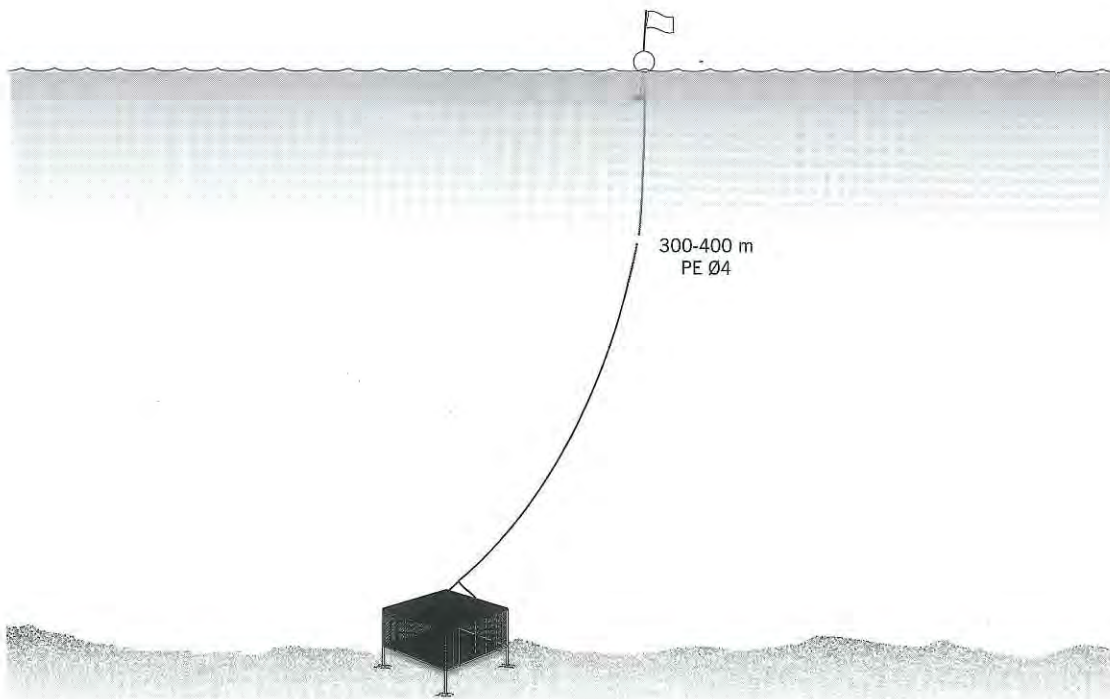
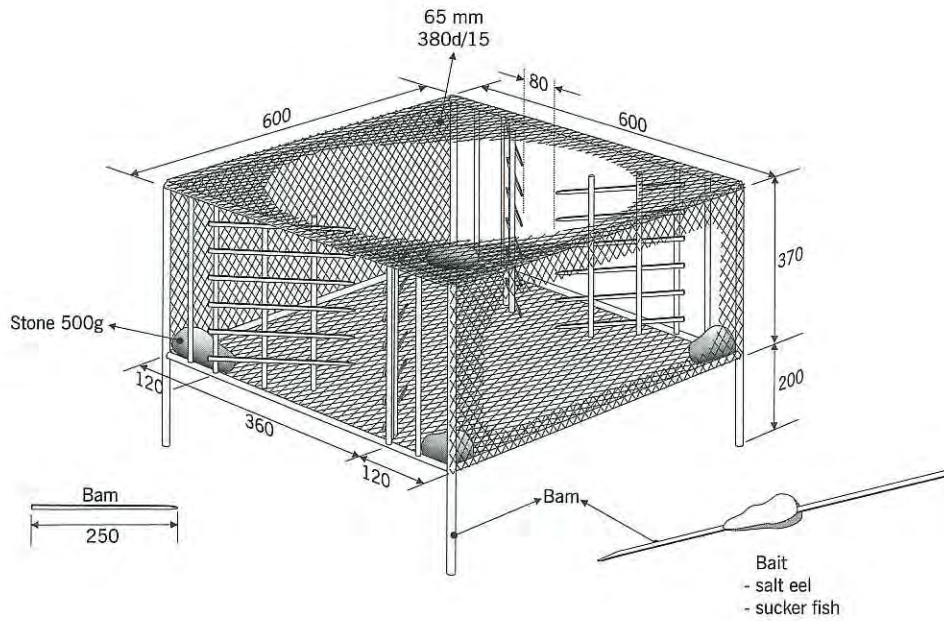
Nautilus trap
Lagang
Nautilus shell

VESSEL

Loa : 7.00 m
Hp : 16

LOCATION

Mabilo, Kalibo
Aklan





TRAP

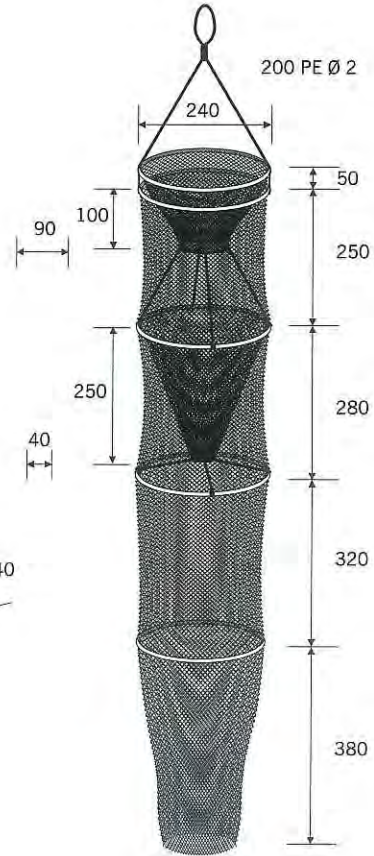
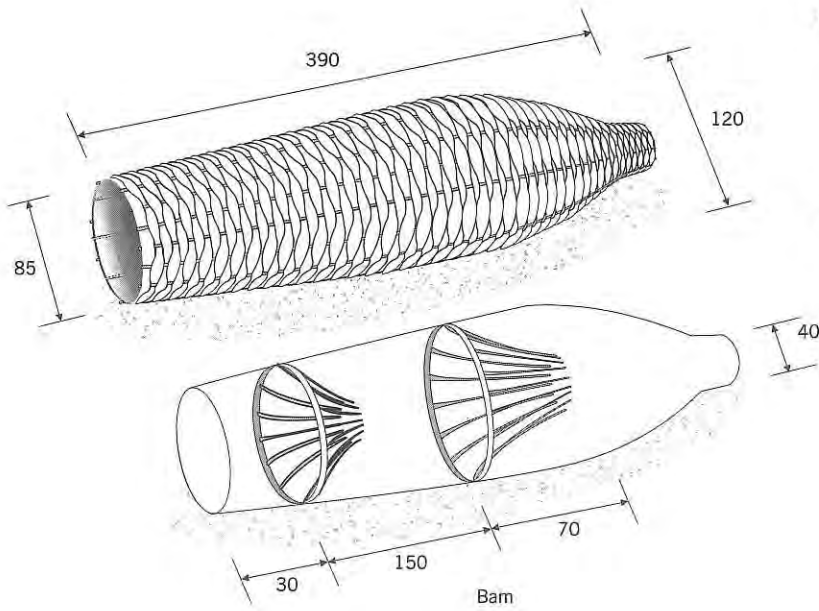
Shrimp trap
Barebek
Small shrimp

VESSEL

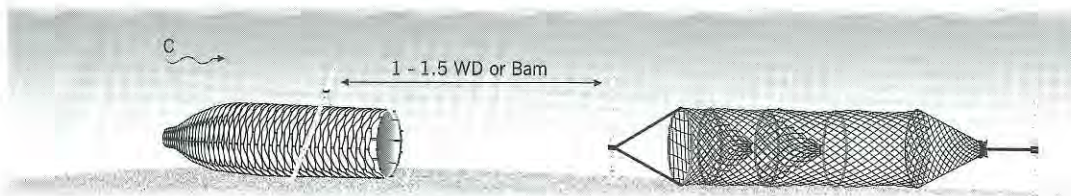
Loa - Bamboo raft
hp -

LOCATION

Paratong Norte, Bangar
La Union



Bait - Cooked Rice



Fishing Gear & Methods in Philippines

TRAP

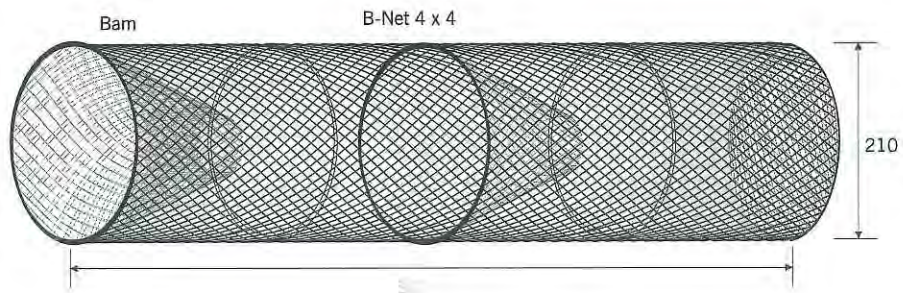
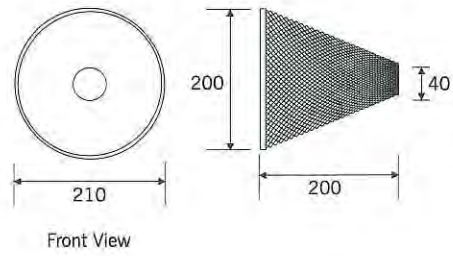
Shrimp pot
Budo
Fresh-water shrimp

VESSEL

Loa - 5.48 m
hp -

LOCATION

Bato
Camarines Sur





TRAP

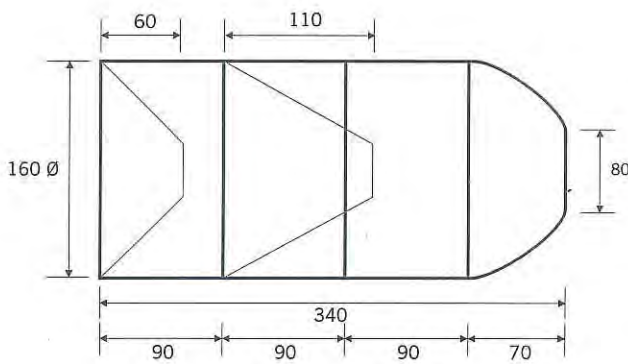
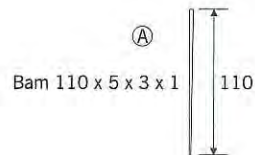
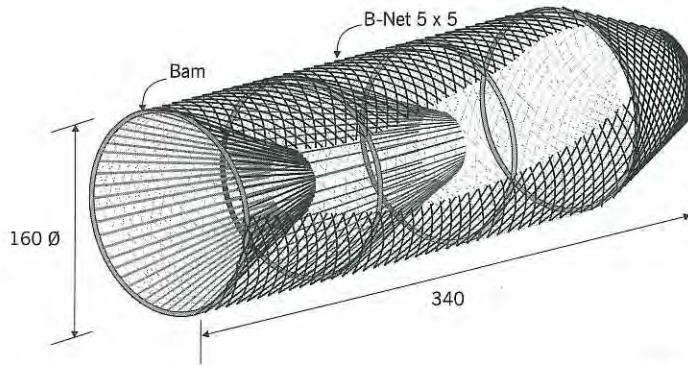
Shrimp/fish pot
Budo
Shrimp, Goby

VESSEL

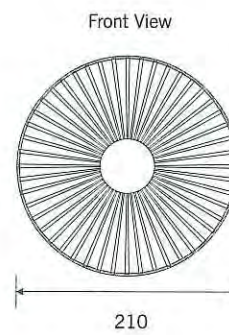
Loa - 5.48 m
hp -

LOCATION

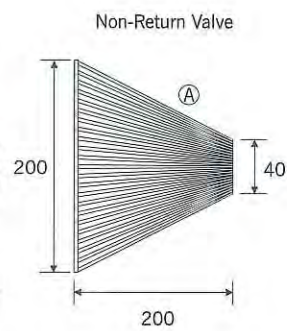
Binan
Laguna



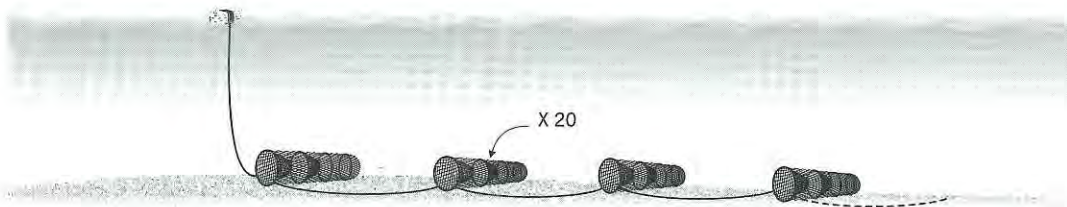
Side View



Front View



Non-Return Valve



Fishing Gear & Methods in Philippines

TRAP

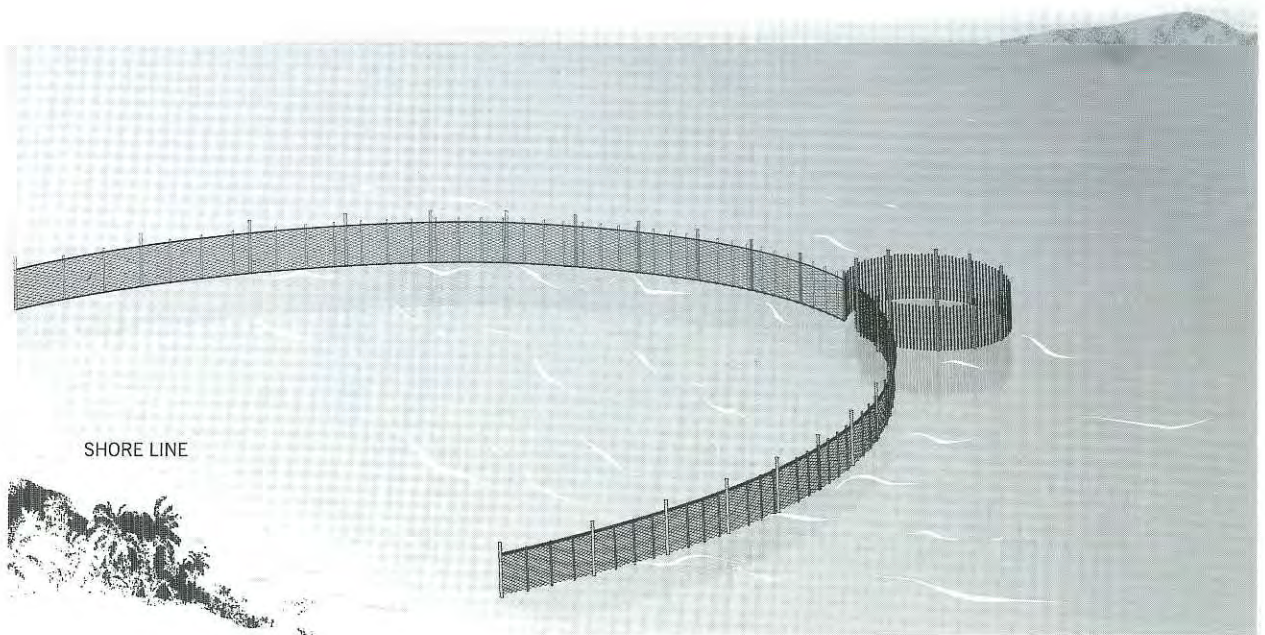
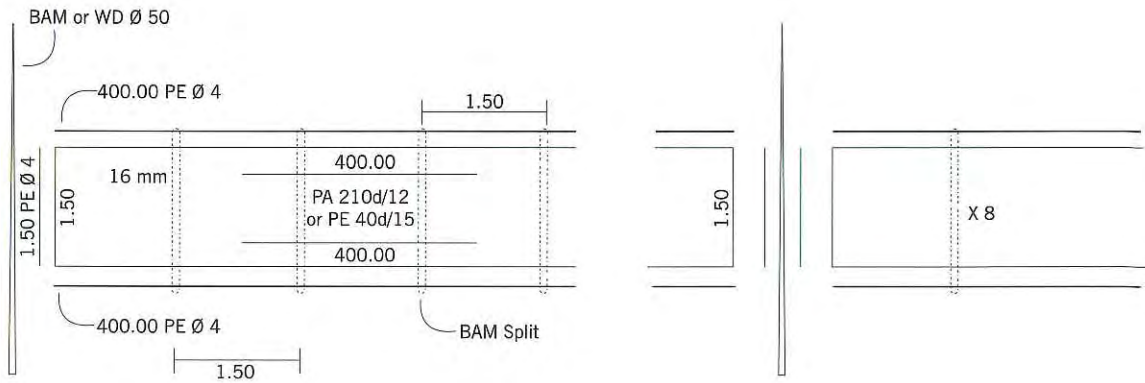
Barrier net
Likob
 Mullet, Rabbit fish, Garfish

VESSEL

Loa - 3-5 m
 hp -

LOCATION

Inabanga
 Bohol





TRAP

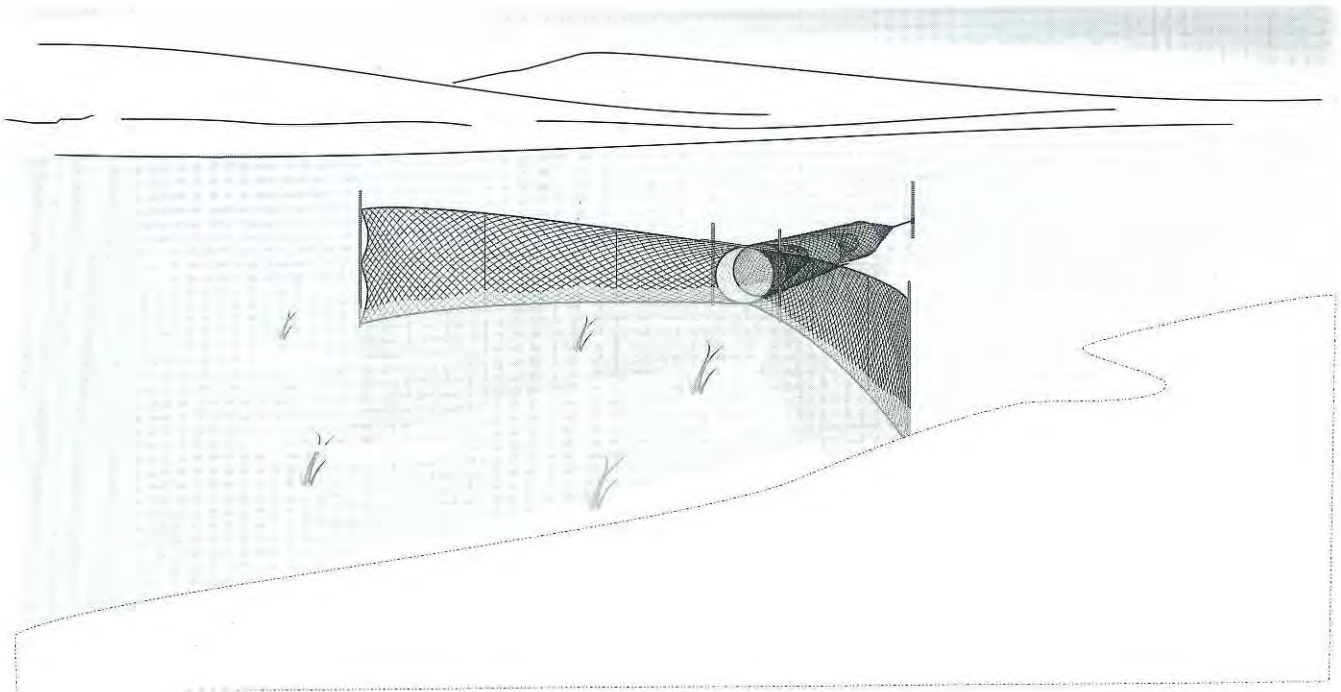
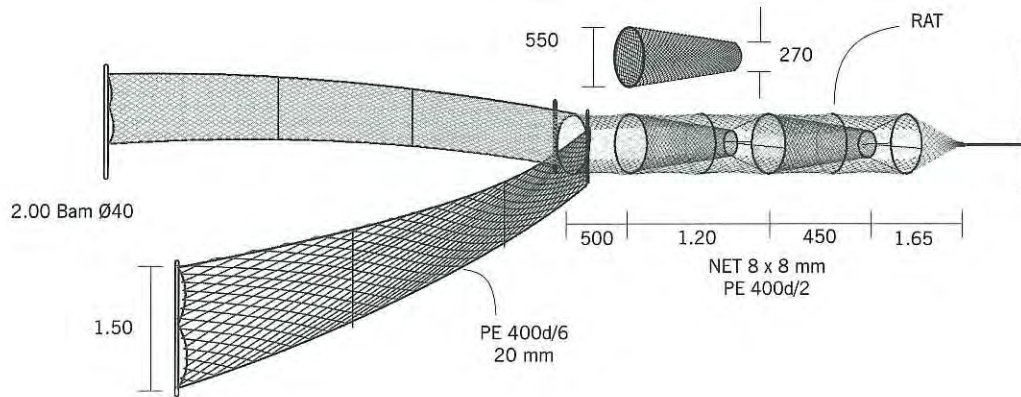
Filter net
Banwor
Shrimp, Crab, Demersal fishes

VESSEL

Loa -
hp -

LOCATION

Capandanan, Lingayen
Pangasinan



Fishing Gear & Methods in Philippines

TRAP

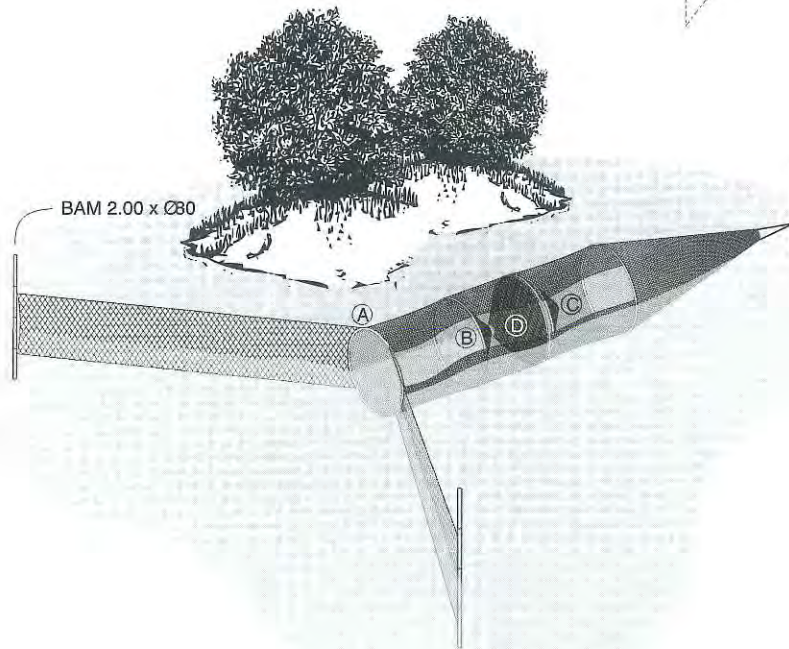
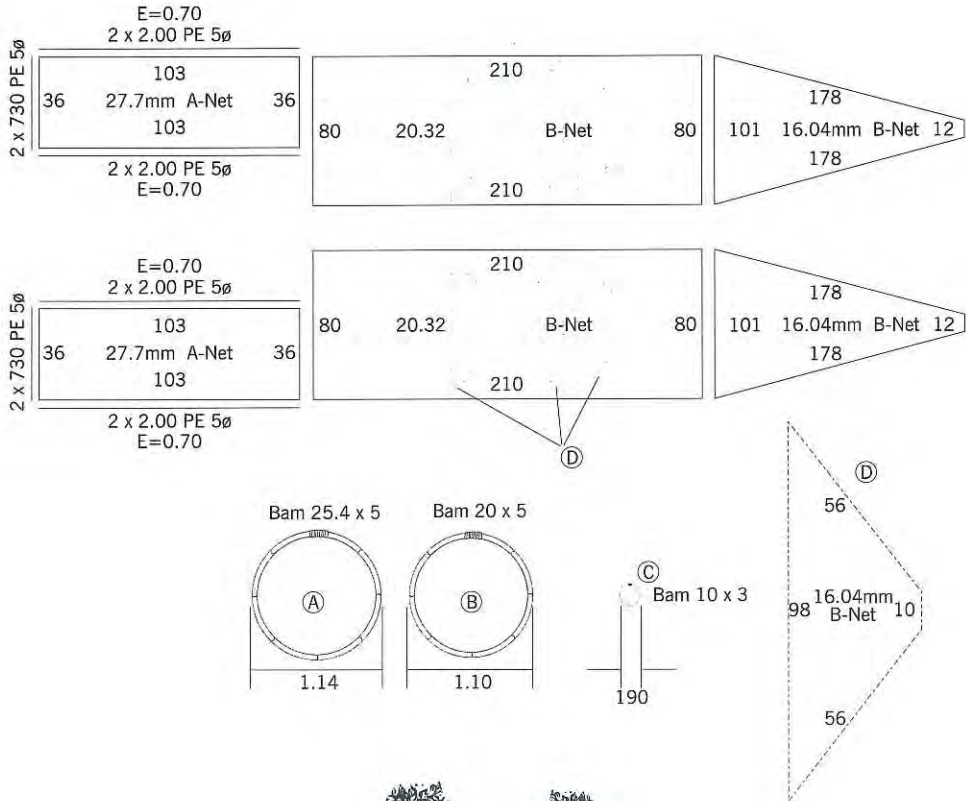
Fyke net
Skylab
 Tilapia, Silvery theraponid,
 Goby, Gourami

BOAT

Loa - 7.00m
 hp -

LOCATION

Los Banos
 Laguna





TRAP

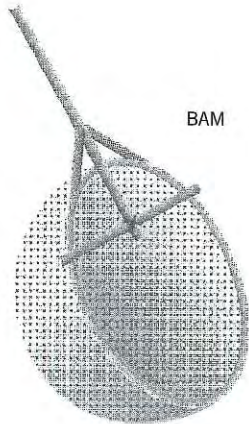
Stationary trap, Fish corral
Pahubas
Small shrimp, Tiger Prawn

VESSEL

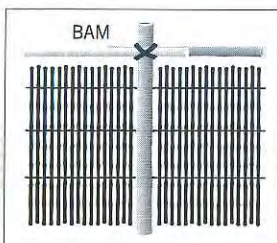
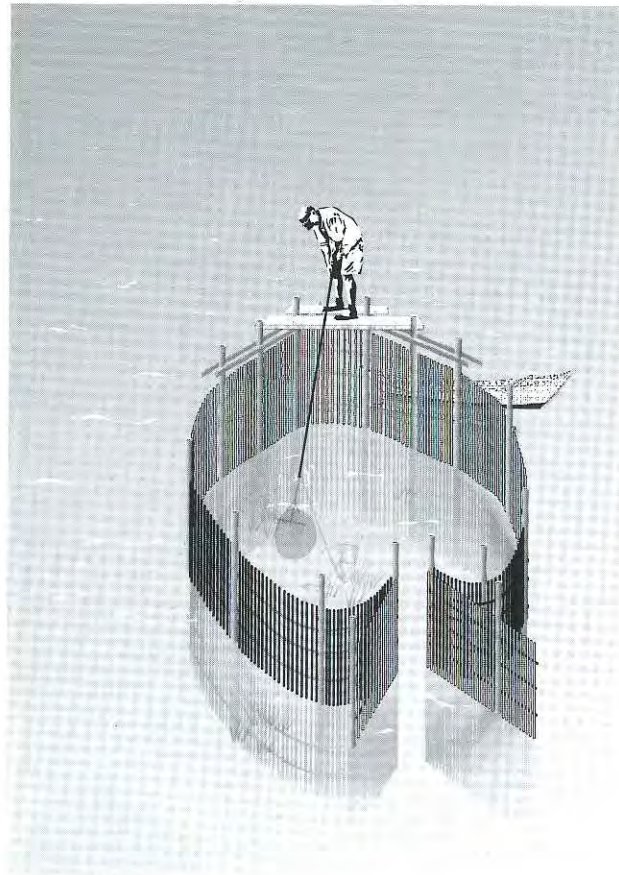
Loa - 3-5 m
hp -

LOCATION

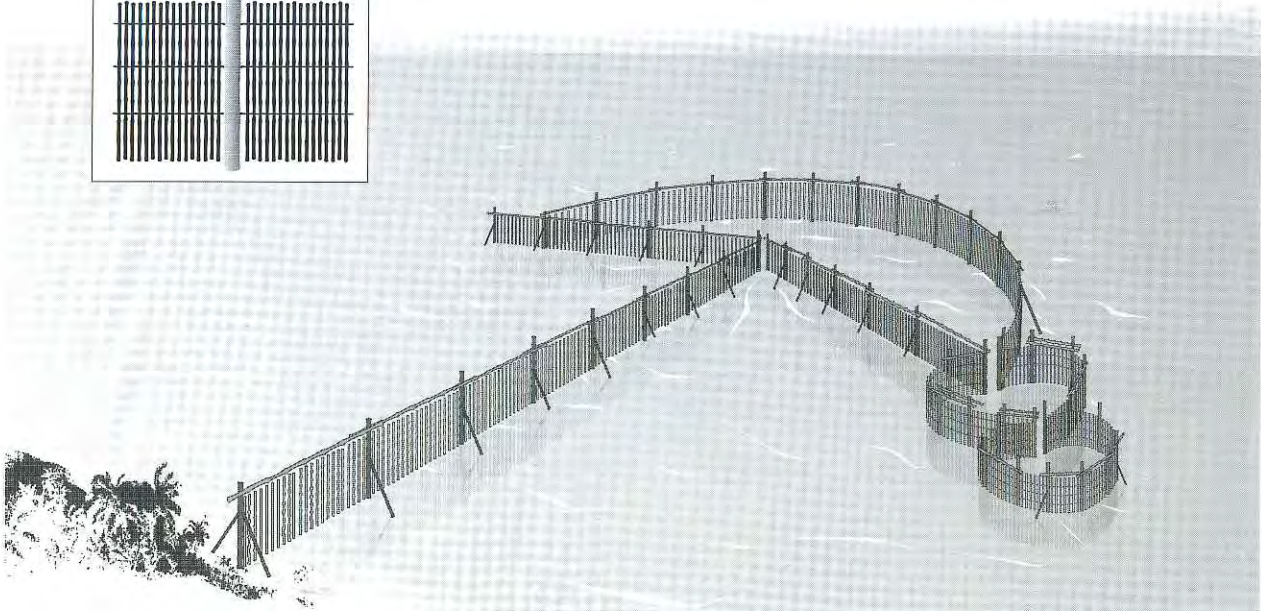
Cogtong, Candijay
Bohol



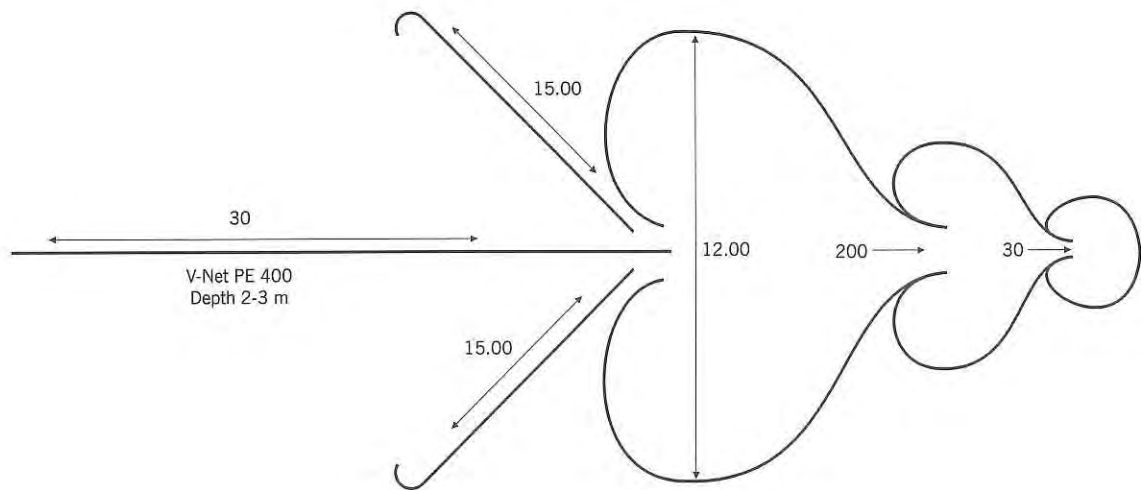
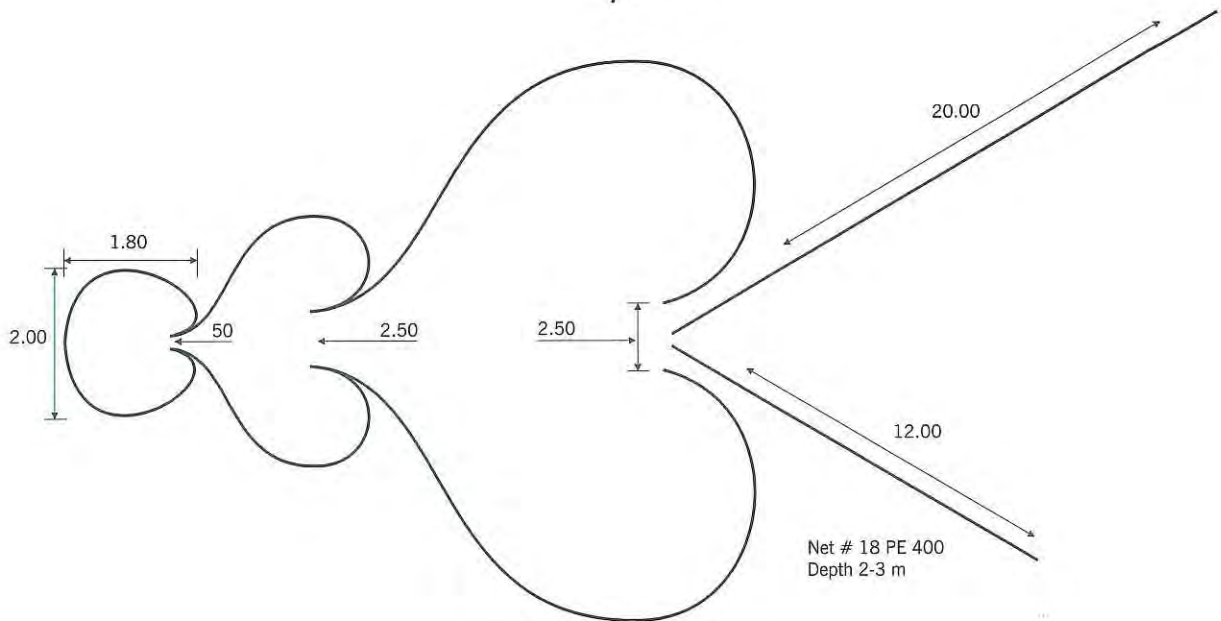
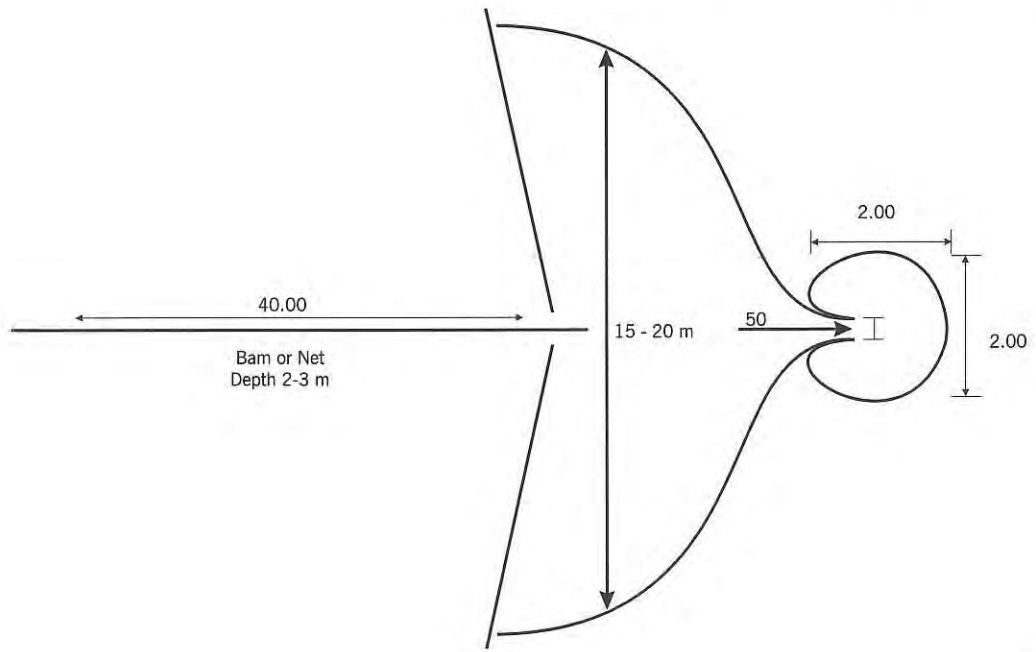
BAM



BAM



Fishing Gear & Methods in Philippines





TRAP

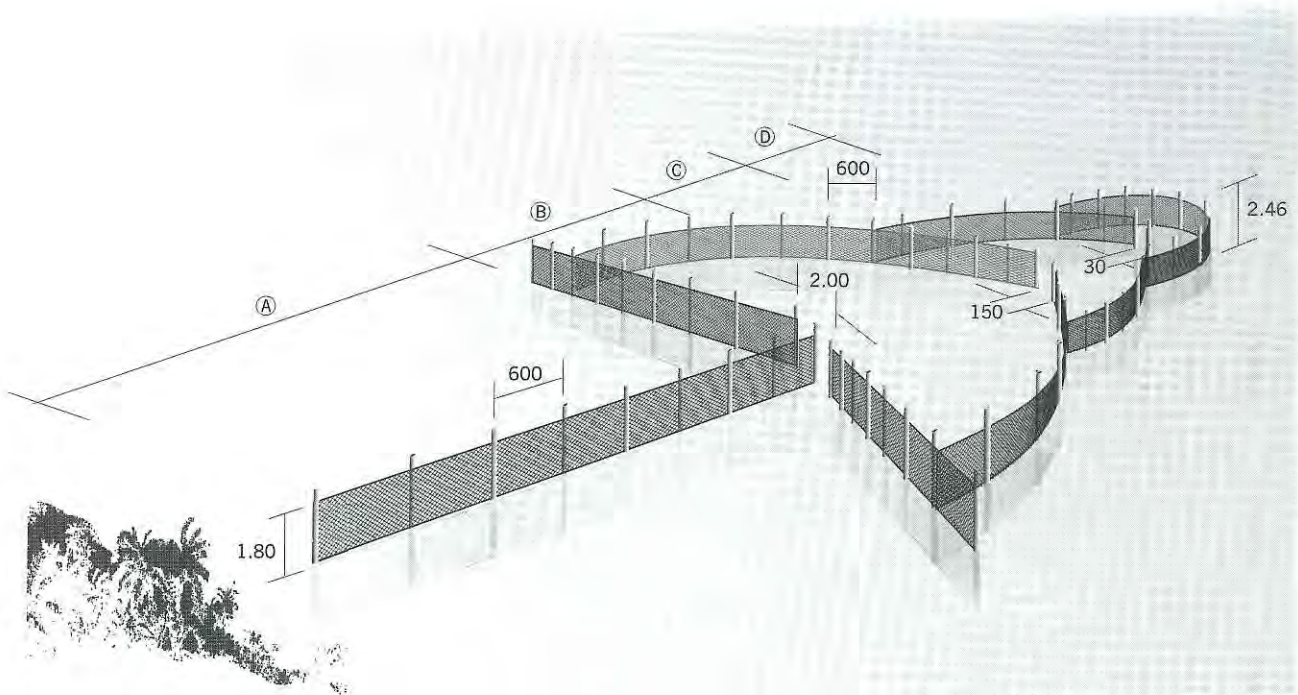
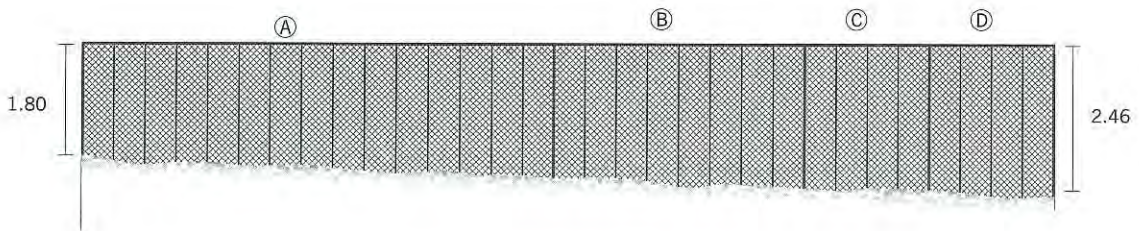
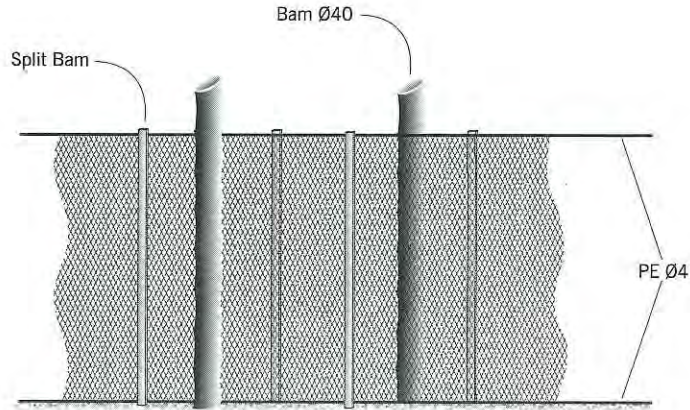
Stationary trap, Fish corral
Bungsod
Mullet, Stingray, Shrimp
Slipmouth

VESSEL

Loa -
hp -

LOCATION

Samonte Park, Cavite City
Cavite



Fishing Gear & Methods in Philippines

TRAP

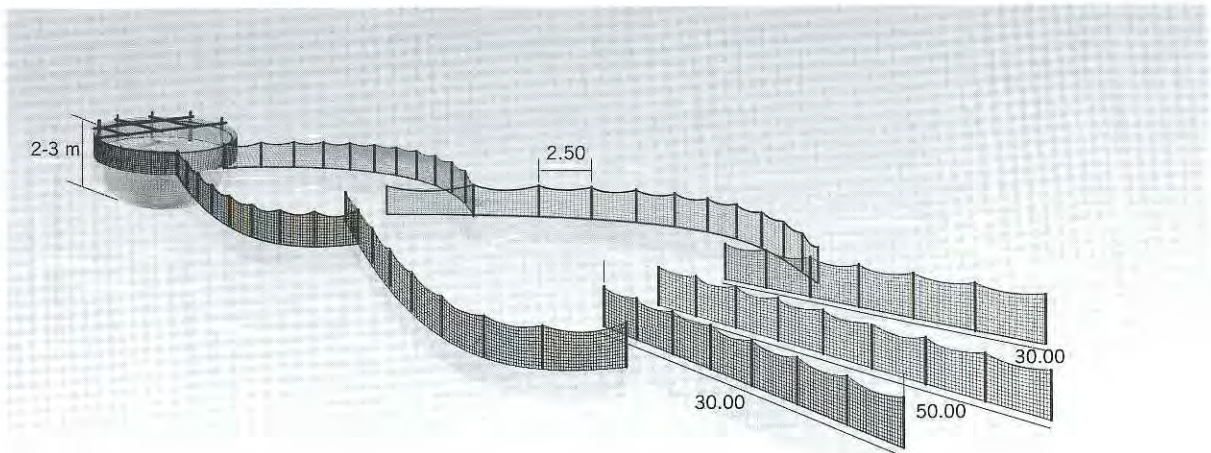
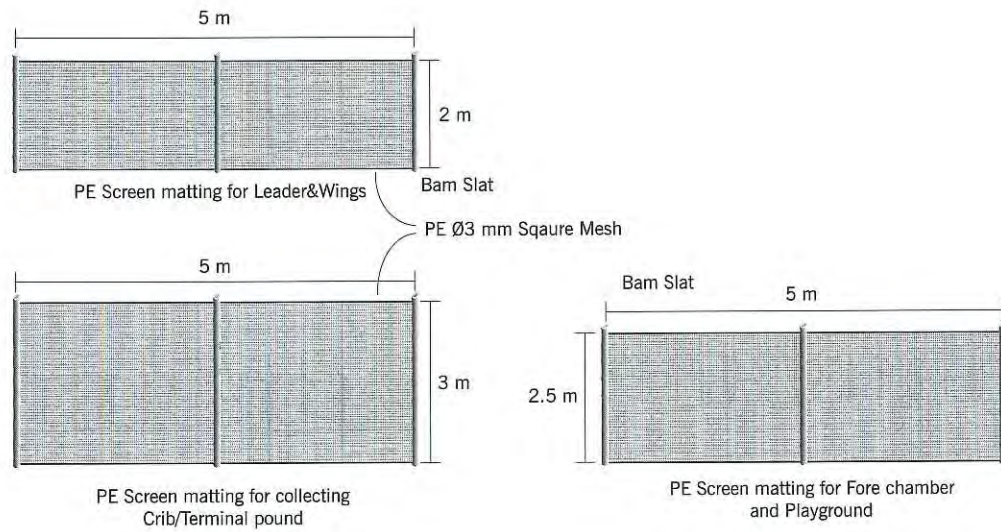
Stationary Trap, Tower fish corral
Baklad
 Demersal fishes

VESSEL

Loa - 5-7 m
 hp -

LOCATION

Manga, Tagbilaran City
Bohol





TRAP

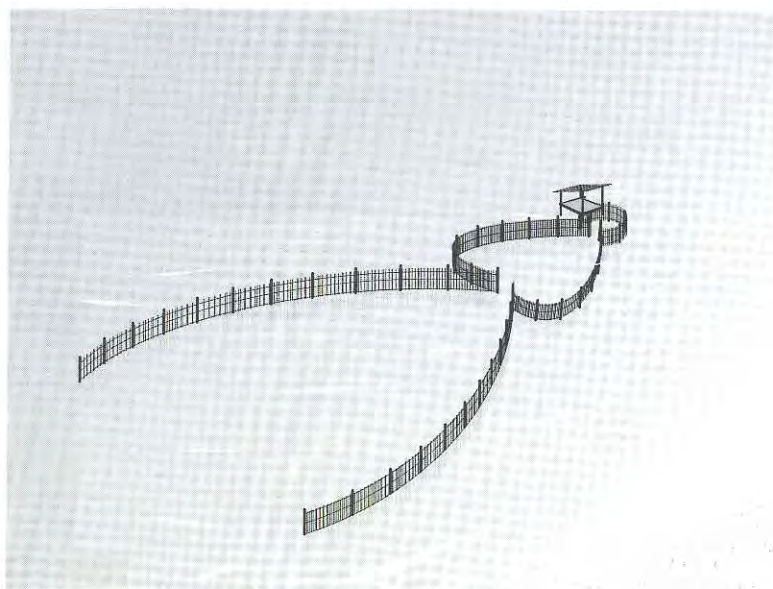
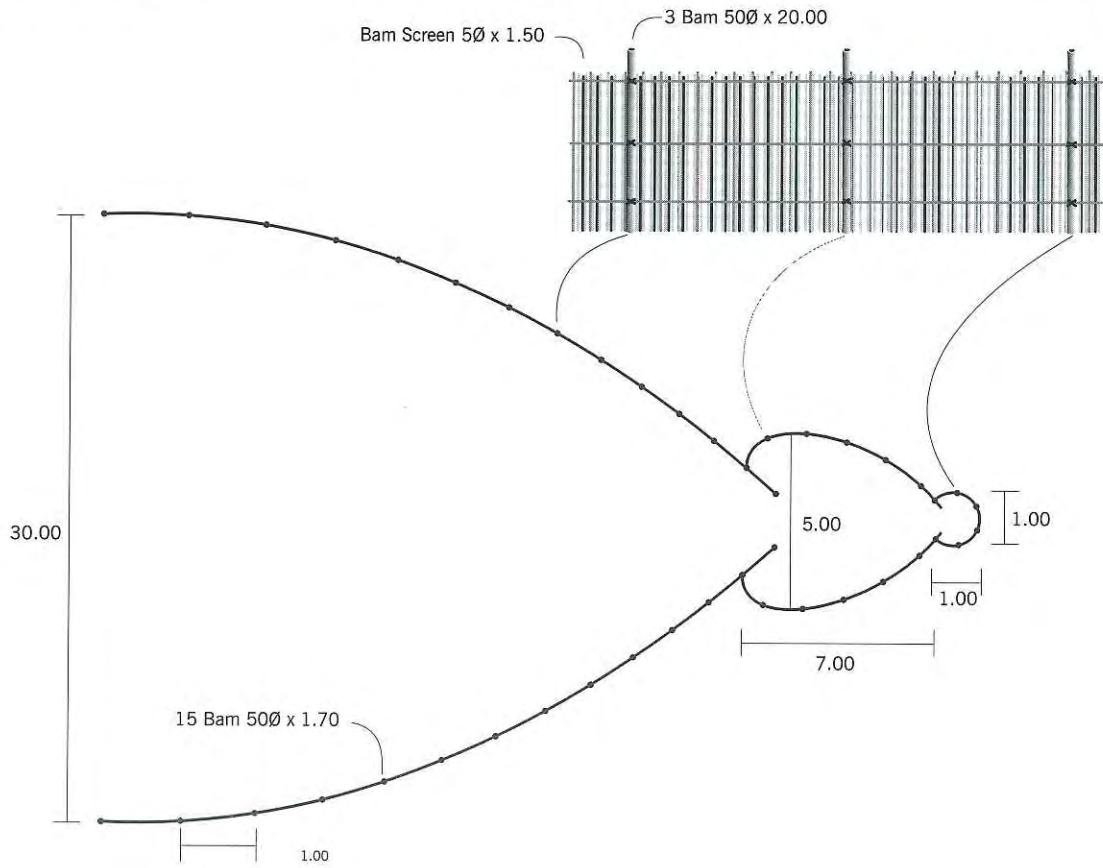
Ebb tide bamboo stake trap
Tarik
Shrimp, Slipmouth, Crab

VESSEL

Loa - 3.66 m
hp -

LOCATION

Buguey
Cagayan



Fishing Gear & Methods in Philippines

TRAP

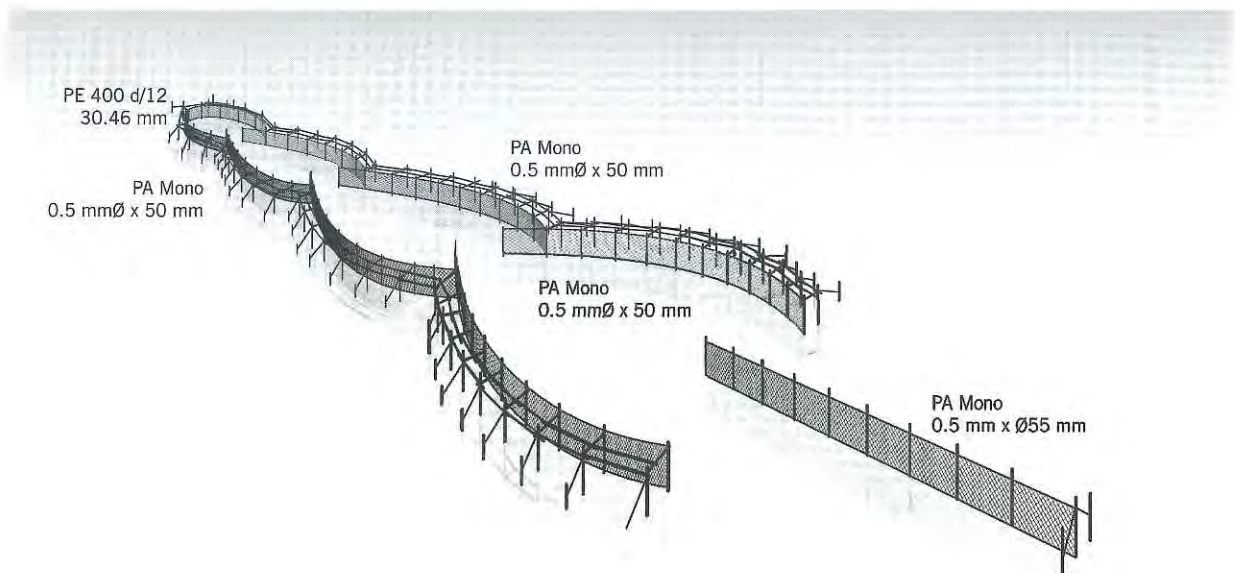
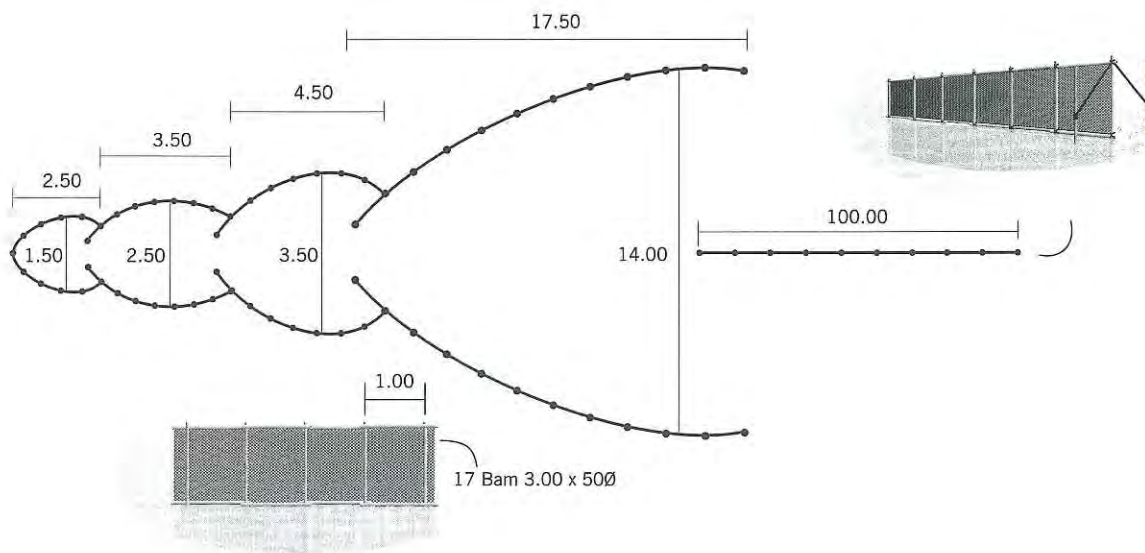
Fish trap
Baklad lambat
 Garfish, Nemipterid,
 Squid, Caesio

VESSEL

Loa - 4.26 m
 hp -

LOCATION

Alabat
 Quezon





TRAP

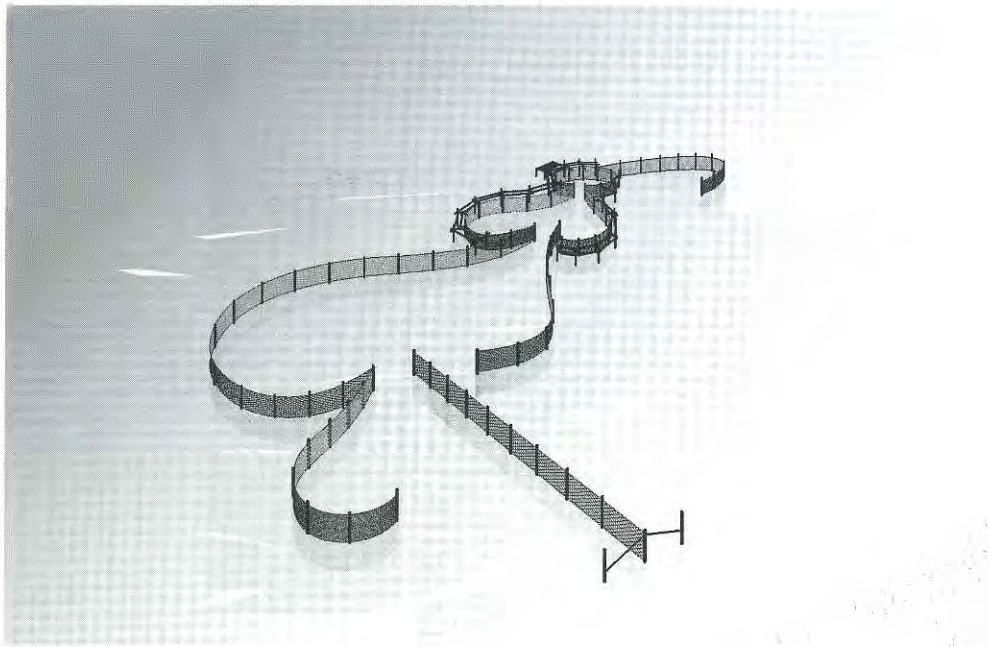
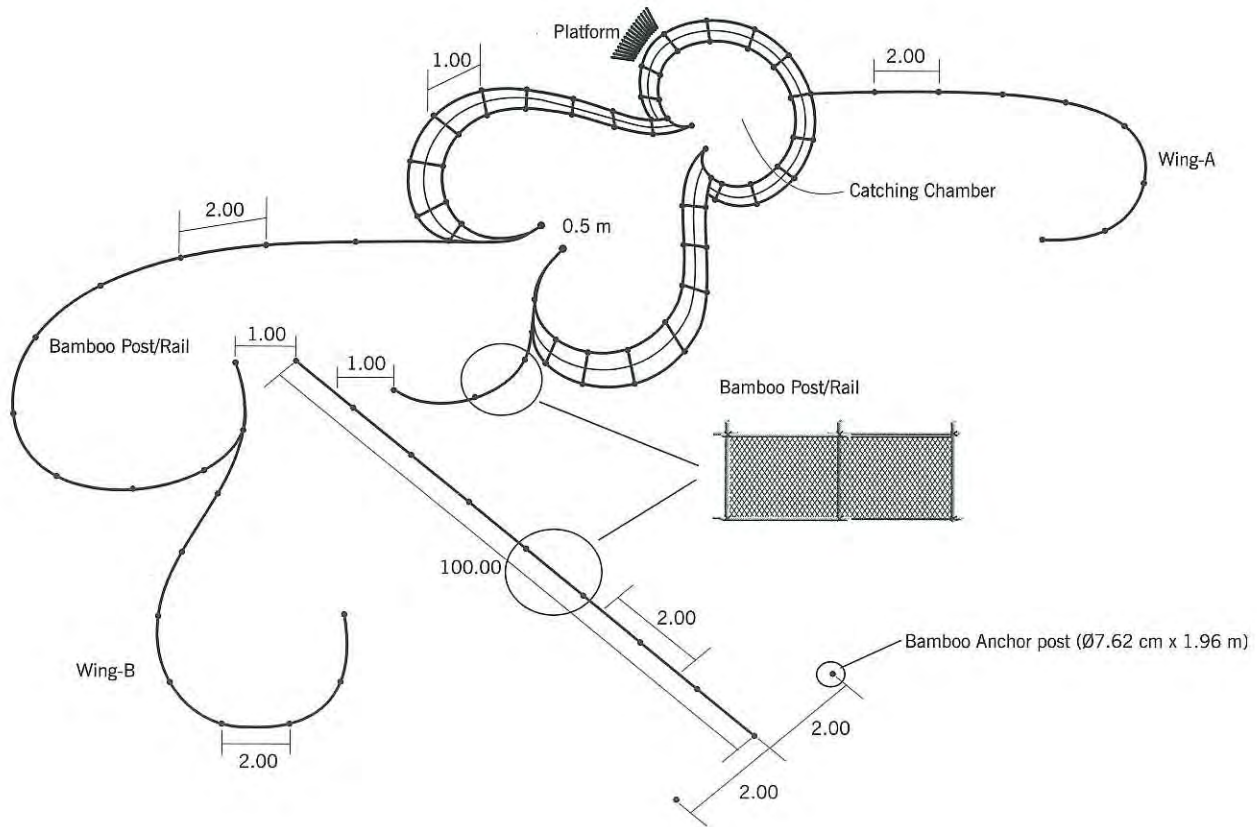
Fish Corral
Inangkla
Scad, Mackerel, Tuna

VESSEL

Loa - 7.92 m
hp -

LOCATION

Quezon
Quezon



Fishing Gear & Methods in Philippines

TRAP

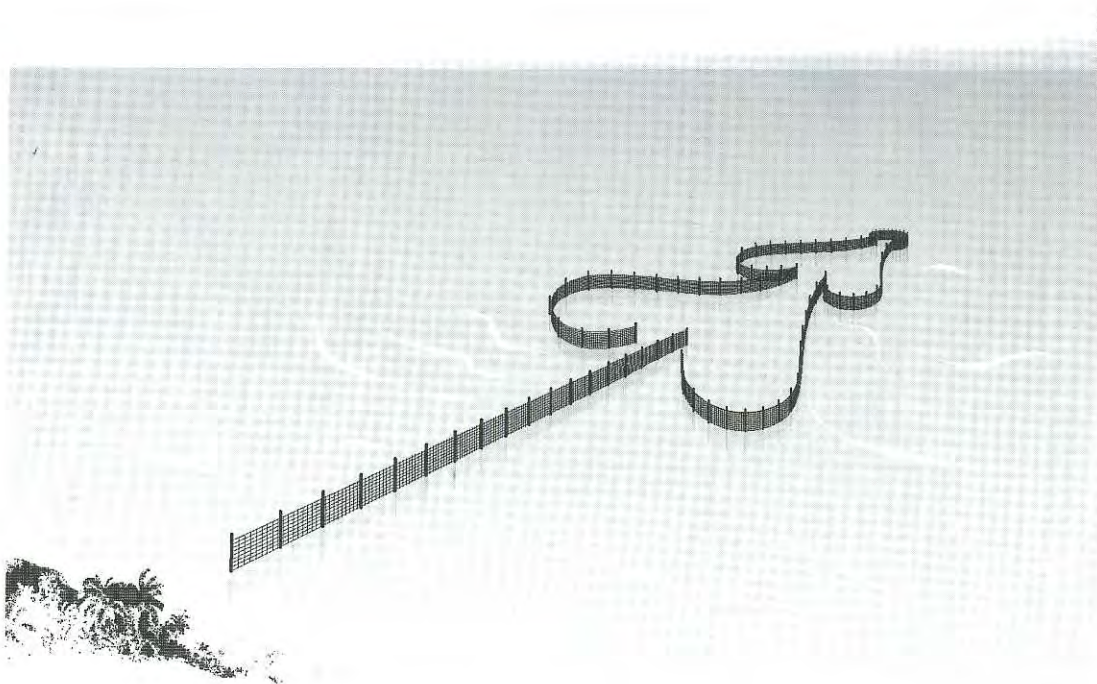
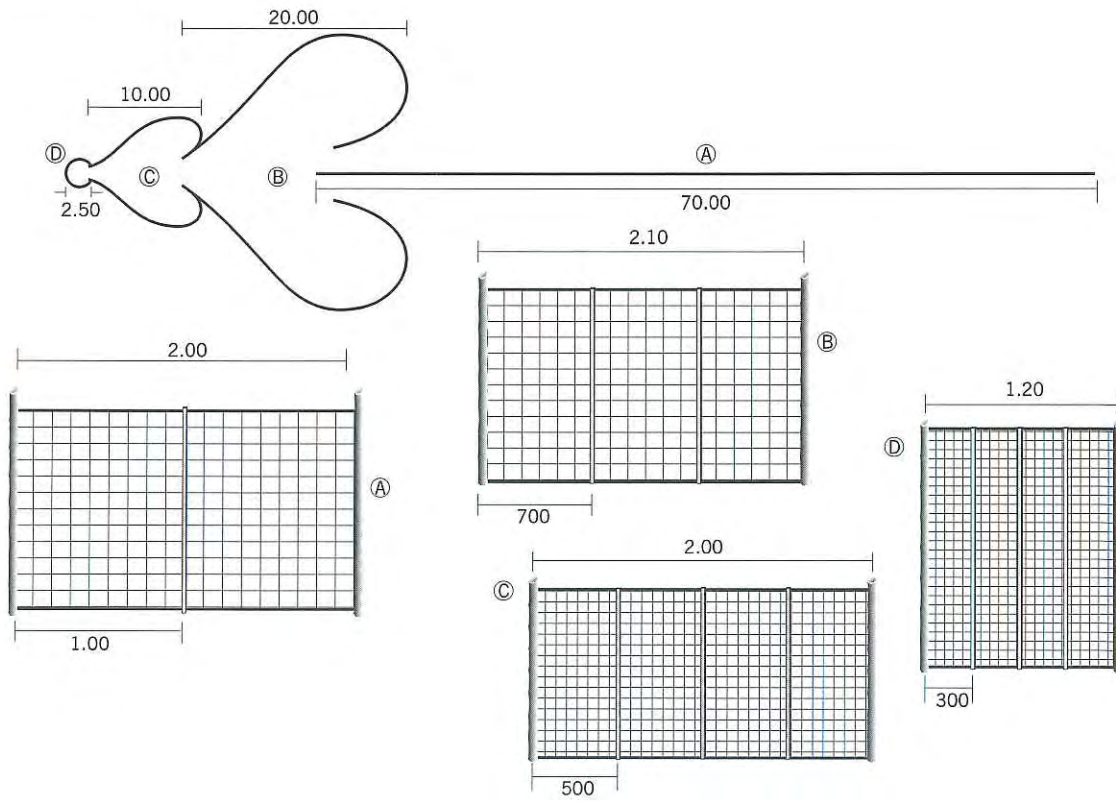
Fish Corral
Baklad
 Striated murrel, Milkfish,
 Fresh-water catfish,
 Tilapia, Silvery theraponid

VESSEL

Loa - 5.48 m
 hp - 10

LOCATION

Cardona
Rizal





TRAP

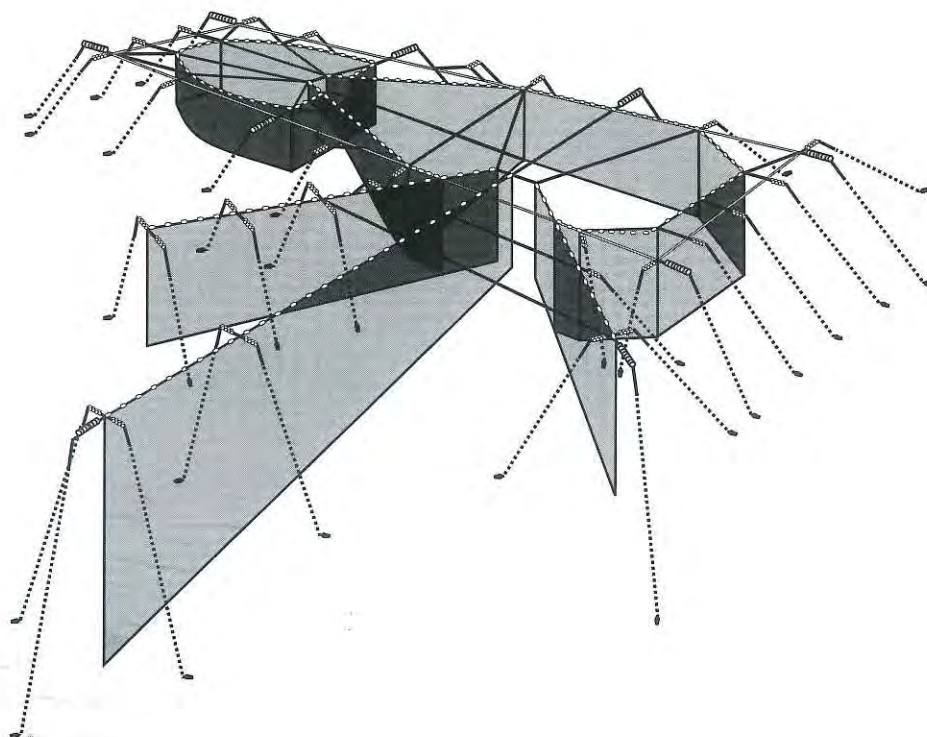
Set net (Otoshi-ami)
Bambaklad
Tuna, Mackerel, Cavalla,
Sail fish

VESSEL

Loa - 2x10.00 m+2 Flat boat
hp - 16

LOCATION

Malabor, Tibiao
Anntique



< Chapter 11 >

Hook and Lines



Hook and Line Fishing

Hook and Line is one of the most common fishing gear for both the municipal and commercial sectors. It rank sixth (6th) by producing 24,270 mt or 2.72% in commercial fisheries production in 1995. Troll line and longline also contributed 883 mt (0.10%) and 4,019 mt (0.43%) respectively. In the municipal sector, hook and line is the second most productive gear producing 187,502 mt or 23.87% of the sector catch in 1995. Longline, Troll line, Jigger and pole and line contributed 24,885 mt (2.10%), 11,660 mt (1.48%), 8,847 mt (1.33%) and 6.22 mt (0.08%) respectively.

The commercial hook and line uses outriggered boats from 3 to 30 GT. The mother boat tows several unpowered dug-out bancas or canoes to the fishing ground at dawn. Each small banca has 1 To 3 fishermen on board doing handlining or trolling. At the end of the day, their catches are collected by the mother boat which tows them back to a sheltered area, or port. In some cases, the dugout bancas measuring 7 m x 0.5 m x 0.5 m are carried on top of the outrigger beams of the mother boat. The commercial longlines are primarily used for tuna and tuna-like species.

The municipal hook and line uses a banca less than 3 GT which are either motorized or non-motorized. Most motorized bancas operate in coastal waters for pelagic and demersal species and fish aggregating devices (FADs) set in offshore waters for tuna. Troll lines are set for fish schools and near FADs. Longlines are usually bottom set longlines for catching demersal fish such as lizardfish, bream, grouper, snapper, sharks and others.

Hook and line fishing has many variations in terms of design, construction and techniques of operation. Each region has its own method of application but depends primarily on the behavior and habitat of the target species.

Fishing Gear and Methods

1 Hand Lines

As the name implies, it is operated by hand of the fishermen themselves. Although it looks simple in structure, the handline has many designs and modes of construction to effectively catch the target species. In general, a handline consists of a primary mainline, secondary mainline, hook and sinker. Other accessories include the wooden/bamboo/plastic spool for coiling the line, the swivel to prevent the line from twisting, and the stainless wire used to protect the hook from loss due to fish bites.

A simple handline has only one hook but to increase the chance of catch, several hooks are now common, especially for catching schools of sardines, mackerel, scad, sea bream, grouper and snappers. Hand lines can be used either for pelagic, mid-water or demersal species. Natural baits such as fish, squid and artificial baits such as plastic/silk materials which resemble a shrimp, squid or octopus are now used. In other areas, individual hook and lines are provided with plastic or bamboo floats and allow to drift with the current. The fishermen follow them for

several hours and haul the floating hook and line with a catch.

The different behavior of target species has resulted in many modifications. In the tuna hand line, an iron rod measuring 50 to 90 cm with 3 mm diameter is embedded in a lead sinker of 1.5 mm diameter with a length of 15 mm is used to increase the sinking speed of the line. Live baits such as frigate tuna and squid are used to increase gear efficiency.

The material of the hand line is mostly nylon monofilament with the mainline of 1.5 to 2.0 mm diameter and the secondary mainline from 0.5 to 1.5 mm. Sinkers are lead while the hooks are manufactured by Mustad either using the J-hooks or circle hooks.

Fishermen also use single and multiple hooks for demersal fish. Nylon monofilament of 1.2 to 2.00 mm. are the primary and secondary mainlines. In the case for multiple hooks, branchlines of 0.45 mm. to 1.0 mm. are connected to the swivels of the mainline to prevent line twisting. Hook size and shape vary depending on the target species. The swivels of different sizes and shapes are made of brass. One peculiar innovation in the bottom handline is the provision of a bait bag where small fish or grounded fish are placed. Upon reaching the desired depth, the line is suddenly jerked to release the bait. Bait attracts the fish school into one area thus increasing the efficiency of the fishermen.

In Palawan, where coral reefs are abundant, commercial hook and line boats carry six to eight small non-motorized bancas (3-4 m) and take them to the fishing ground. Selected coral reef areas are assigned to each banca. Handlining is done the whole day and before sundown, the small banca are again gathered together while catches are weighed and stored in the fish hold. Crushed ice is used in preserving the fish catch. The mother boat stays on the fishing ground until the fish hold is full, or until provisions such as food, fuel and water are becoming limited. Target species are groupers, snappers and other coral reef fish.

Stainless steel clips are also used as connectors between the primary and secondary mainlines to eliminate kinks during hauling and entanglement of the lines due to catch. Likewise, swivels are added in the mainline to prevent twisting of the lines. Triangular stainless wire is also placed along the primary mainline to provide attachment for other branchlines. This innovation increases the number of hooks and finally the catch per unit effort. The use of silk cloth with varied colors as artificial bait has proven very effective for catching schooling fish. These are tied at the eye of the hook to cover the shank and the barb.

In General Santos City, tuna handlining is very common as it is the major source of tuna "sashimi" for export. Several thousand handline boats (19 m) go out to the Celebes Sea, look for payaw and catch big-sized yellowfin and bigeye tunas. One trip usually lasts for seven (7) to ten (10) days including four (4) travel days. A major innovation introduced by the local fishermen is the coiling together of the baited hook and a stone weighing 0.5 to 1 kg using 2-meters secondary mainline. This is then dropped near payaws until it reaches the swimming layer of tuna and the line is suddenly pulled to release the stone. At this depth, fishermen jerk their lines frequently to attract tuna bites. Squid and frigate tuna are the preferred baits. The best bait should have a length of 15.24 to 17 cm for fish and 10 to 17 cm for squids. At present, the latest bait type which show increasing catch efficiency is the squid ink which is placed in small plastic and tied near the barb tip of the hook. When jerking, the tip of the hook make a hole of the plastic bag thus releasing a cloud of ink and tuna are attracted by the smell and intensify their feeding activity.



The swimming layer of tuna under payaw ranges from 90 m. to 200 m. depth and fishermen must adjust their lines to this depth.

In some forms of handline, shrimp-like attractors with several hooks embedded in the body are used to catch big-fin reef squid. This operation is limited as the distribution of the reef squid is not very wide. Fishermen use bamboo pots instead to catch this squid.

2 Troll Lines

Trolling is primarily used for surface and subsurface fish. Fish behavior towards splashing or rippling water produced by an object has led to some improvement in the hook and line techniques. Troll lines vary from region to region but use both natural and artificial baits. The artificial baits are hard plastic resembling a squid or octopus, while a cheaper material is multicolored silk cloth. Natural baits are fresh fish being caught during lighting.

The Nylon monofilament twine is the most common material for the mainline. The need for the hook to remain at the surface has introduced a modification by placing a foam float 1.5 meters before the hook. Often, stainless wire is part of the secondary main line which is placed before the hook.

Troll lines are not only single hook but also use multiple hooks to increase the catch when encountering fish schools. It is now common among fishermen to catch 5 or 10 fish in one hauling. Double hooks are also commonly used with artificial squid or octopus as baits to prevent the catch from escaping.

Troll lining can also be undertaken along the beach. Fishermen improvise a sort of wooden-kite shaped fish that when towed, produces ripples or a splash. Branchlines are tied along the mainline at 1 to 2 meters interval. The wooden-shaped fish is automatically reversed by towing it in the opposite direction. Fish caught are cavalla, caranx, and other species that frequent the shallow coastal areas.

Airplane-like splashers are also used in some places. The “saba-saba” which is made of wood and resembling an aeroplane is towed by a motorized banca near payaws to catch Spanish mackerel and tuna. Artificial baits such as squid and octopus-shaped plastic are also used. All the hooks have barbs to hold the fish catch. Two units are towed by the banca and the indication of fish catch is shown by rubber strips lengthening or snapping.

The provision of a mechanism that produces water movement or disturbance along the sea surface using “saba-saba”, fish-shaped kite and artificial baits make trolling an efficient method to catch surface swimming fish.

3 Longlines

There are two major types of longline, namely; the bottom set longline and the tuna longline. The bottom set longline is the most common for small-scale fishermen as it is used to catch sparsely distributed demersal species. It is set in shallow muddy-sandy bottom to catch hairtail, grouper, snapper, shark and nemipterids. The components of a longline consist mainly of floatline, mainline and branchlines. The branchlines consist of the mainline proper, swivel,

Fishing Gear & Methods in Philippines

wire leader and hook. The set longline is made of nylon monofilament. The twine and hook sizes depend on the target species. Usually, there are 200 to 1,000 hooks per set. Sliced fish is the common bait. Prior to setting, the hooks are baited and arranged in the hook rack. Sometimes, sand is placed in the box to prevent the lines from entangling. Operations may be done early in the morning or before sundown. During setting, weights are tied along the mainline at intervals of 100 hooks or more to let the line lie on the sea bottom. A specific kind of catch is the spiny dogtooth shark which are available in some specific fishing grounds. Its oil has many uses. An improvised line hauler is utilized by the fishermen during hauling.

The original tuna longline is made of hard-laid nylon multifilament mainline with a combination of polyester rope hard laid and monofilament nylon in the branchlines. Nowadays, the mainline and branchline are made of PA monofilament. The branchlines consist of the branchline proper, secondary branchline, swivel, wire leader and the hook. A flagpole with float, or a radio buoy are accessories used during fishing operations.

The tuna longline is operated by commercial fishing boats of 30 to 50 GT using Taiwanese-technology. The unit is divided into baskets or containers. The length reaches 20 to 30 miles long when set. Development in tuna longlining is also very fast. Targeting bigger tuna especially the big-eyed tuna which inhabit the deeper water makes the fishermen increase the depth of the floatline and the branchline. Originally, the length of the floatline is 15 m. and the branchline is 20 m. Nowadays, the floatline length is increased to 30 m. and the branchlines from 40 to 50 m. deep. Caught tunas are immediately stocked in the fish hold. In some companies, tunas are gutted, gilled and washed with sea water to remove blood and slime.

Live milkfish or frozen squid are used as baits. The shiny and moving fish bait attracts the tuna, hence, the catch rate has increased effectively. With still wide area of the Exclusive Economic Zones not exploited by commercial fishermen, tuna longline might be the method to increase production and exports.



H O O K A N D L I N E

Handline/Squid jig

Bigfin reef squid

V E S S E L

Loa : 8 m

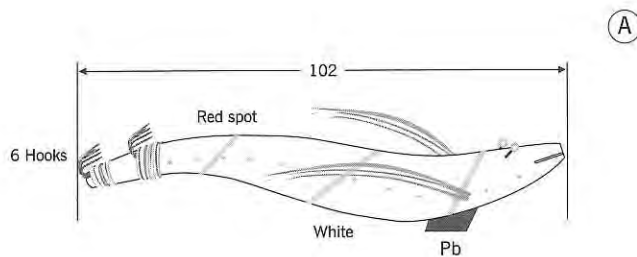
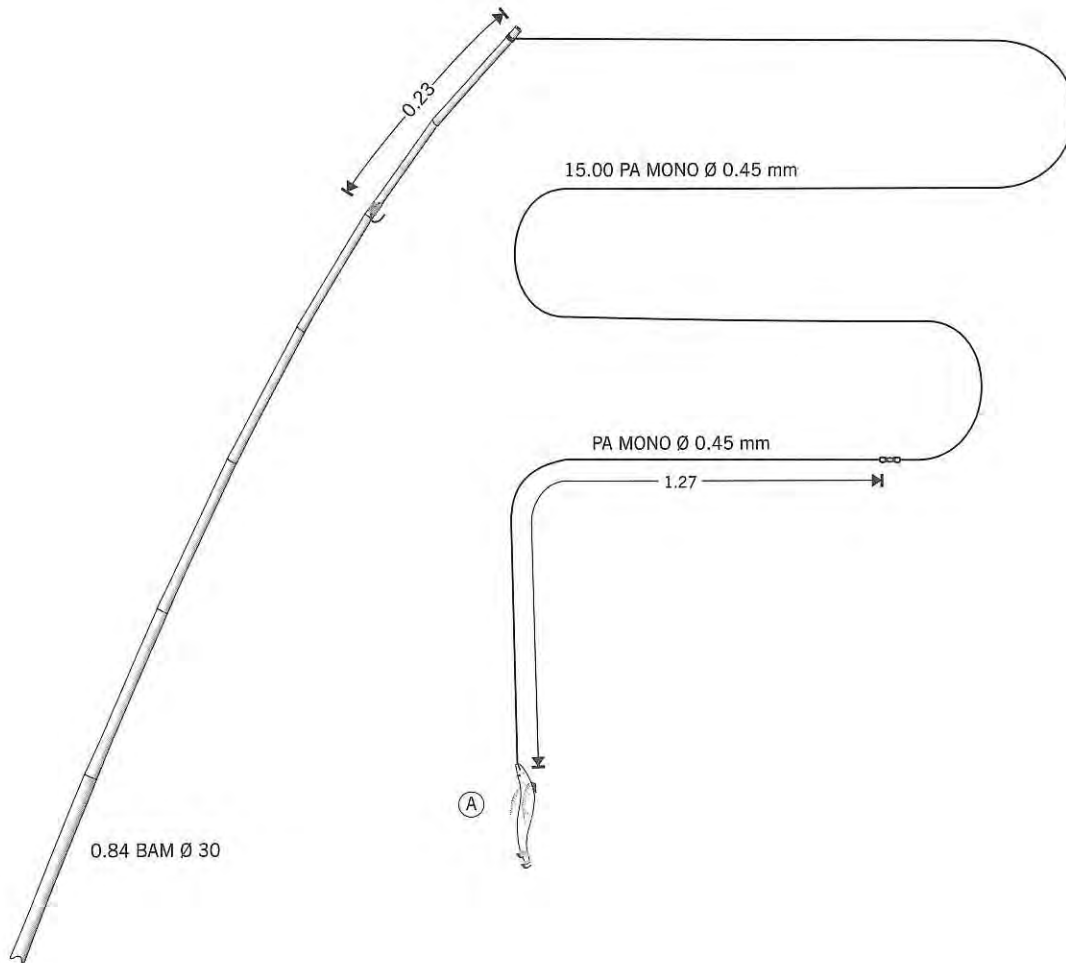
GT : -

Hp : -

L O C A T I O N

Candelaria

Zambales



Fishing Gear & Methods in Philippines

HOOK AND LINE

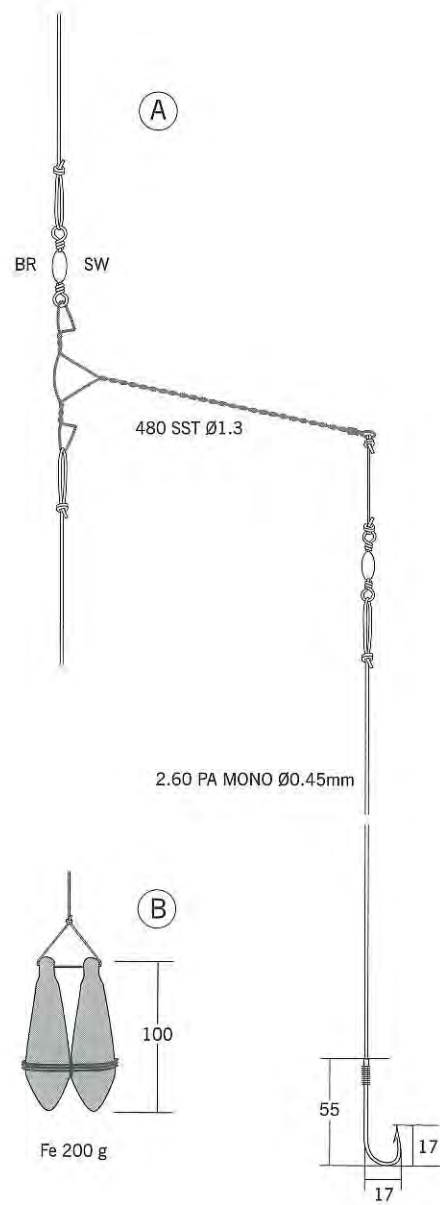
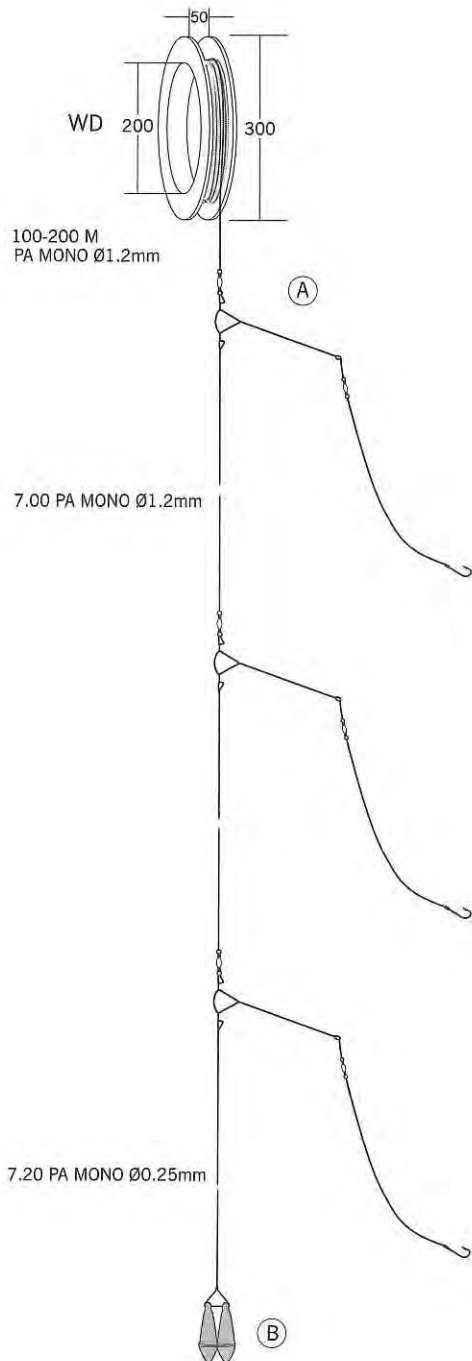
Handline
Kawil
 Grouper, Snapper Big-eyed scad
 Mackerel, Coral reef fish

VESSEL

Loa : 8 m
 GT : -
 Hp : 16

LOCATION

Nasugbu
Batangas





H O O K A N D L I N E

Handline

Grouper, Snapper Cavalla

V E S S E L

Loa : 15 m

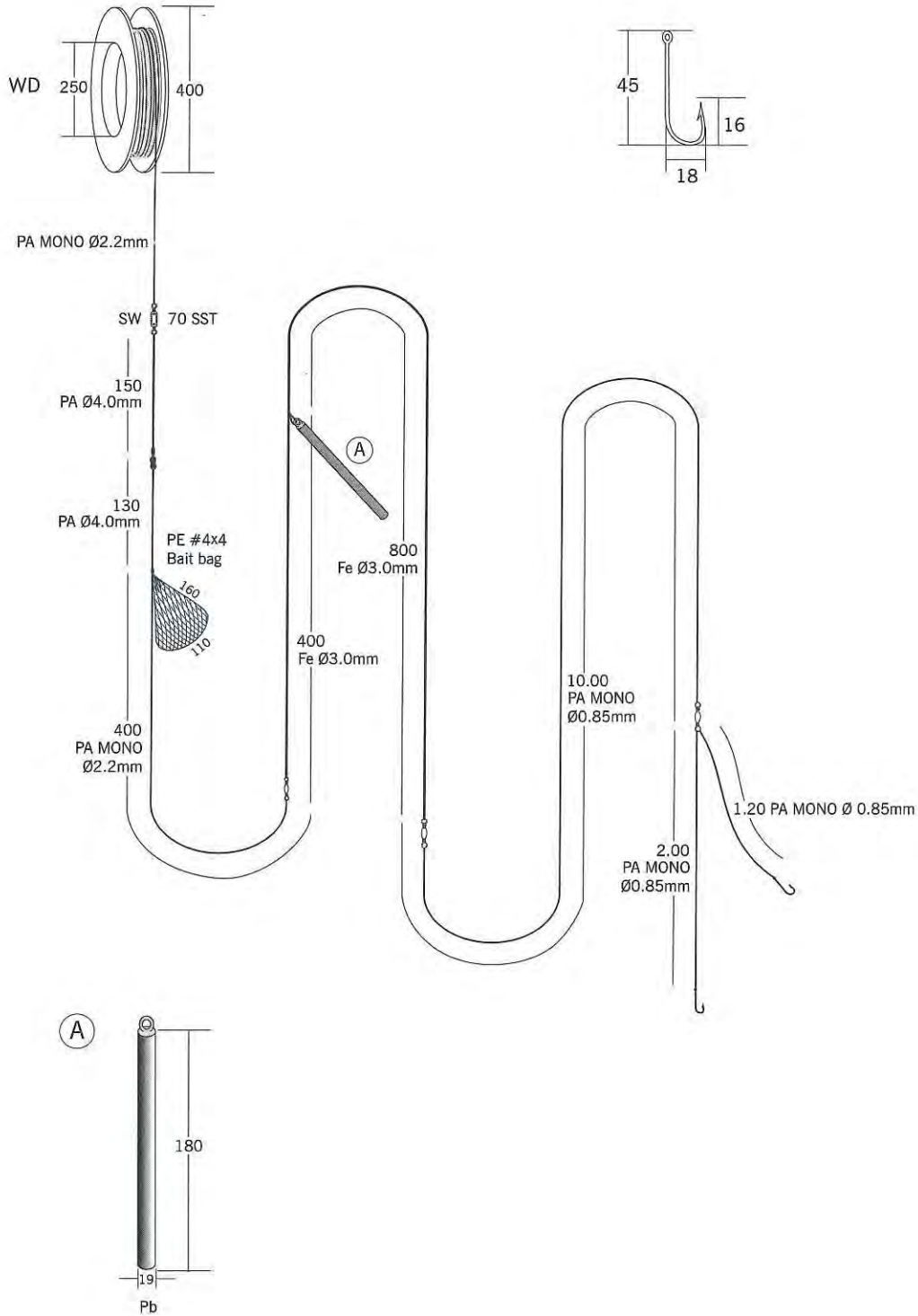
GT : 5.8

Hp : 150-200

L O C A T I O N

Puerto Princesa City

Palawan



Fishing Gear & Methods in Philippines

H O O K A N D L I N E

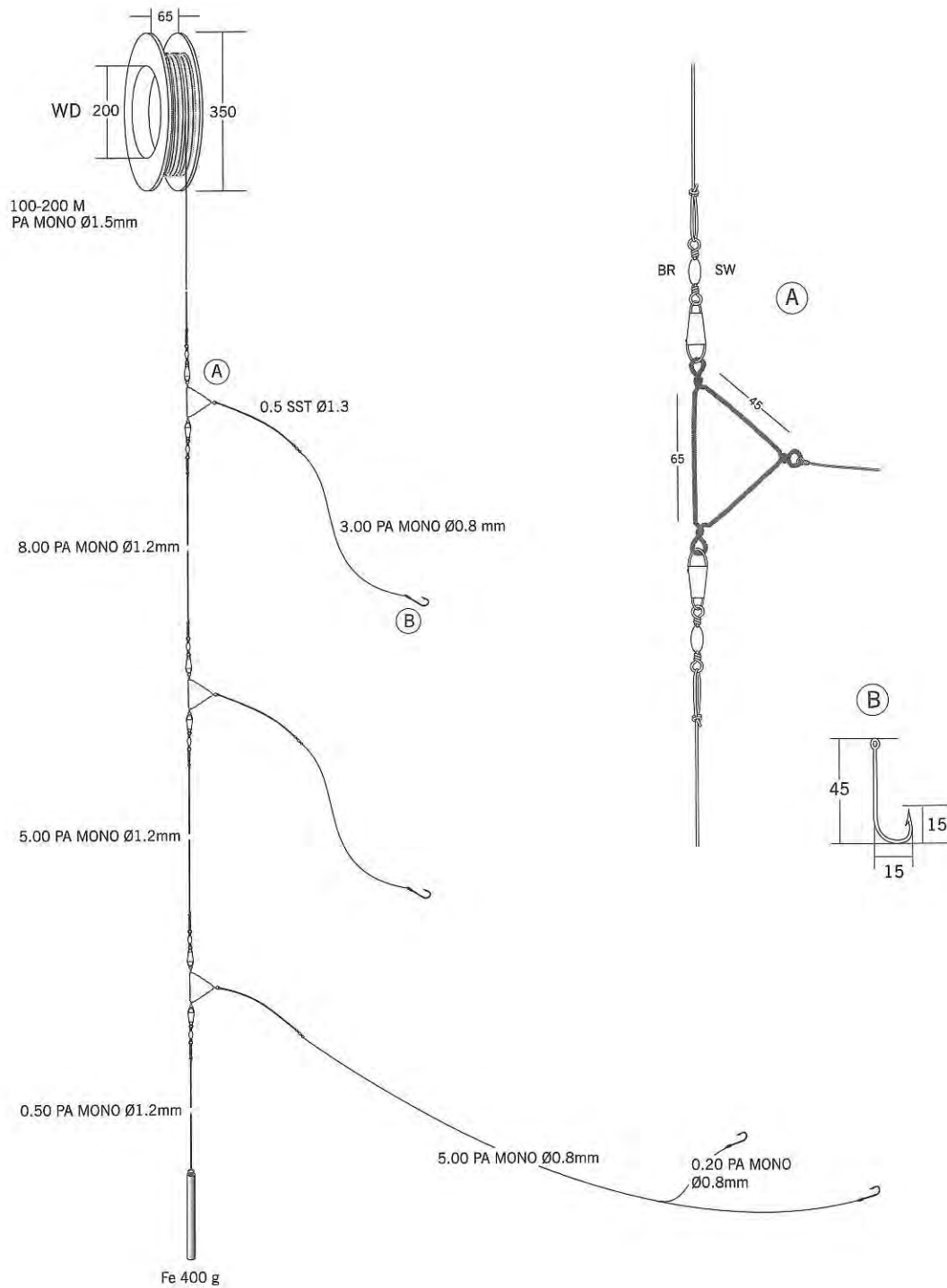
Handline
Kawil
 Shark, Ray, Spanish mackerel

V E S S E L

Loa : 10 m
 GT : -
 Hp : 16

L O C A T I O N

Navotas
Metro Manila





H O O K A N D L I N E

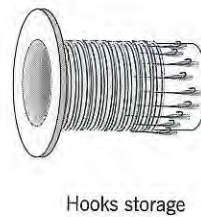
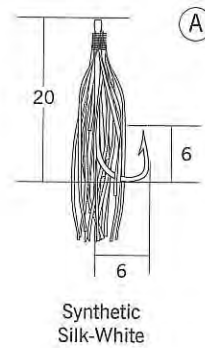
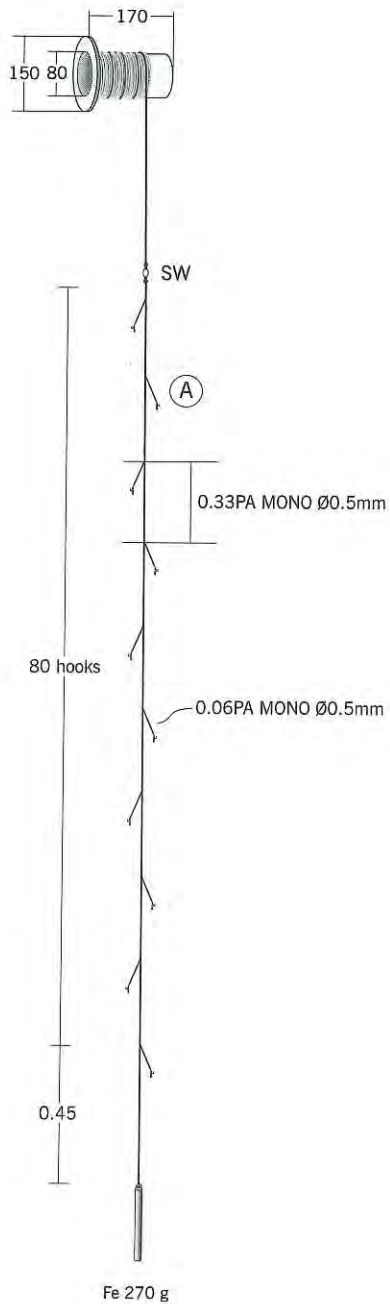
Handline
Hila
Scads, Sardines, Mackerell

V E S S E L

Loa : 7 m
GT : -
Hp : 10

L O C A T I O N

Pasuquin
Ilocos Norte



Fishing Gear & Methods in Philippines

HOOK AND LINE

Handline

Barracuda, Spanish mackerel

VESSEL

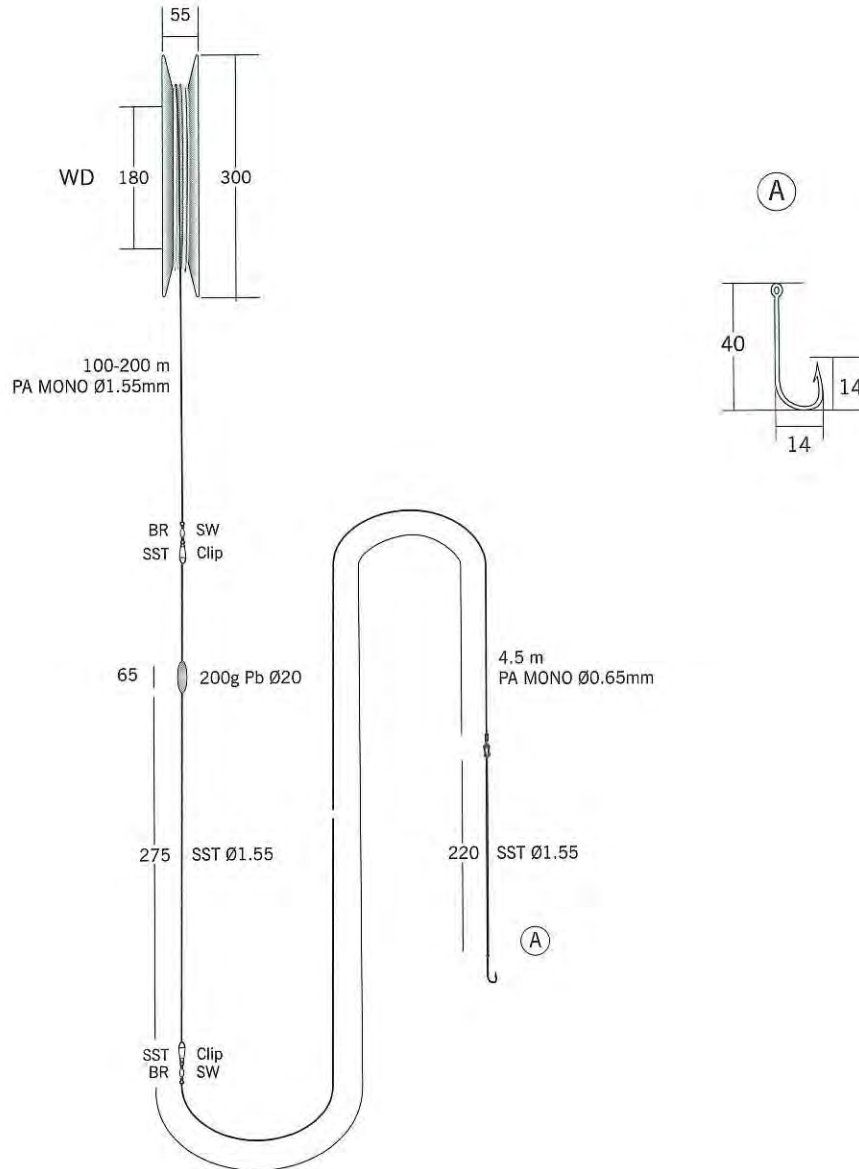
Loa : 8 m

Hp : 16

LOCATION

Nasugbu

Batangas





H O O K A N D L I N E

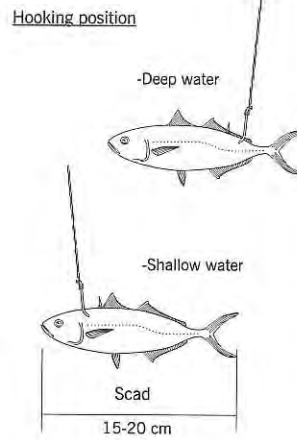
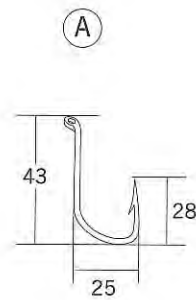
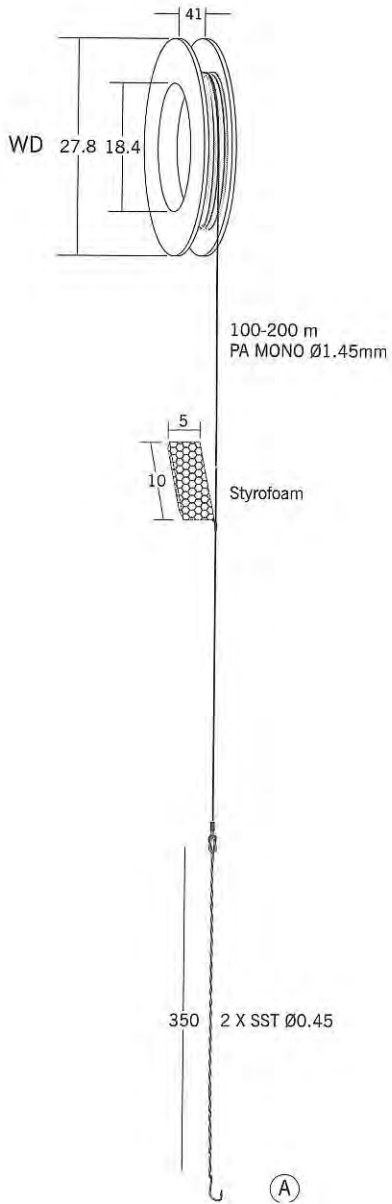
Handline
Pahila
Saifish, Spanish mackerel

V E S S E L

Loa : 7 m
Hp : 16

L O C A T I O N

Botolan
Zambales



Fishing Gear & Methods in Philippines

HOOK AND LINE

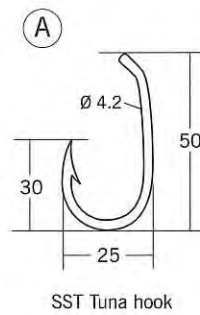
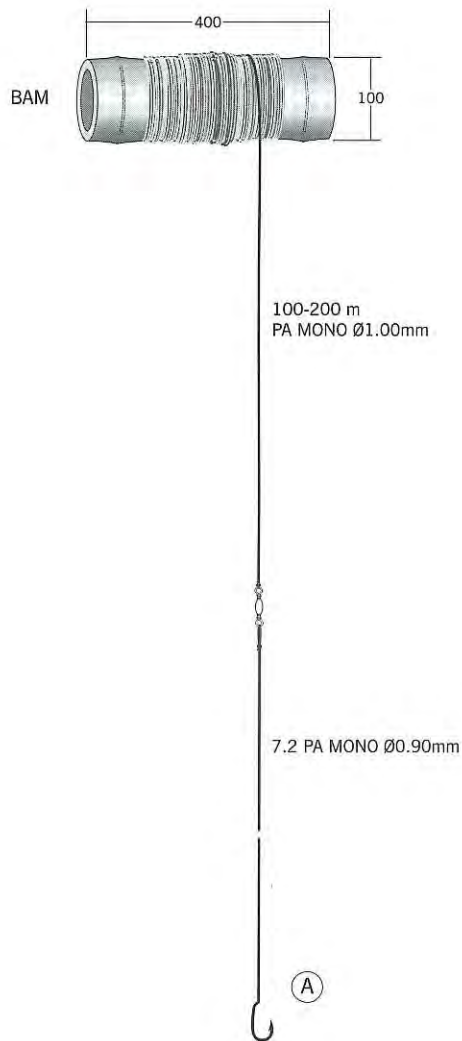
Troll line
Paadag
Small tuna

VESSEL

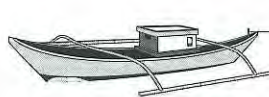
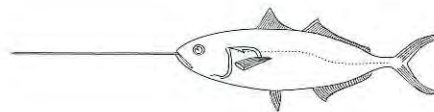
Loa : 8-10 m
Hp : 16

LOCATION

Luna
La Union



Hooking position





H O O K A N D L I N E

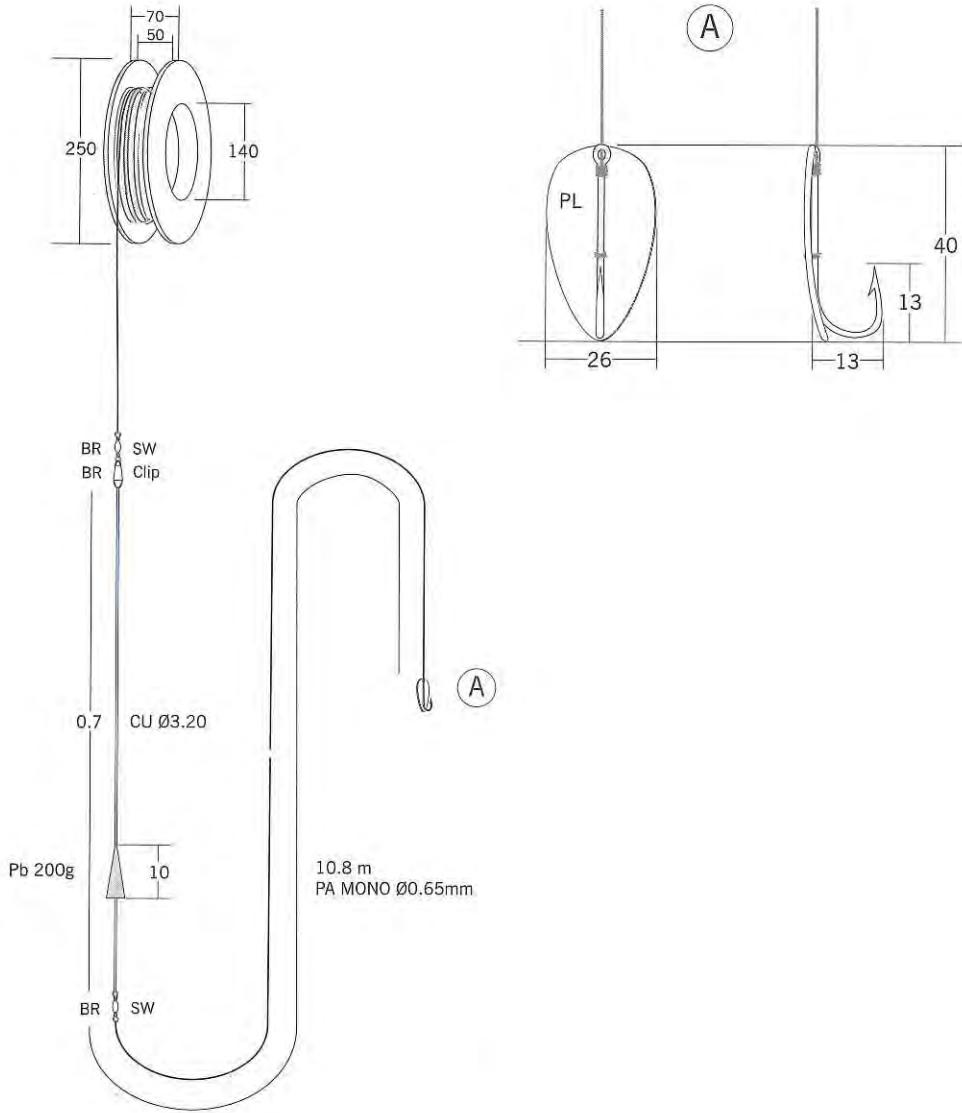
Troll line
Bira-bira
Skipjack, Yelowfin tuna

V E S S E L

Loa : 6 m
Hp : 16

L O C A T I O N

Bolinao
Pangasinan

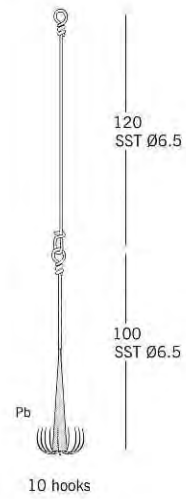
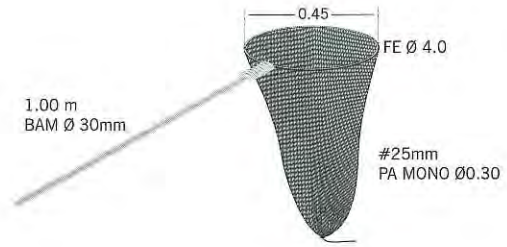
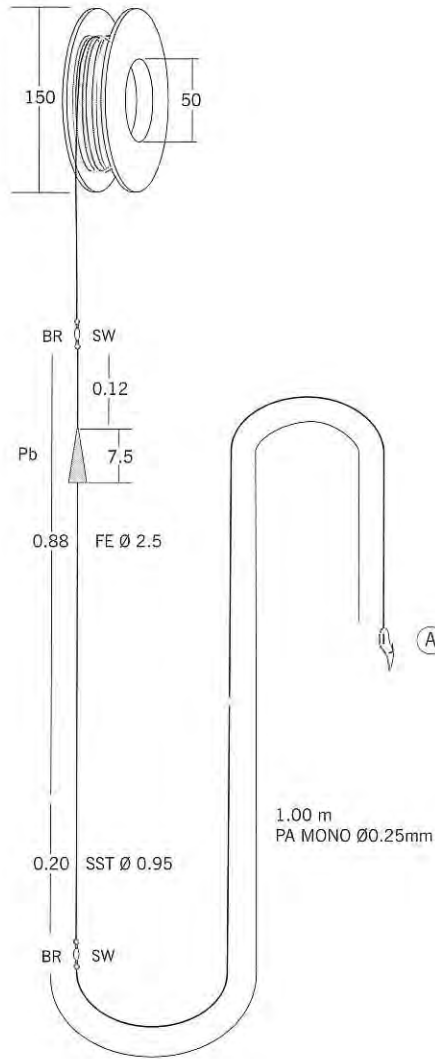


Fishing Gear & Methods in Philippines

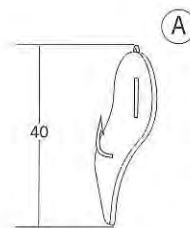
H O O K A N D L I N E
 Handline
Pasol
 Skipjack tuna, Yelowfin tuna, Shark

V E S S E L
 Loa : 7 m
 Hp : 16

L O C A T I O N
 Digos
Davao del Sur



Bait collecting gear



Sliced squid



H O O K A N D L I N E

Handline
Sabiki

Skipjack tuna, Yelowfin tuna, Mackeral

V E S S E L

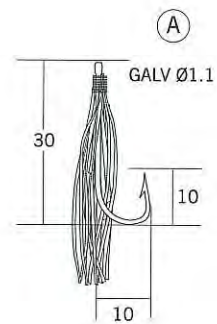
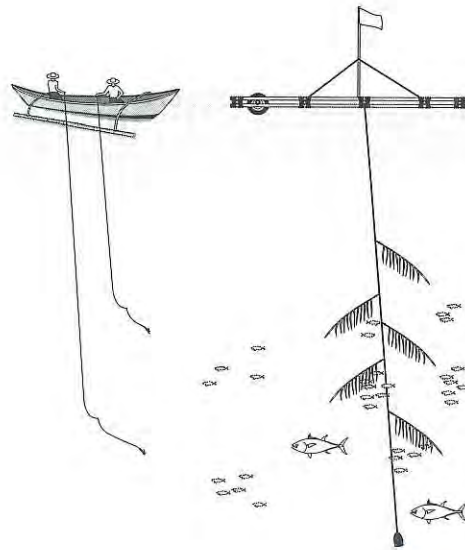
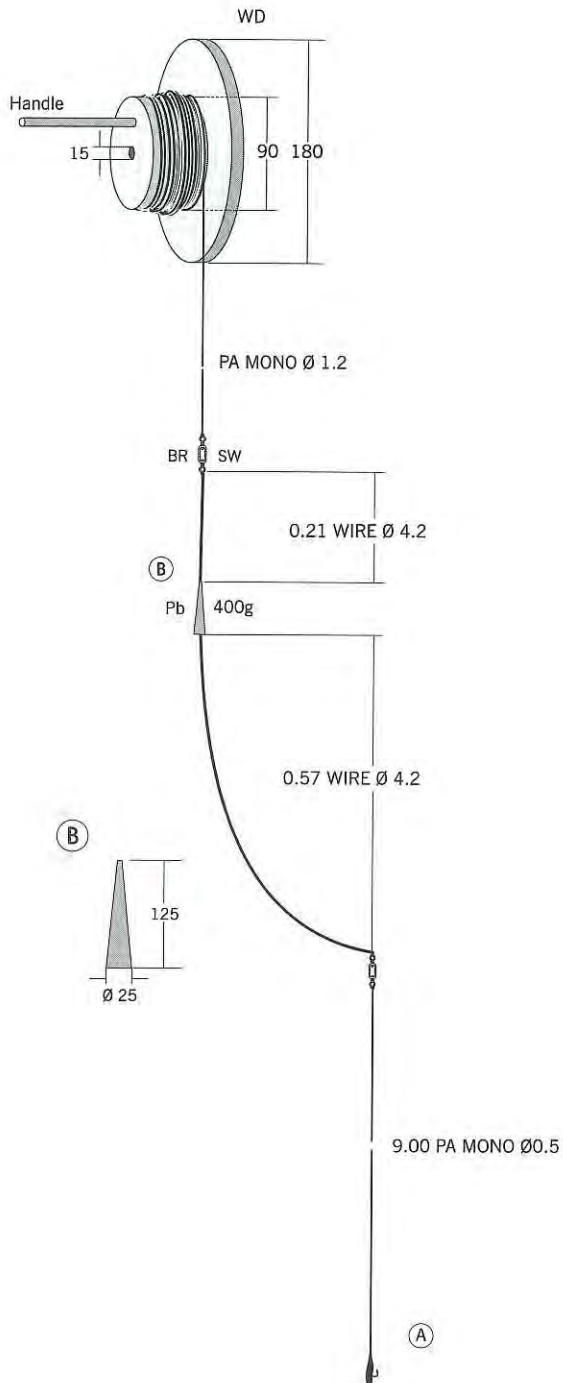
Loa : 8 m

Hp : 16

L O C A T I O N

Magsingal

Ilocos Sur



Fishing Gear & Methods in Philippines

HOOK AND LINE

Handline
Bira-bira
 Skipjack tuna, Yellowfin tuna
 Swordfish, Mackerel

VESSEL

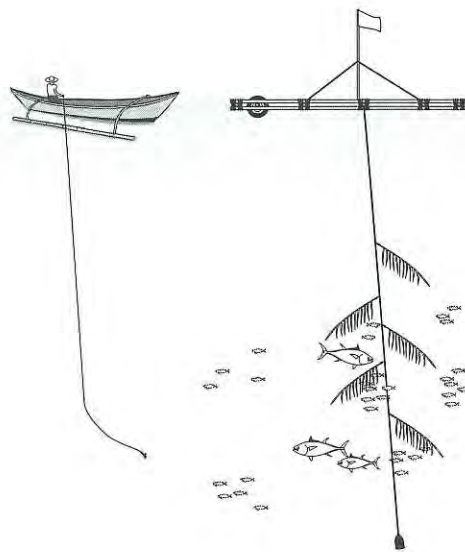
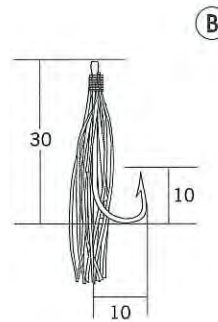
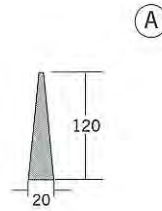
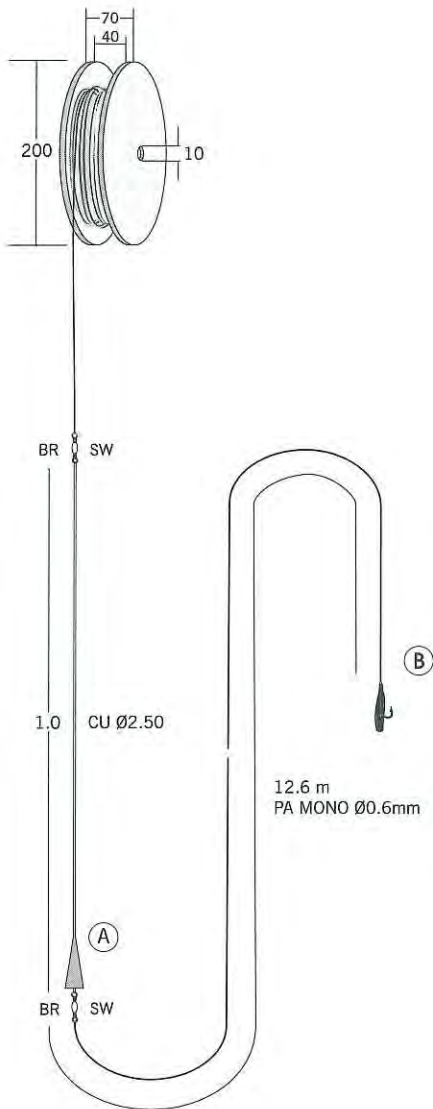
Loa : 8 m

Hp : 16

LOCATION

Luna

La Union





H O O K A N D L I N E

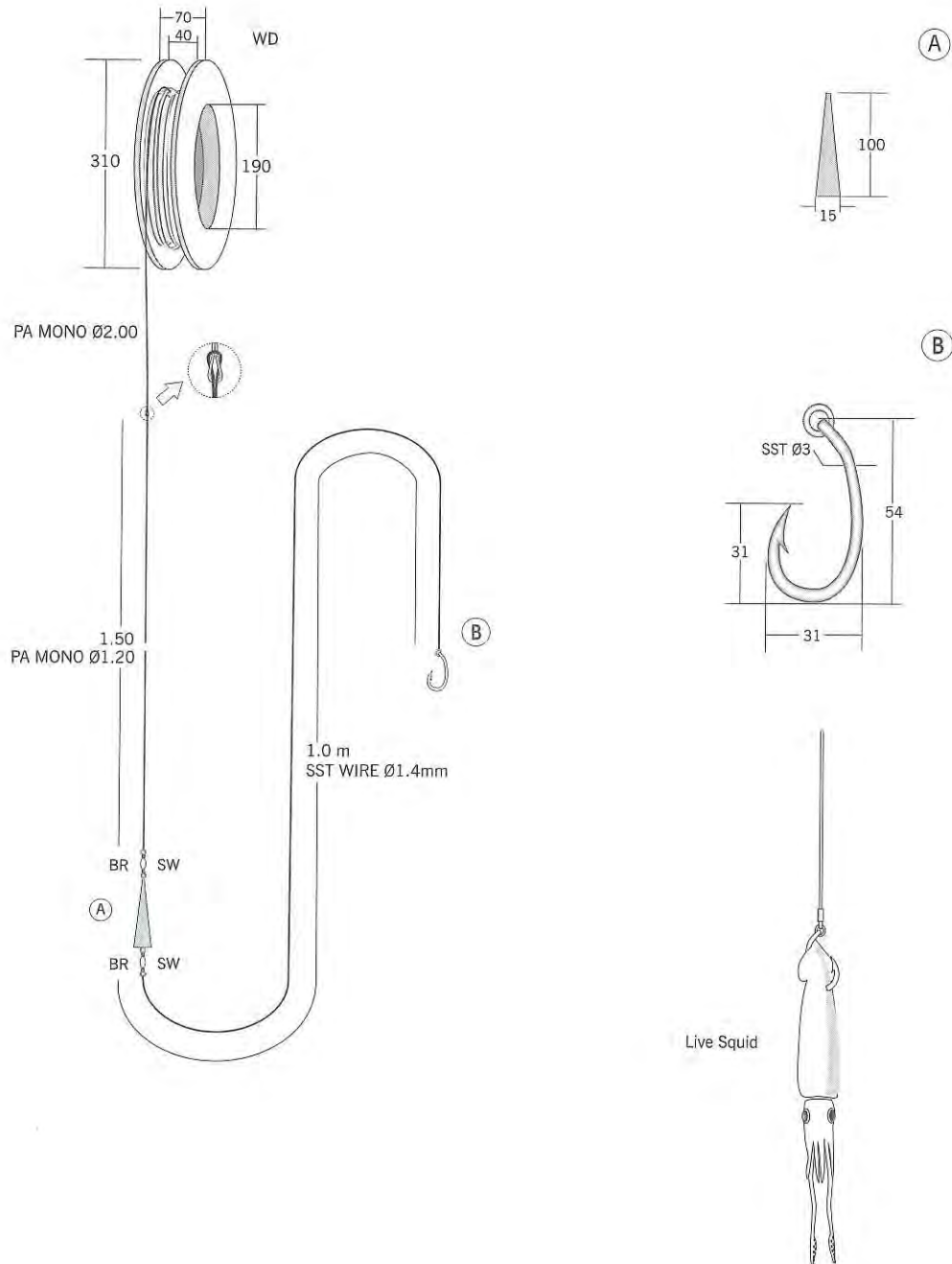
Handline
Banniit
Skipjack tuna, Yellowfin tuna

V E S S E L

Loa : 8 m
Hp : 16

L O C A T I O N

Condon
Ilocos Sur



Fishing Gear & Methods in Philippines

HOOK AND LINE

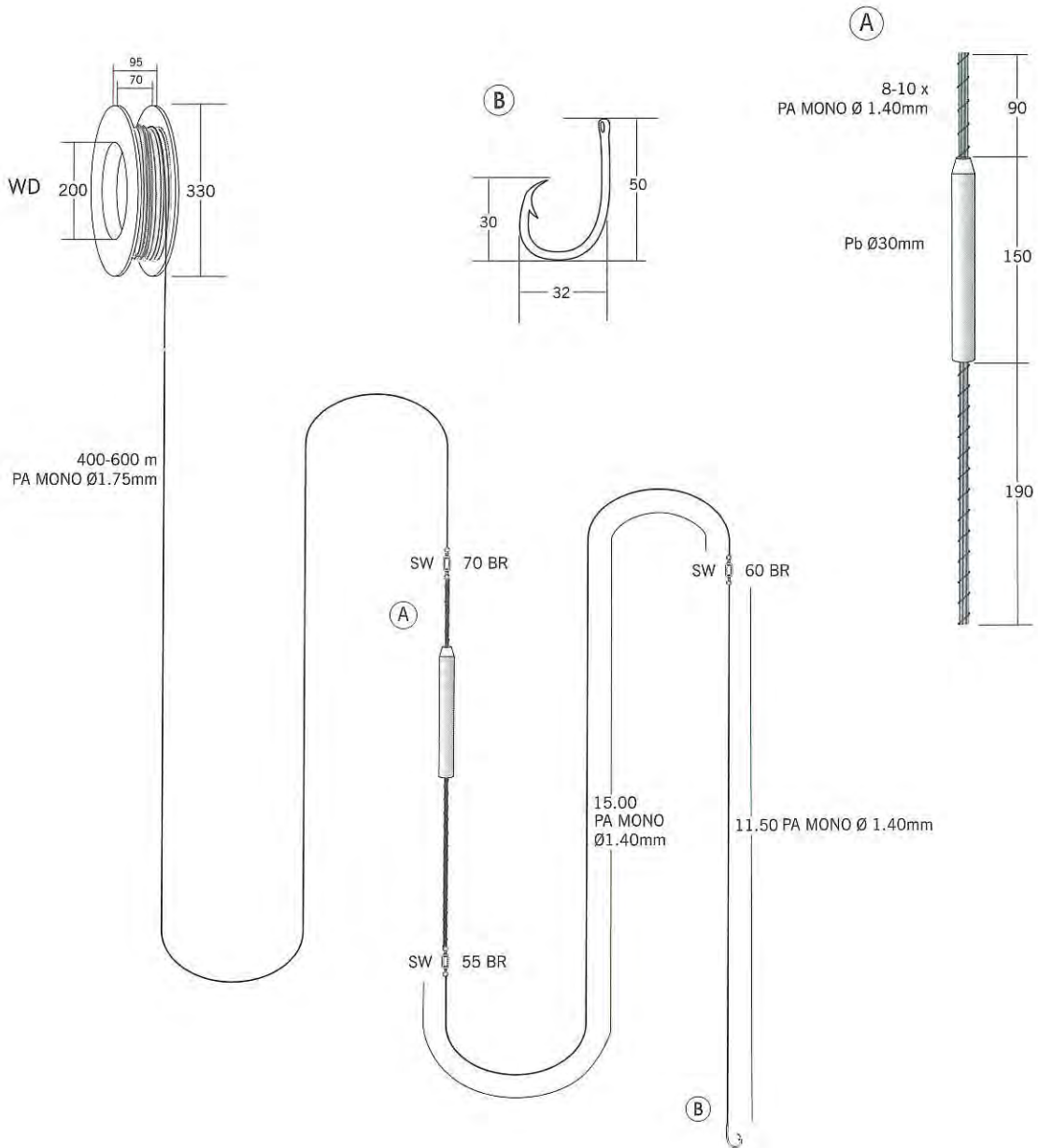
Handline
Pasol
 Bigeye tuna, Yellowfin tuna
 Shark, Swordfish

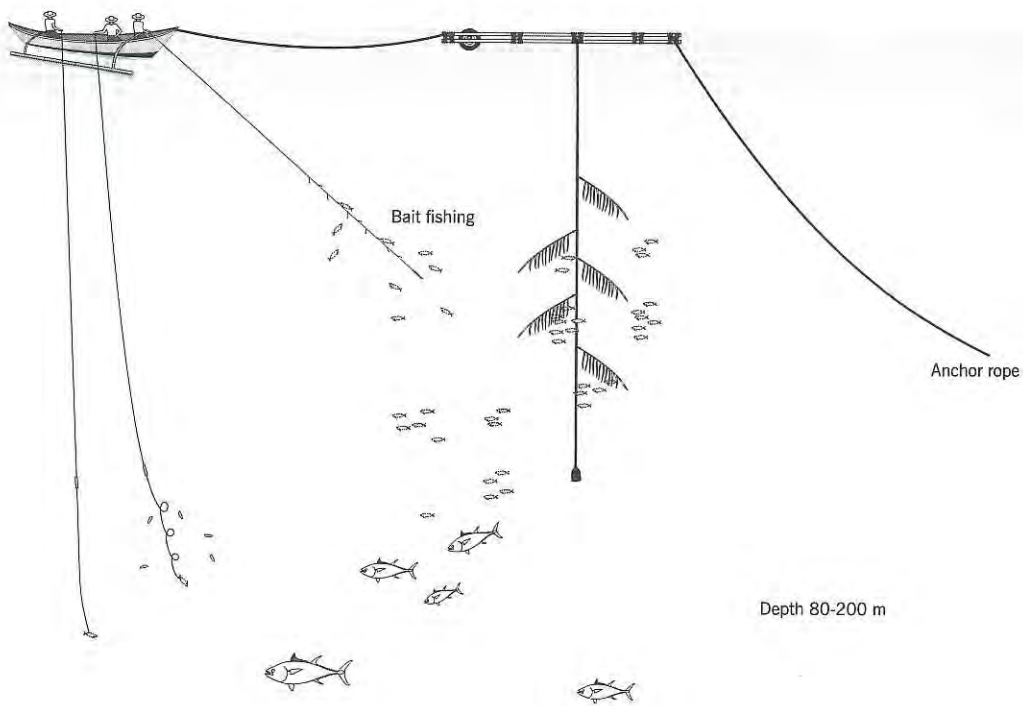
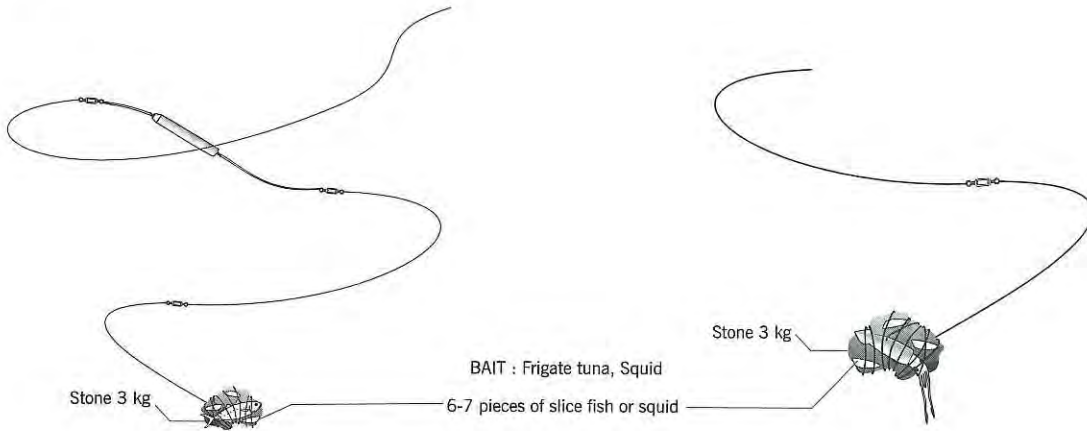
VESSEL

Loa : 19.8 m
 Hp : 80

LOCATION

General Santos City
South Cotabato





Fishing Gear & Methods in Philippines

HOOK AND LINE

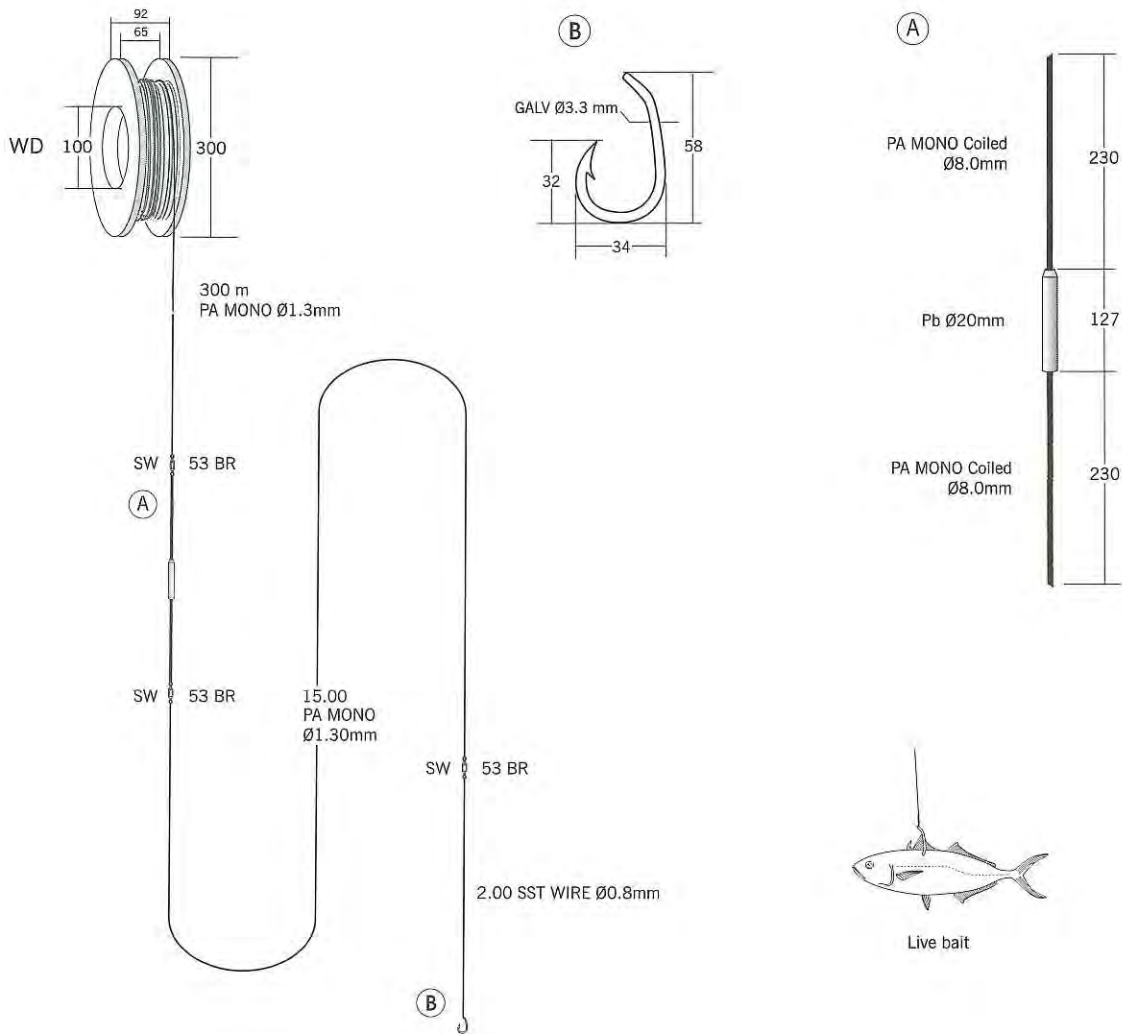
Handline
Pamariles
 Yellowfin tuna, Skipjack tuna
 Blue marlin

VESSEL

Loa : 13..0 m
 Hp : 80

LOCATION

Maitum
Sarangani





H O O K A N D L I N E

Handline
Kawil
Blue marlin, Spanish Mackerel

V E S S E L

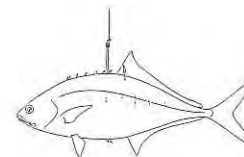
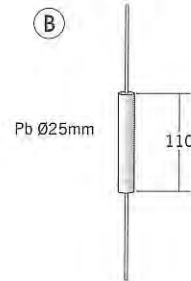
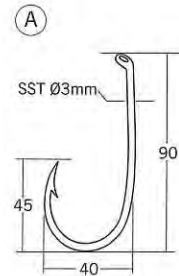
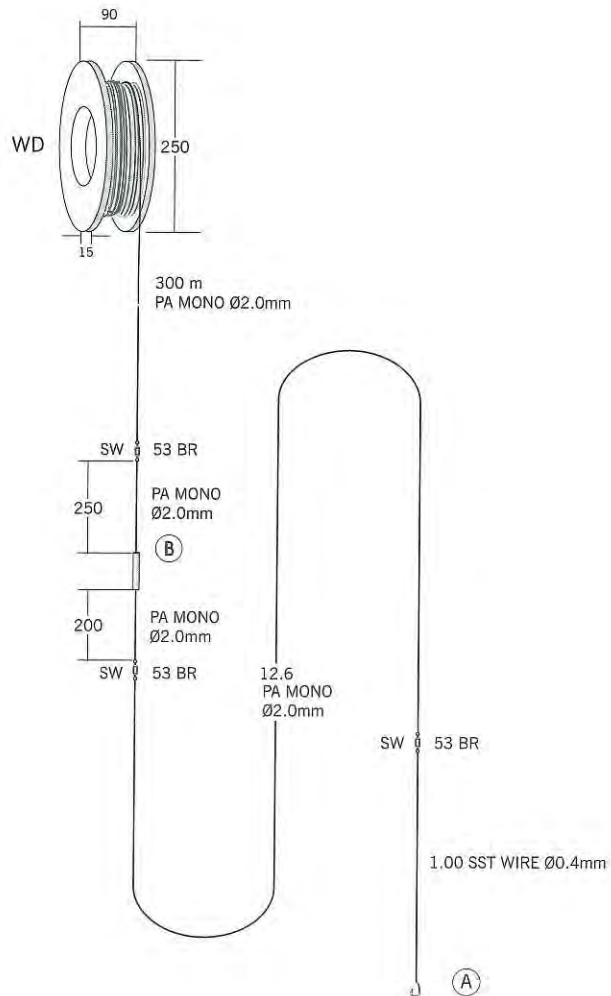
Loa : 9.5 m

Hp : 16

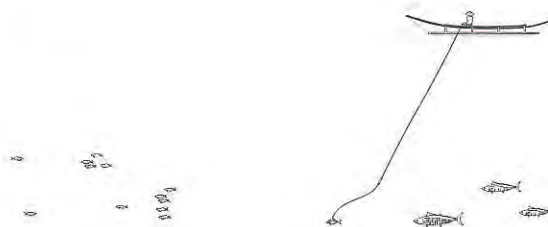
L O C A T I O N

Malanay

Queson



BAIT : Queenfish



Fishing Gear & Methods in Philippines

H O O K A N D L I N E

Floating hook and line

Spanish Mackerel, Barracuda
Blue marlin, Yellowfin tuna

V E S S E L

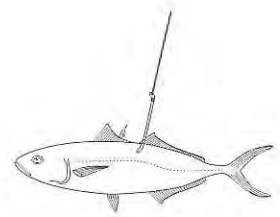
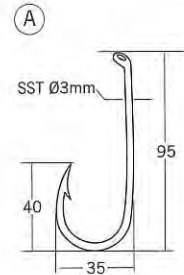
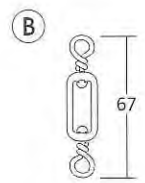
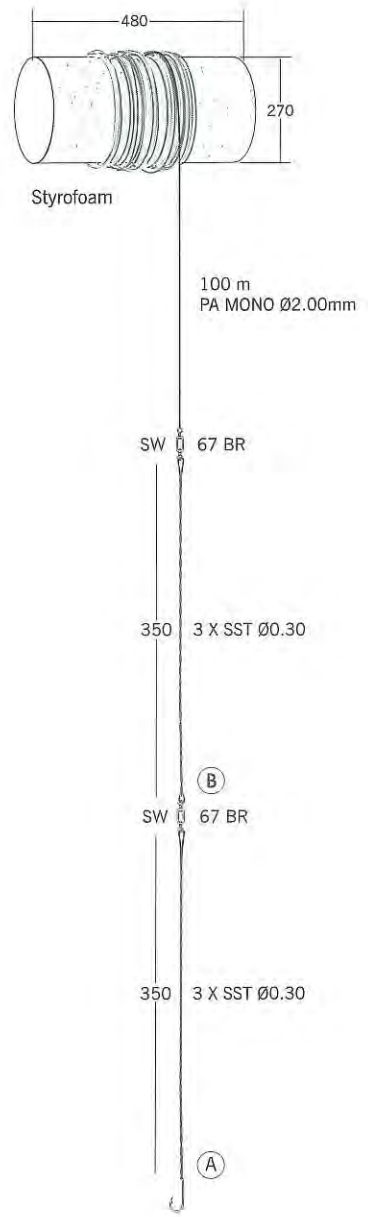
Loa : 10.2 m

Hp : 16

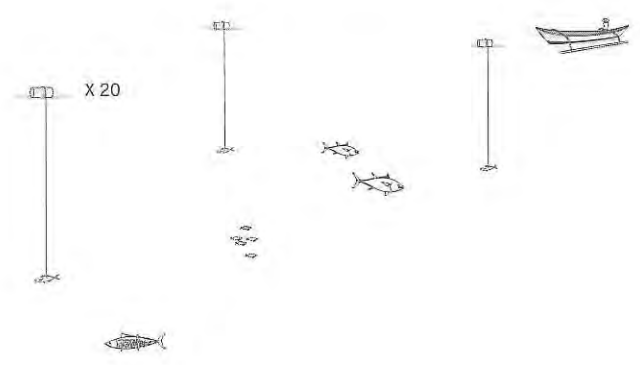
L O C A T I O N

Santa Ana

Cagayan



BAIT : Scad, Bullet tuna





HOOK AND LINE

Troll boat trolling
Lansi

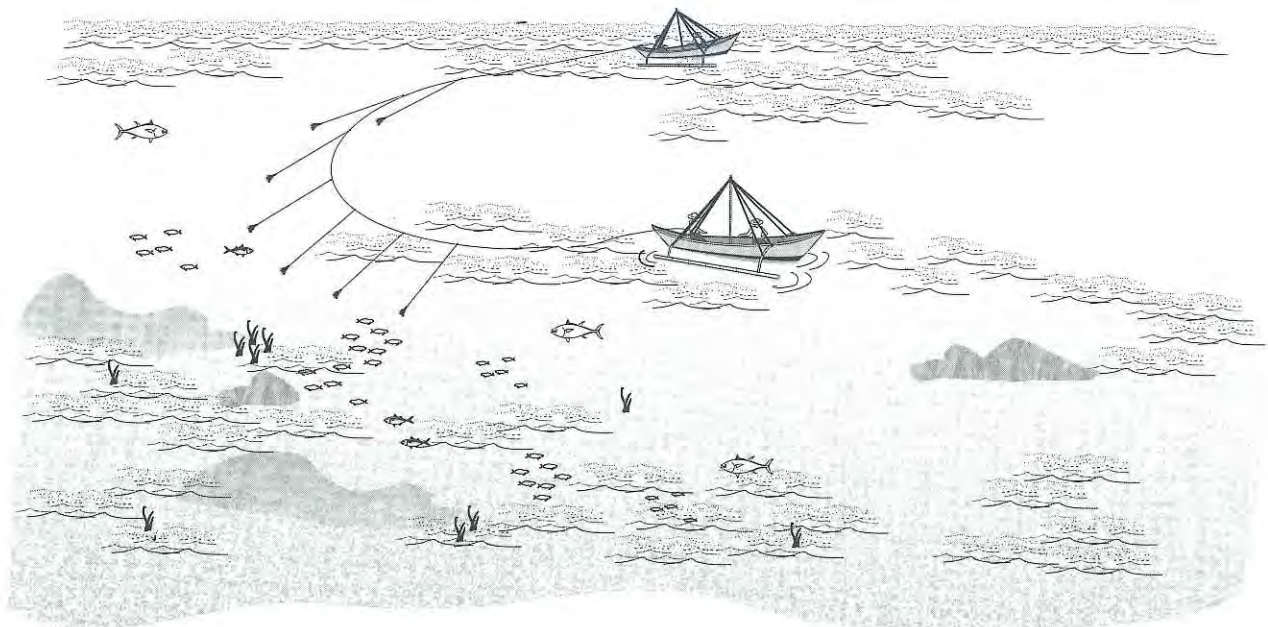
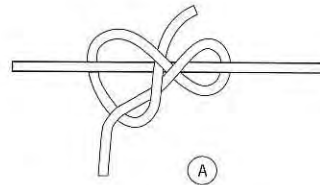
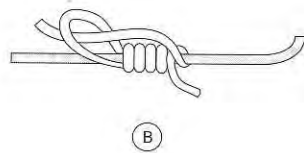
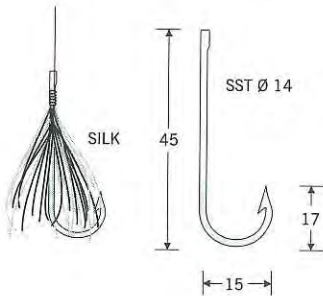
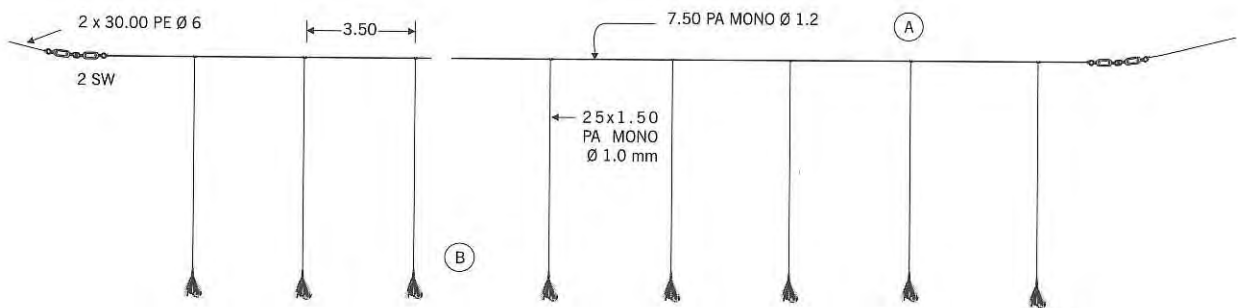
Yellowfin tuna, Blue marlin
Barracuda, Spanish mackerel

VESSEL

Loa : 2 x 7.92 m
GT : -
Hp : 2 x 10

LOCATION

Quezon
Quezon



Fishing Gear & Methods in Philippines

HOOK AND LINE

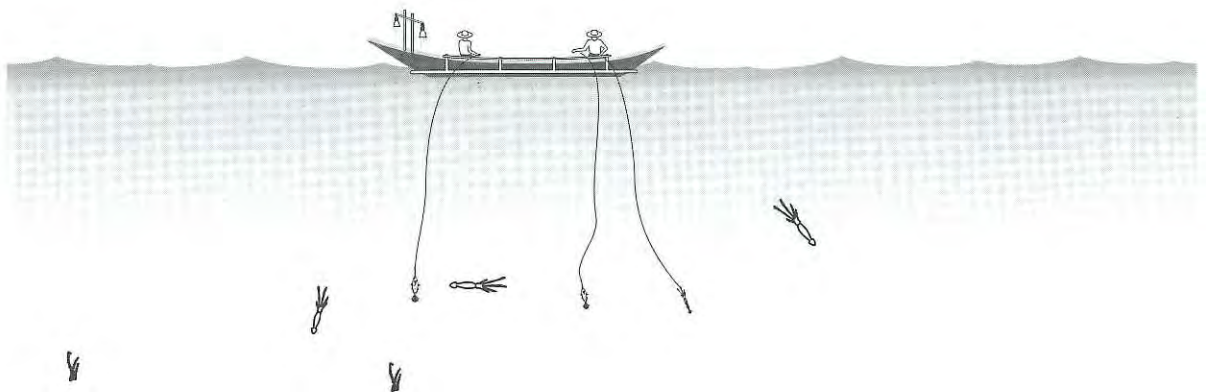
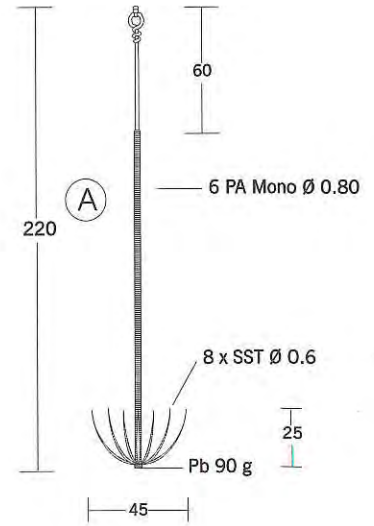
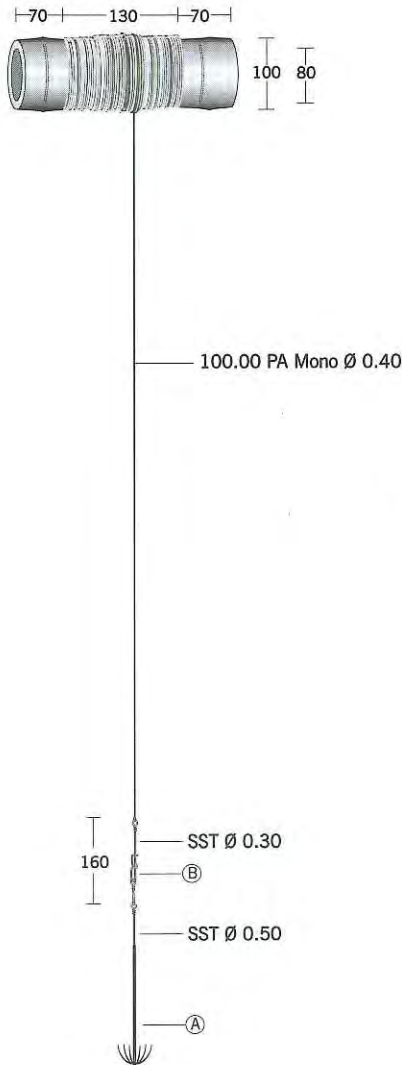
Squid jig
Pang - nokos
Squid

VESSEL

Loa : 6.5 m
GT : -
Hp : 5

LOCATION

Kiamba
Sarangani





HOOK AND LINE

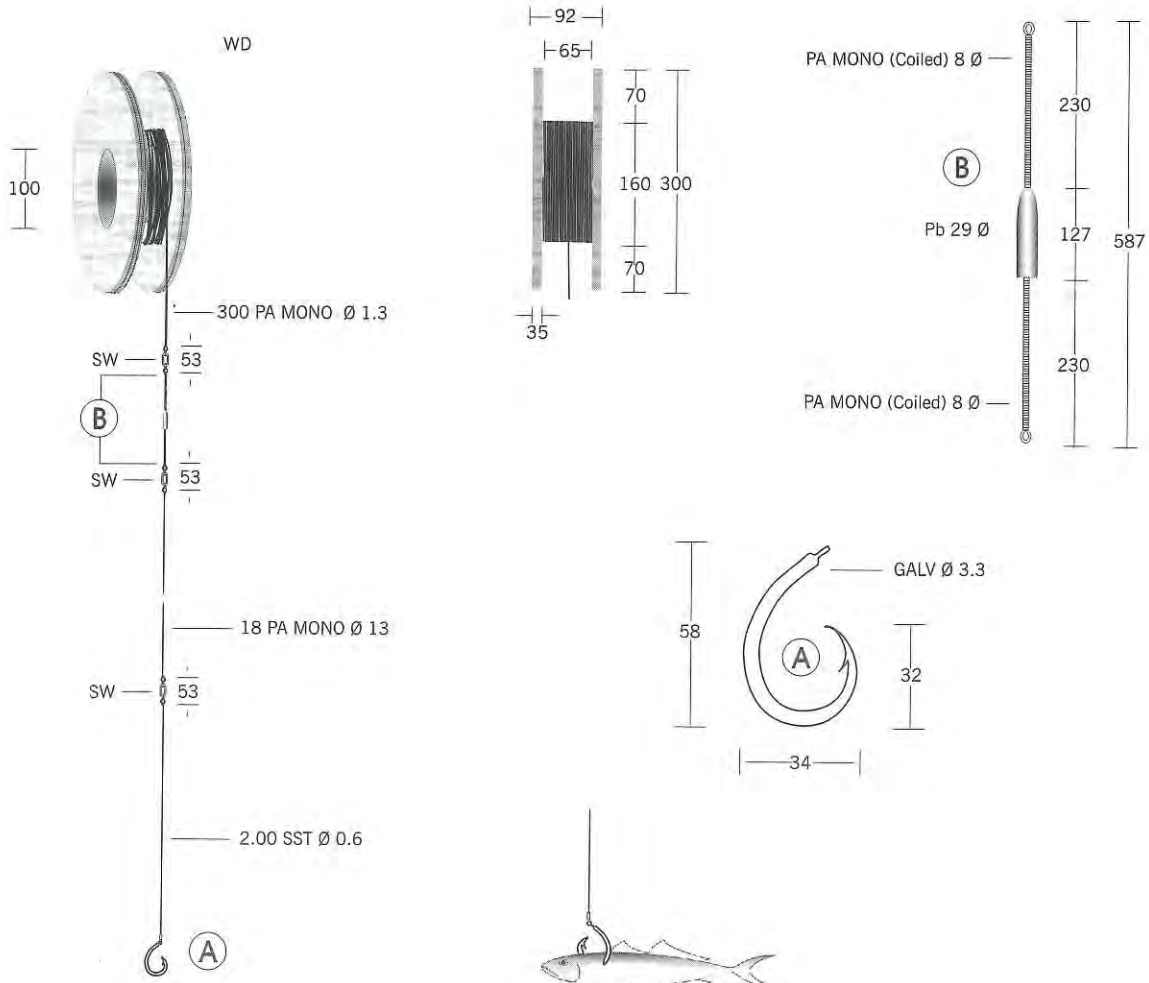
Ordinary hook and line
Pamariles
Yellowfin tuna
Skibjack, Blue marlin

VESSEL

Loa : 12.19 m
GT : -
Hp : 80

LOCATION

Maitum
Sarangani



Fishing Gear & Methods in Philippines

HOOK AND LINE

Troll line
Pahila - hila
 Caranx

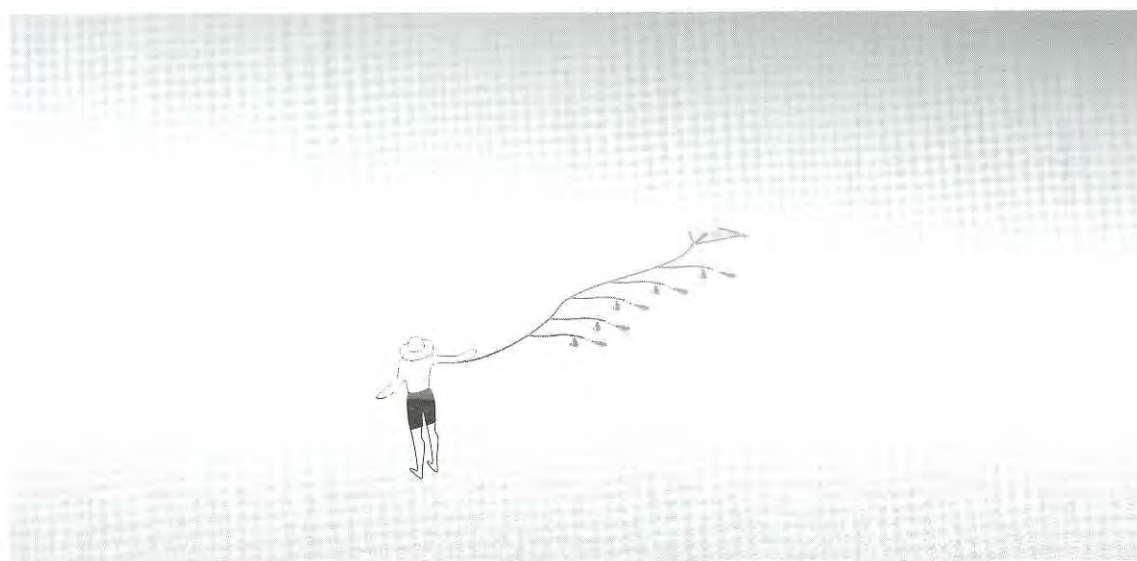
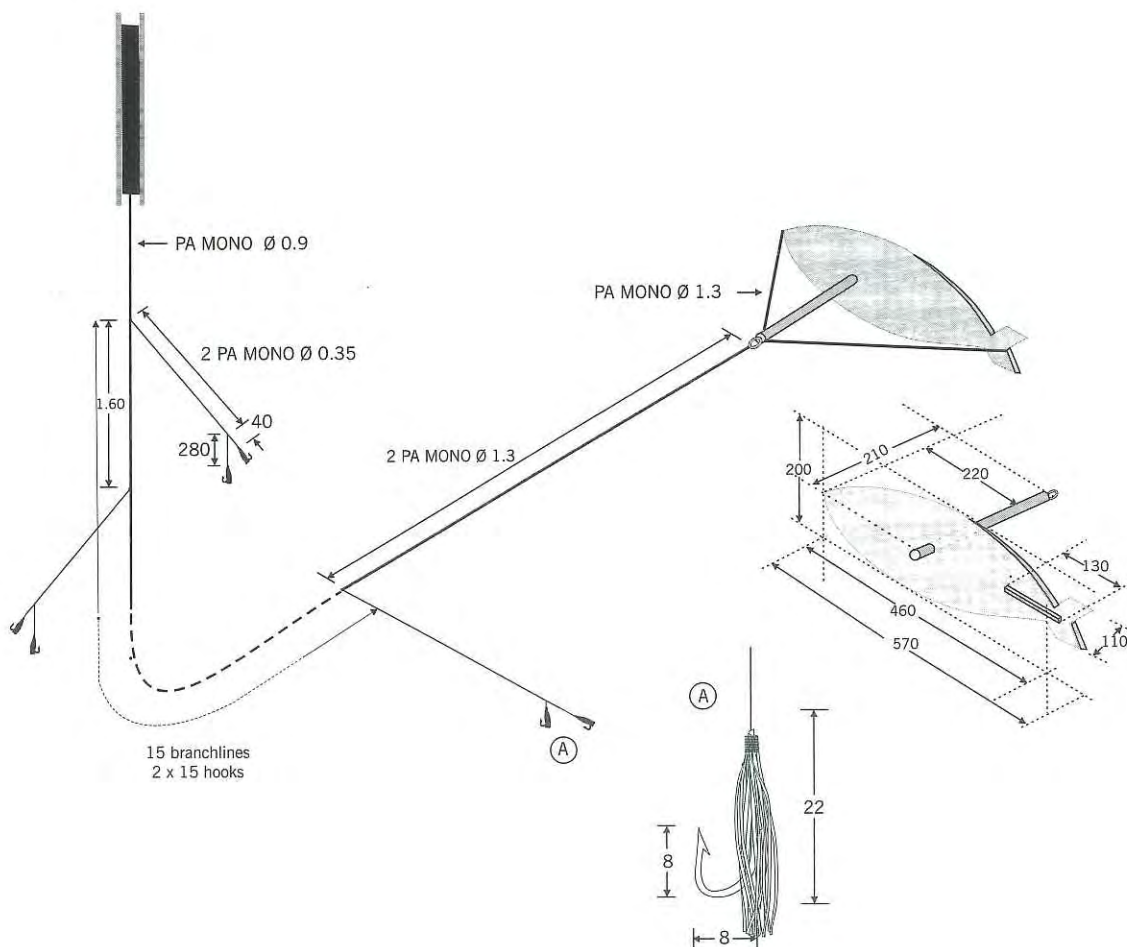
VESSEL

Man - operated
 on beach

LOCATION

Botolan

Zambales





HOOK AND LINE

Troll line
Bilog - bilog
Therapon, scad

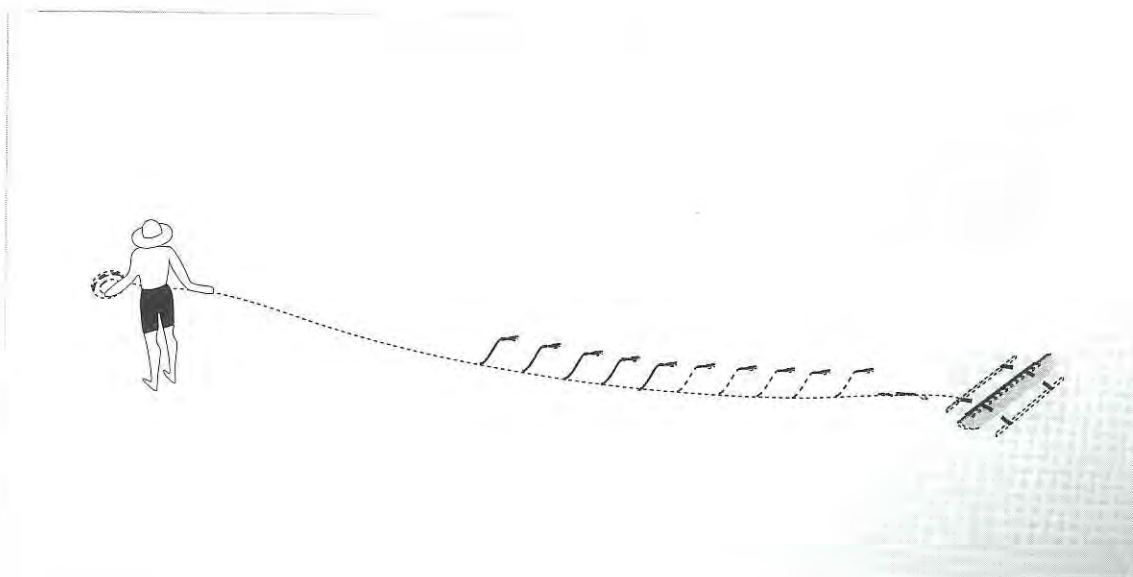
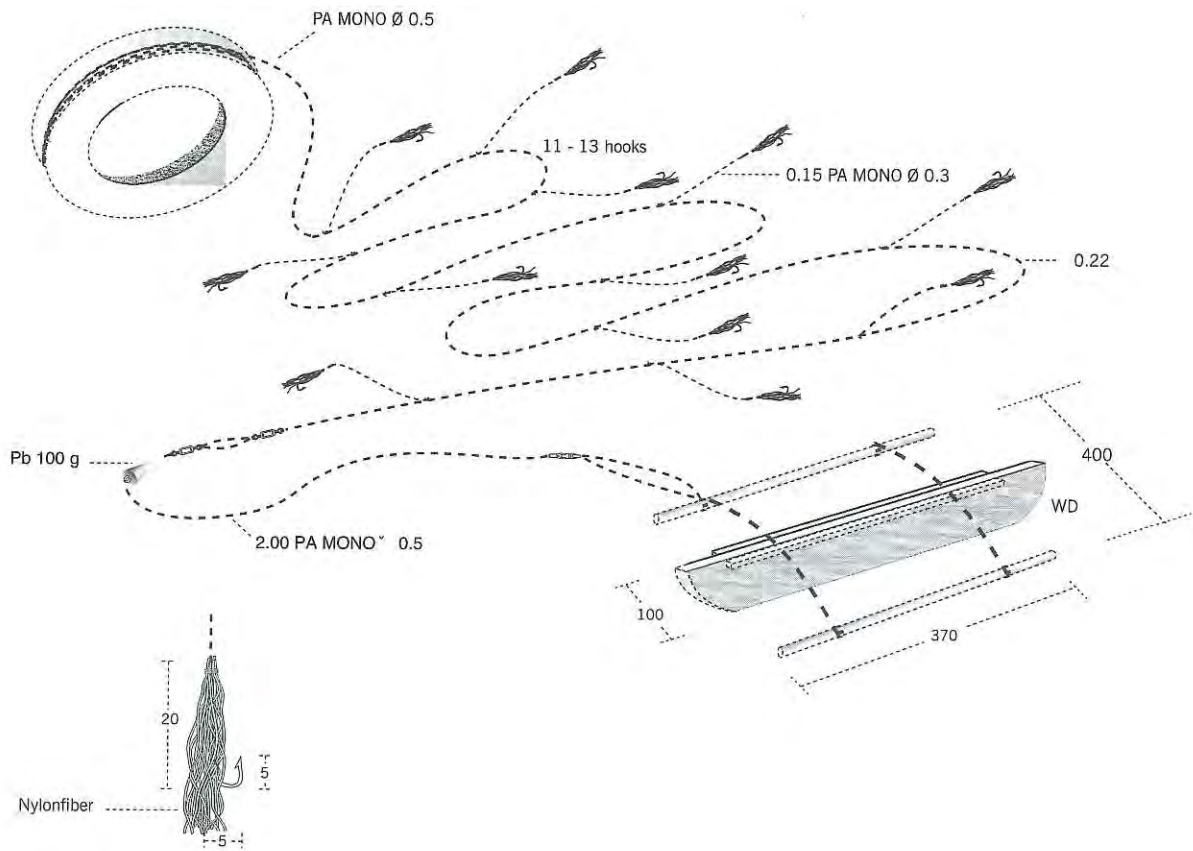
VESSEL

GT : -
Hp : -

LOCATION

Taberna, Bauang

La Union



Fishing Gear & Methods in Philippines

HOOK AND LINE

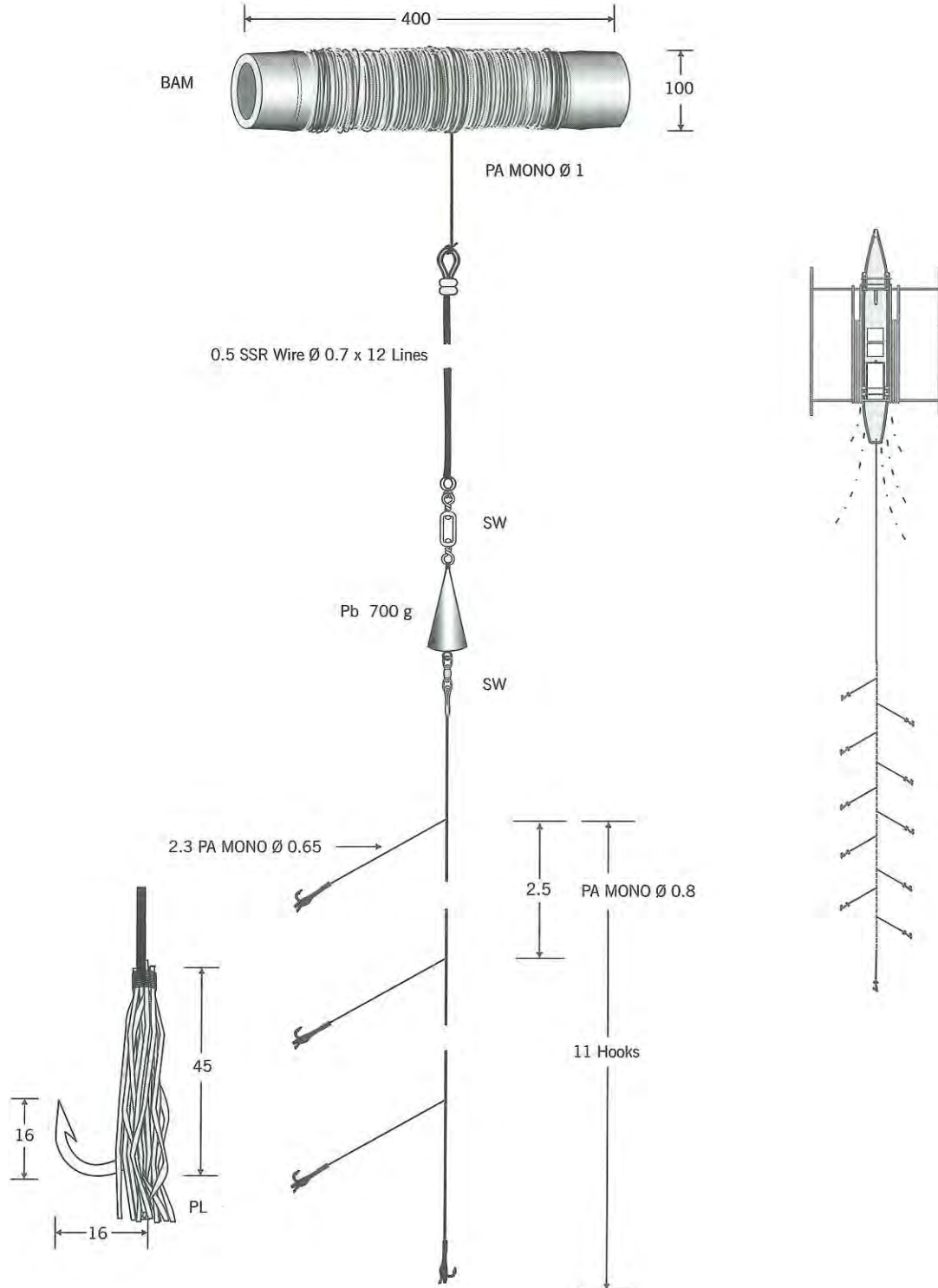
Troll line
Rabok
 Small tuna, Mackerel

VESSEL

Loa : 8 m
 GT : -
 Hp : 16

LOCATION

Luna
La Union





HOOK AND LINE

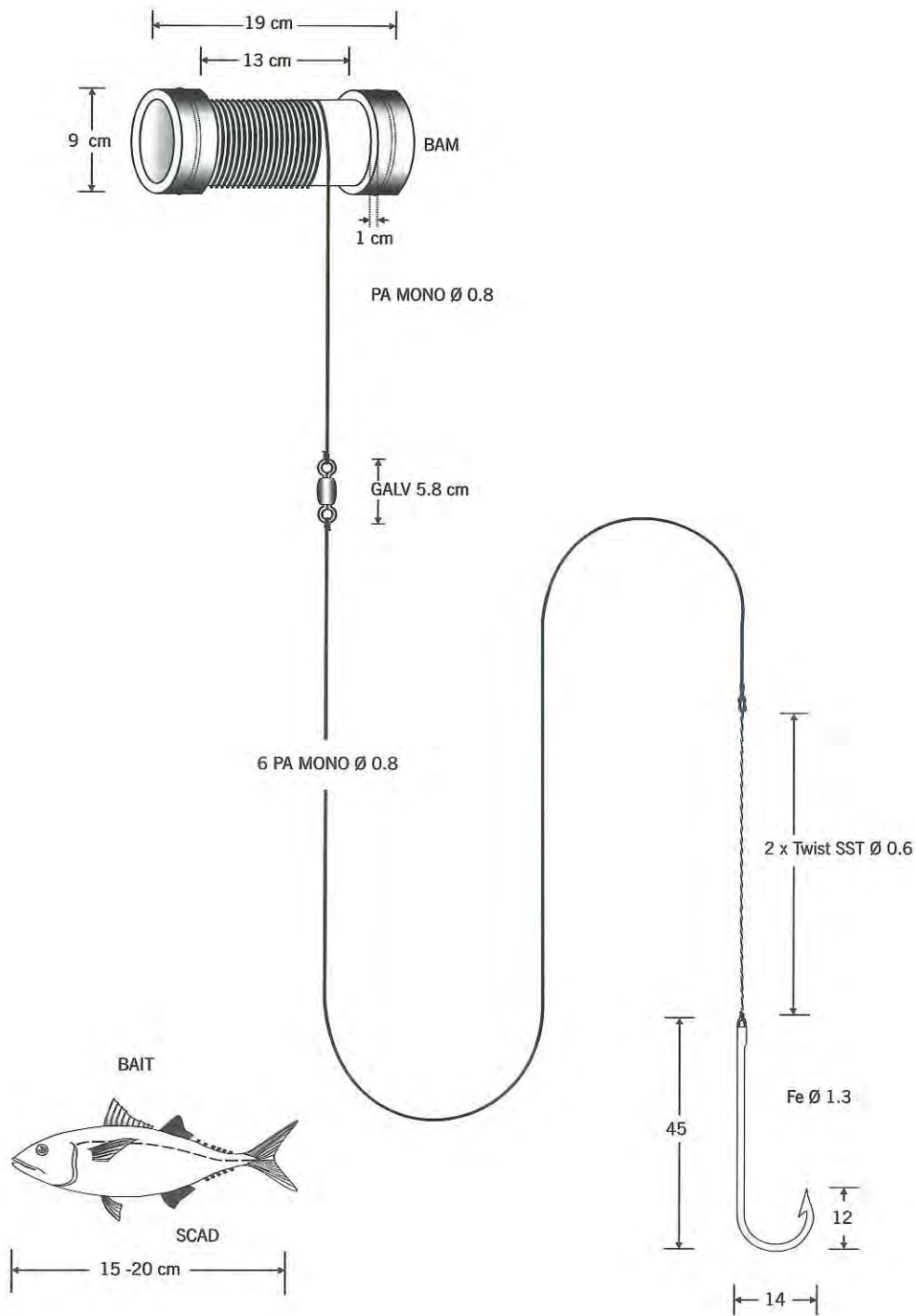
Troll line
Paguyod
Small tuna, Sailfish

VESSEL

Loa : 7 m
GT : -
Hp : 10

LOCATION

Currimao
Ilocos Norte



Fishing Gear & Methods in Philippines

HOOK AND LINE

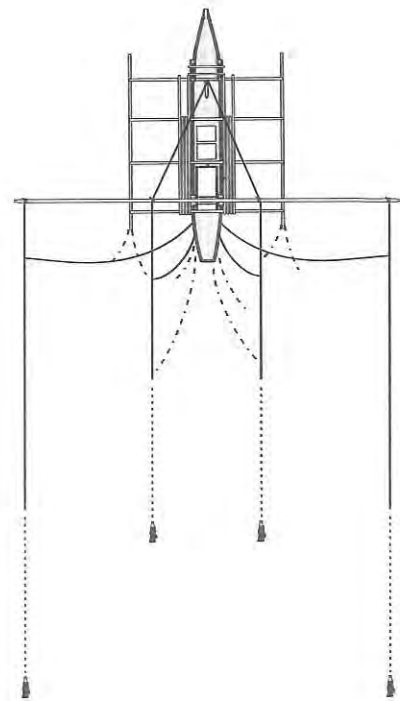
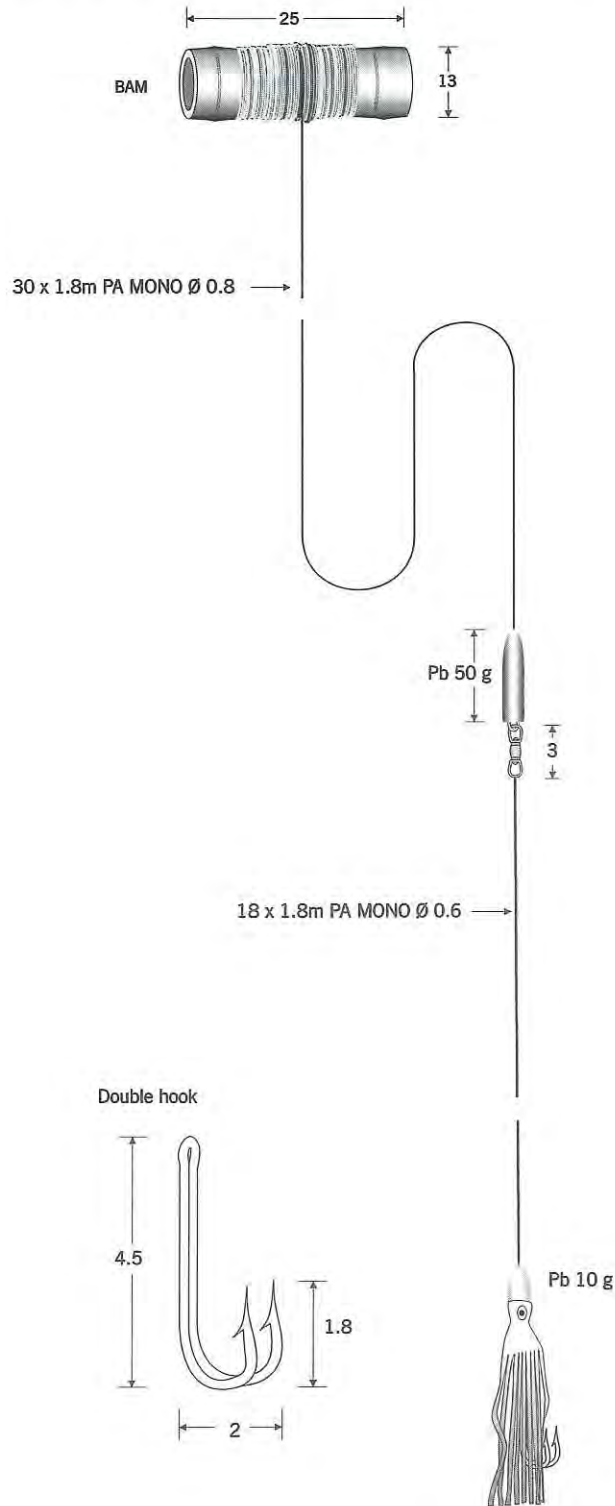
Troll line
Saba - saba
 Tuna, Marlin, spanish mackerel

VESSEL

Loa : 7 m
 GT : -
 Hp : 10

LOCATION

Magsingal
Ilocos sur





HOOK AND LINE

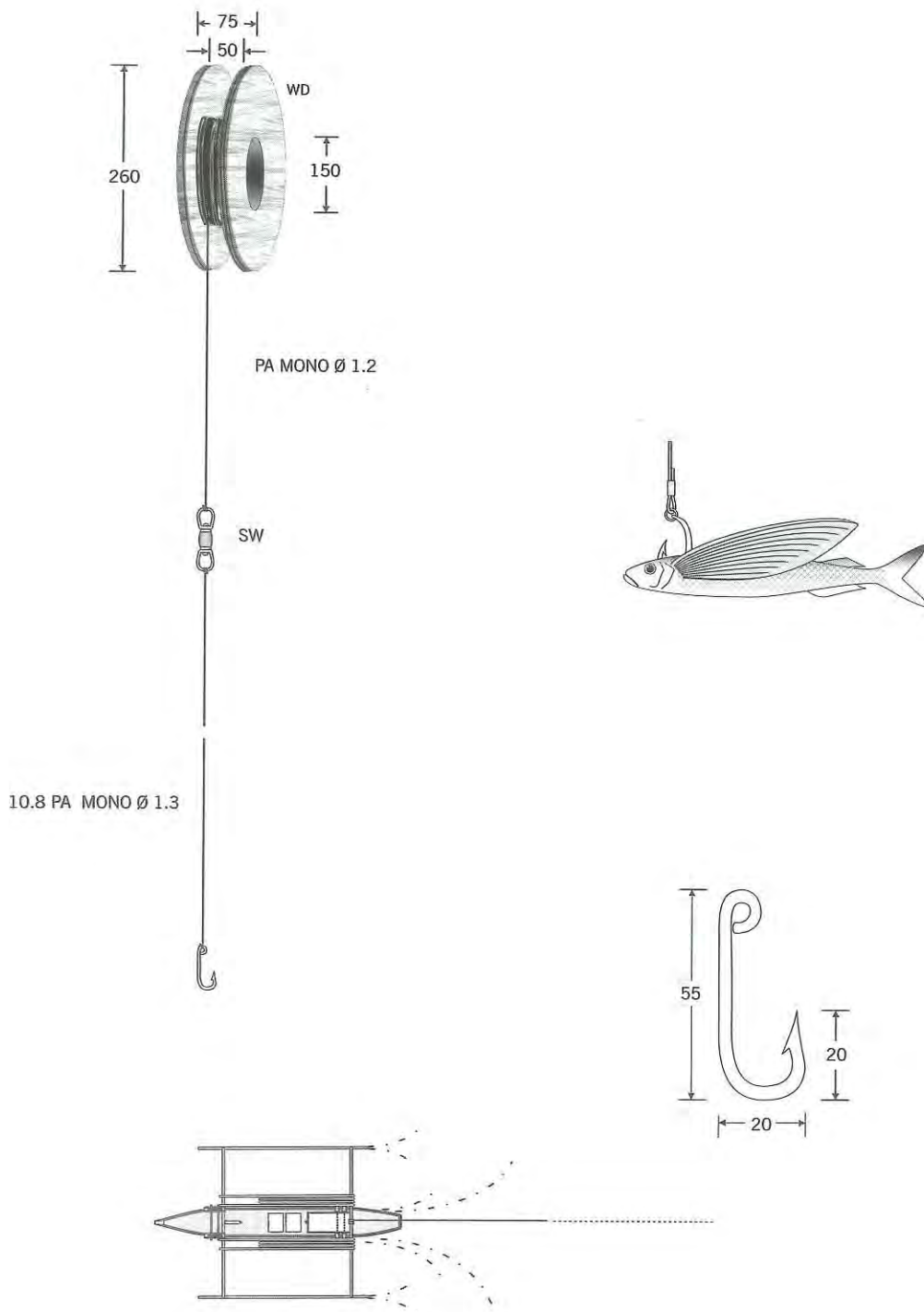
Troll line
Paguroy
Yellowfin tuna, Spanish mackerel

VESSEL

Loa : 7 m
GT : -
Hp : 16

LOCATION

Bolinao
Pangasinan



Fishing Gear & Methods in Philippines

HOOK AND LINE

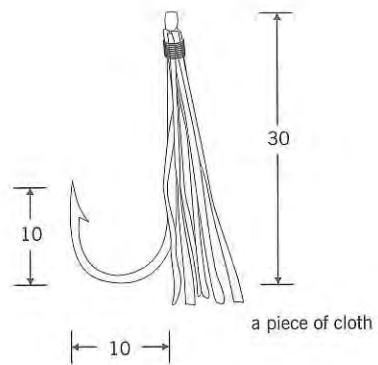
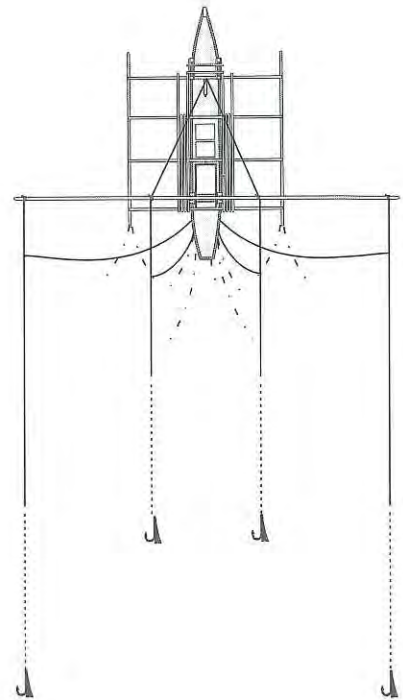
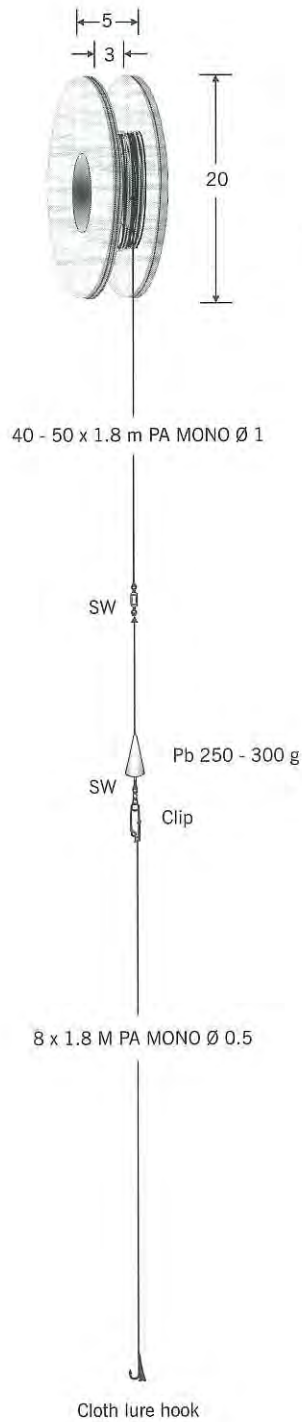
Troll line
Saba - saba
 Tuna, Marlin, spanish mackerel

VESSEL

Loa : 7 m
 GT : -
 Hp : 10

LOCATION

Magsingal
Ilocos sur





H O O K A N D L I N E

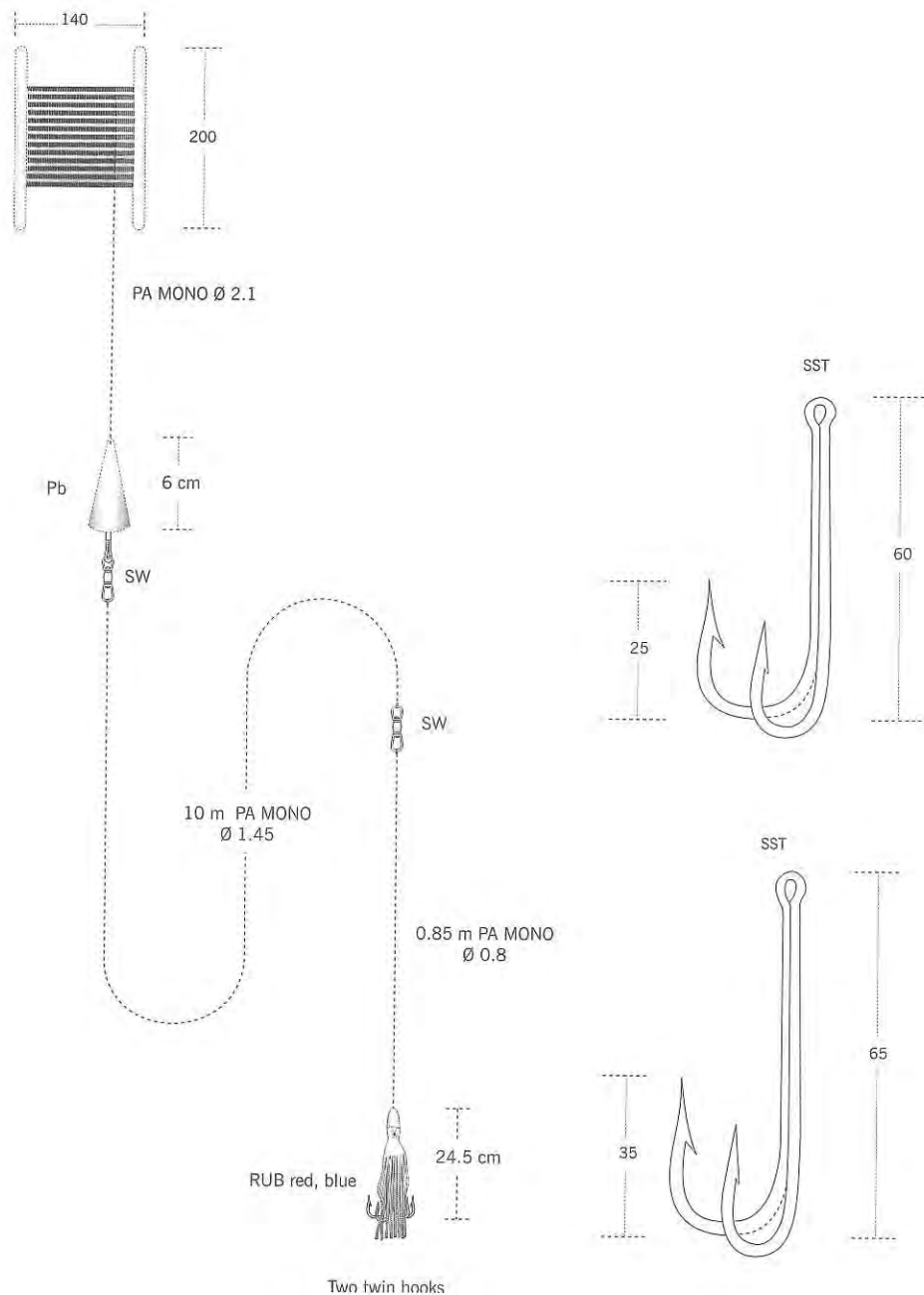
Troll line
Paulod
Small tuna, Spanish mackerel

V E S S E L

Loa : 7.6 m
GT : -
Hp : 16

L O C A T I O N

Cabugao
Ilocos sur



Fishing Gear & Methods in Philippines

HOOK AND LINE

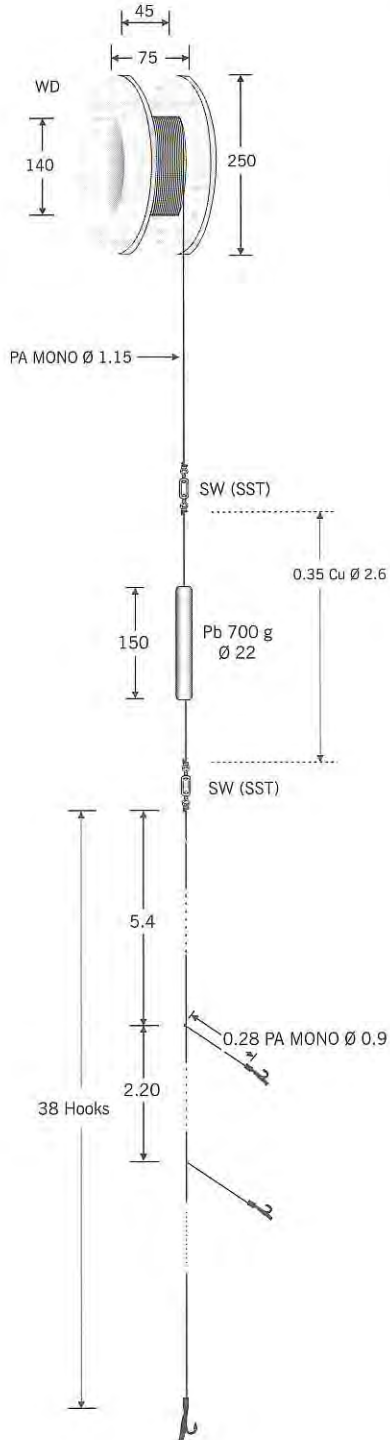
Troll line
Bantak
 Small tuna, Dorado
 Spanish mackerel, Swordfish

VESSEL

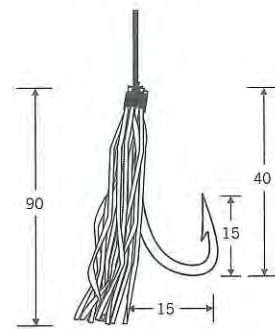
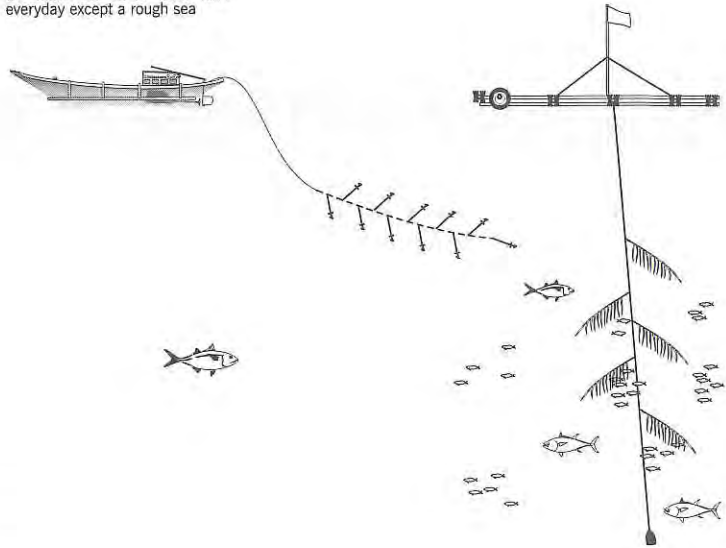
Loa : 6 - 7 m
 GT : -
 Hp : 16

LOCATION

Sta Cruz
Ilocos sur



These trolling fishing operations are carried out around PAYAOs of 10 miles off shore from land everyday except a rough sea





H O O K A N D L I N E

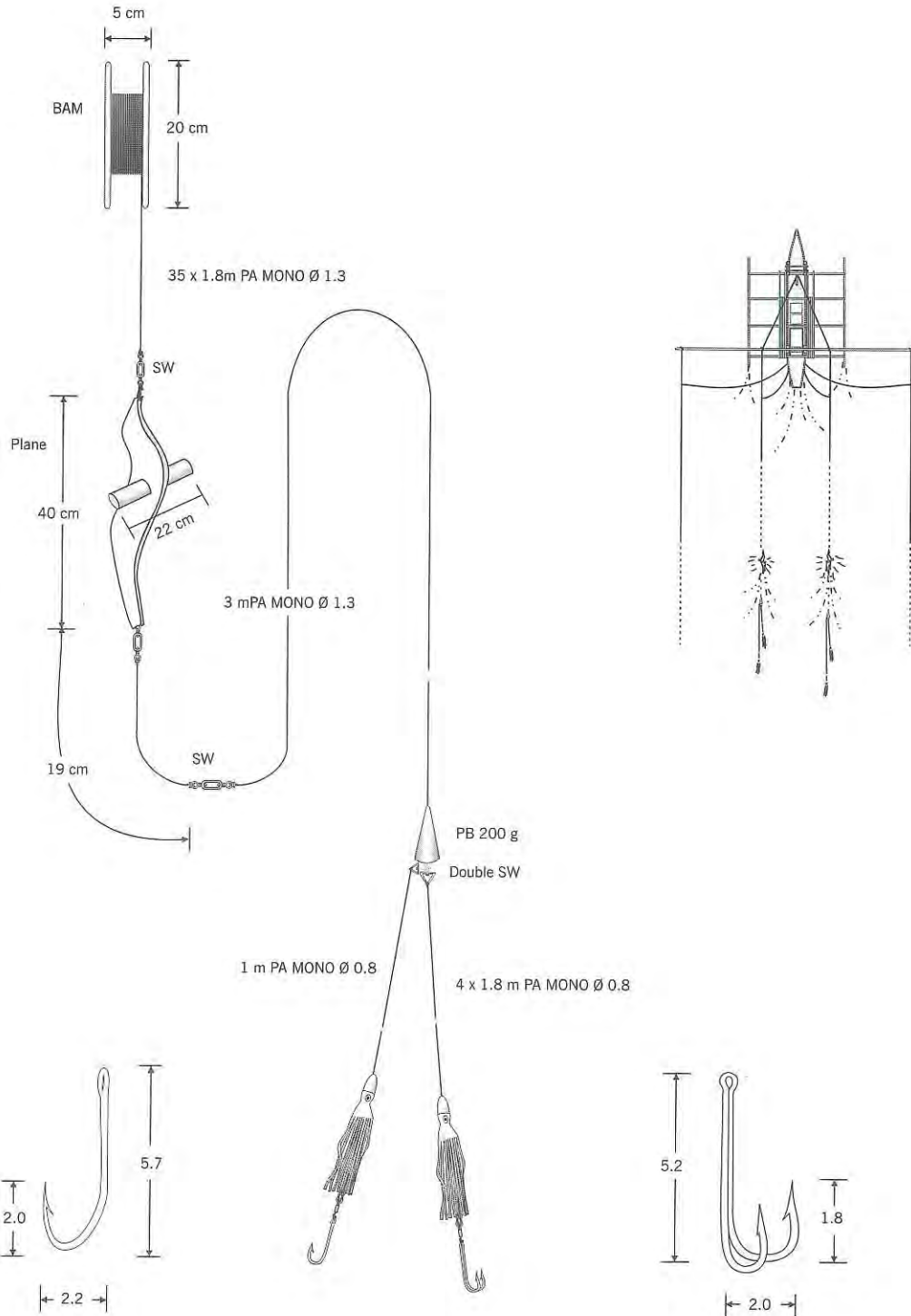
Troll line
Saba - saba
Tuna, Marlin, spanish mackerel

V E S S E L

Loa : 7 m
GT : -
Hp : 16

L O C A T I O N

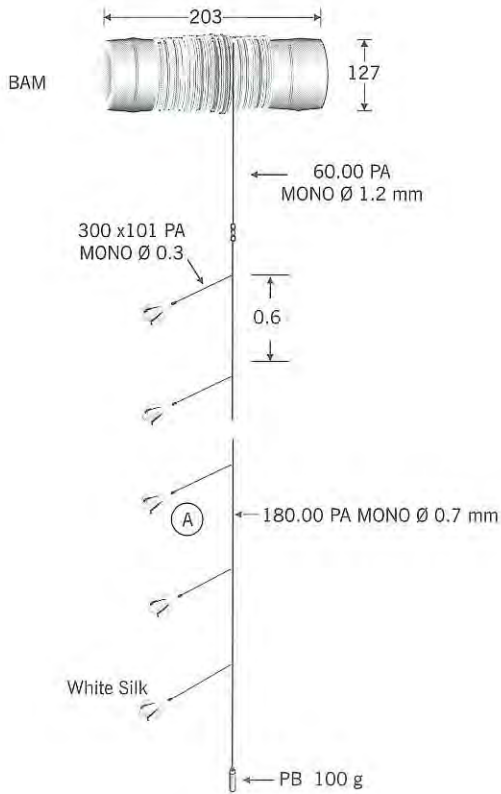
Magsingal
Ilocos sur



Fishing Gear & Methods in Philippines

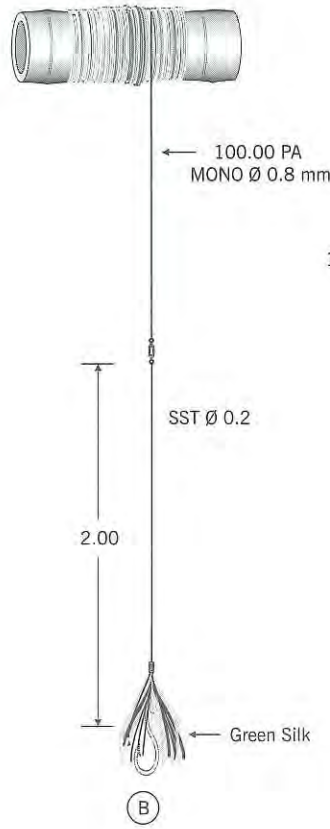
HOOK AND LINE

Troll line
Ohayan
Skipjack



VESSEL

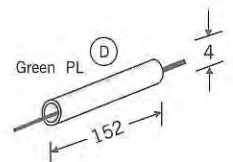
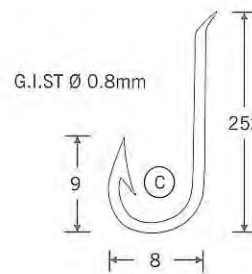
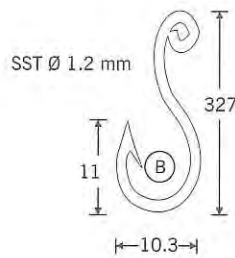
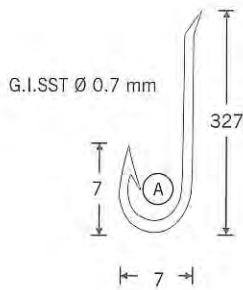
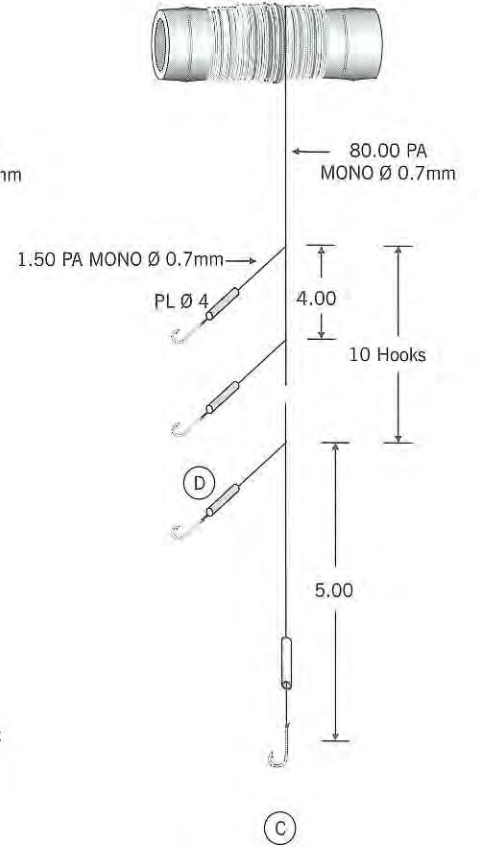
Loa : 7.5 m
GT : -
Hp : 8



LOCATION

Gasan

Marinduque





H O O K A N D L I N E

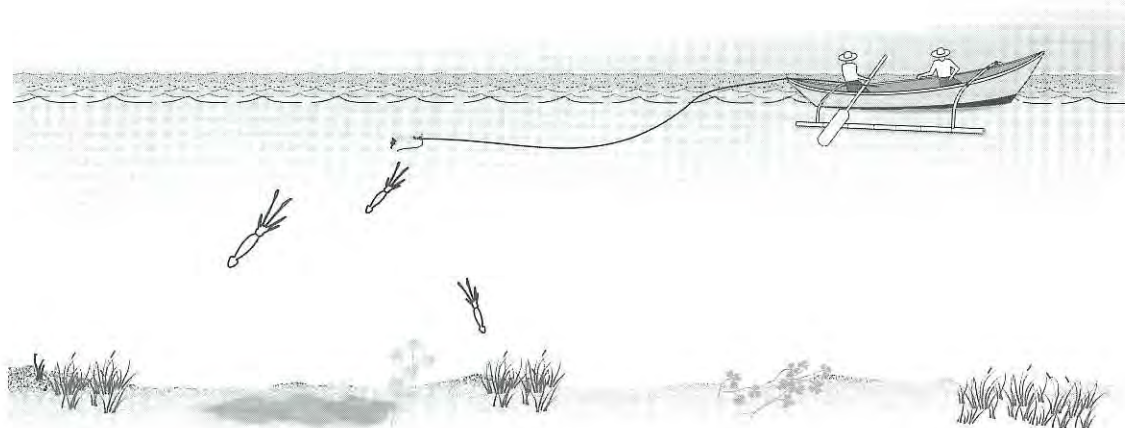
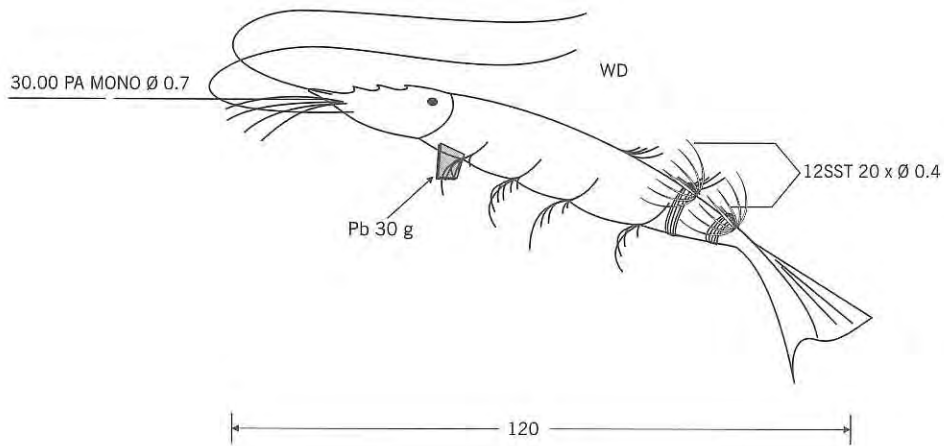
One boat troll line
Rambo
Squid

V E S S E L

Loa : 5 m
GT : -
Hp : -

L O C A T I O N

Catbalogan
Samar



Fishing Gear & Methods in Philippines

HOOK AND LINE

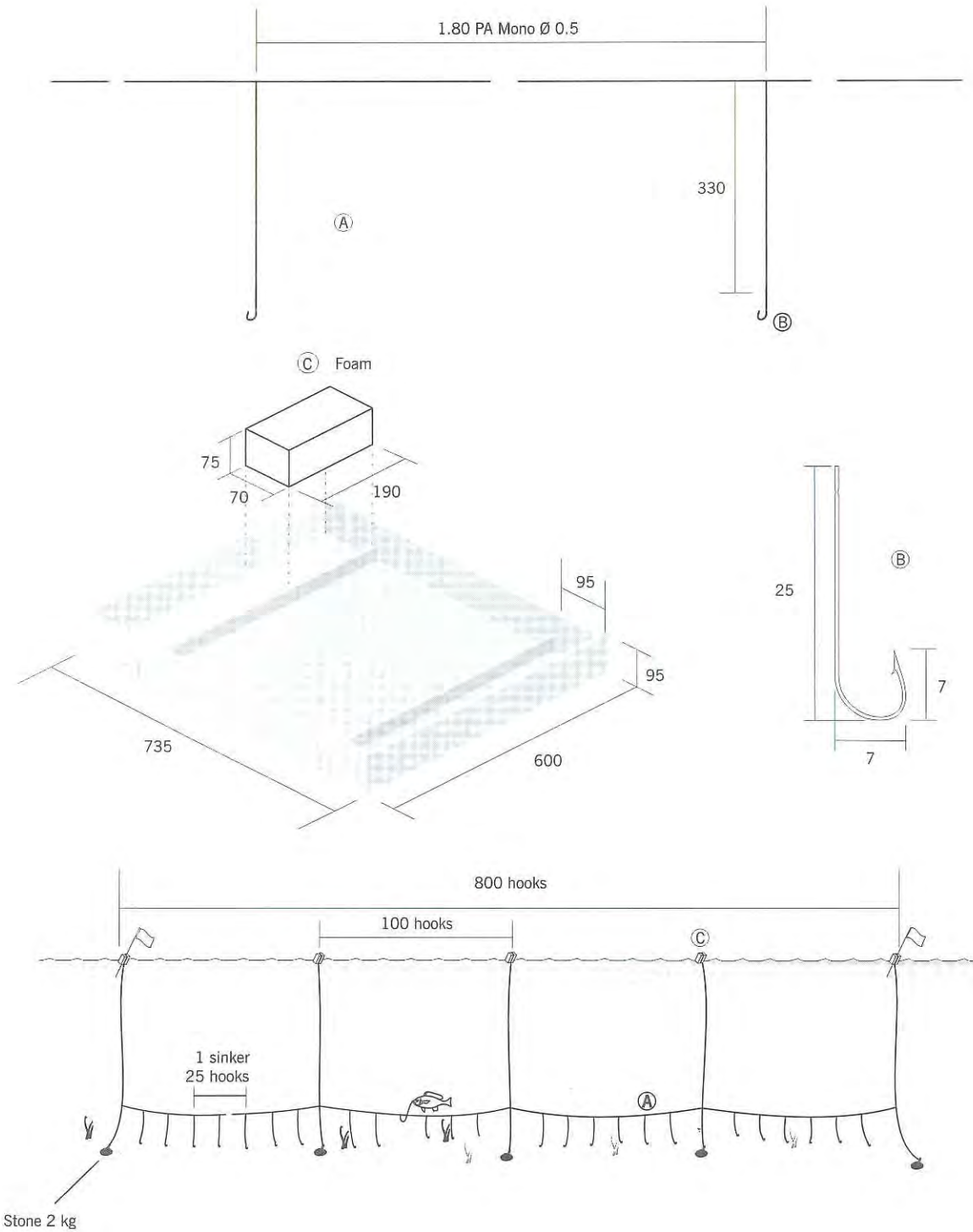
Bottom longline
Kitang
 Demersal fishes

VESSEL

Loa : 7m
 Hp : 16

LOCATION

Candelaria
 Zambales





HOOK AND LINE

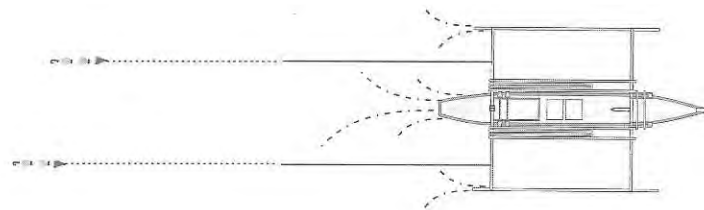
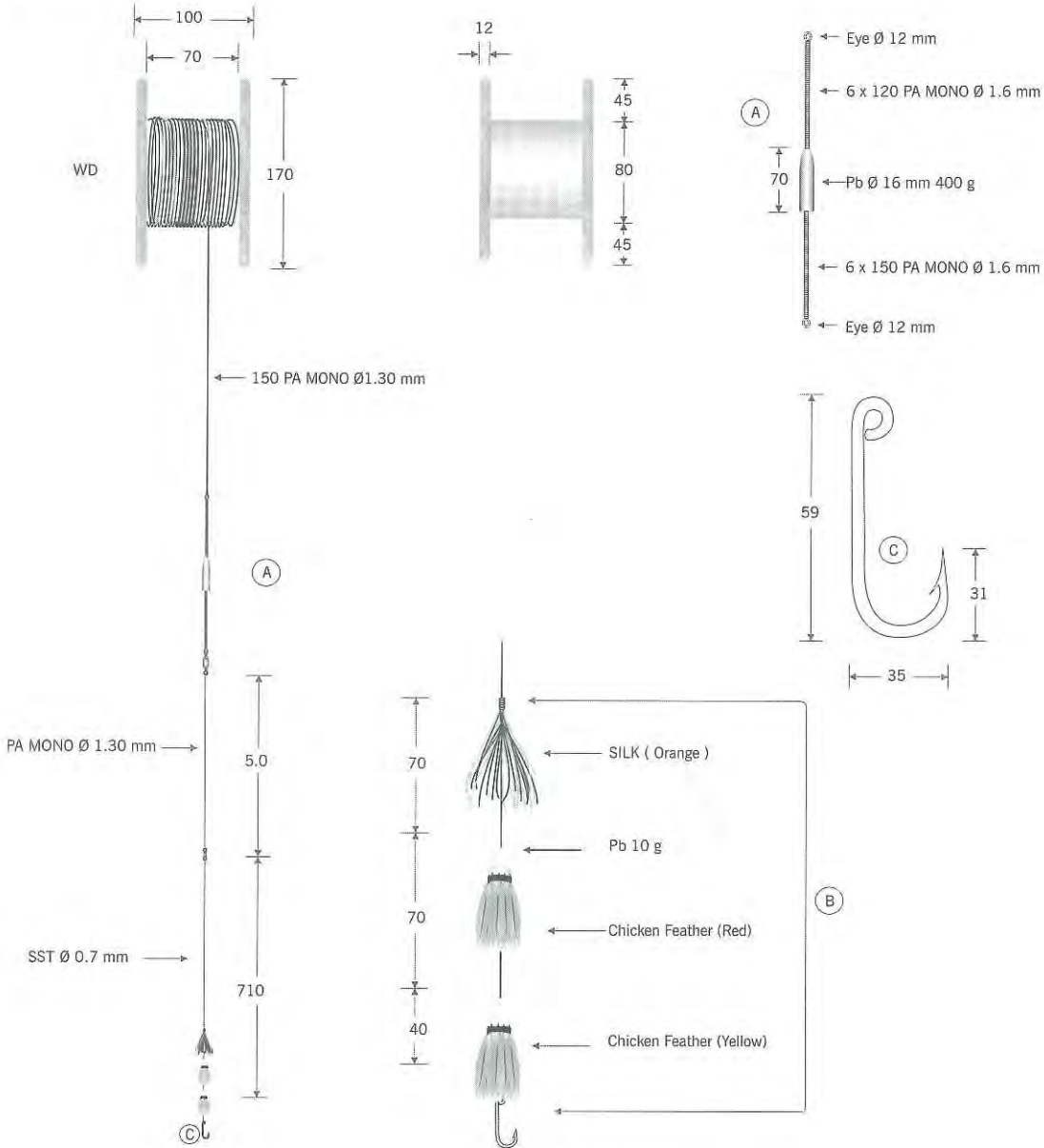
Troll line
Subid
Barracuda, common dolphinfish
Skipjack, Spanish mackerel

VESSEL

Loa : 7.92 m
GT : -
Hp : 5.5

LOCATION

Glan
Sarangani



Fishing Gear & Methods in Philippines

HOOK AND LINE

Troll line
Pahila
 Yellow leatherjacket,
 Skipjack, Spanish mackerel

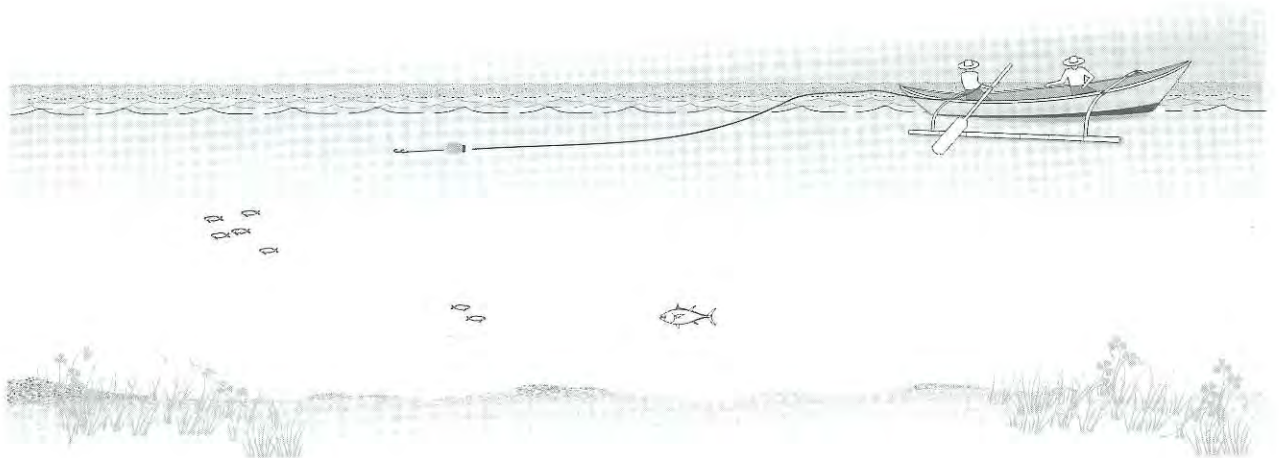
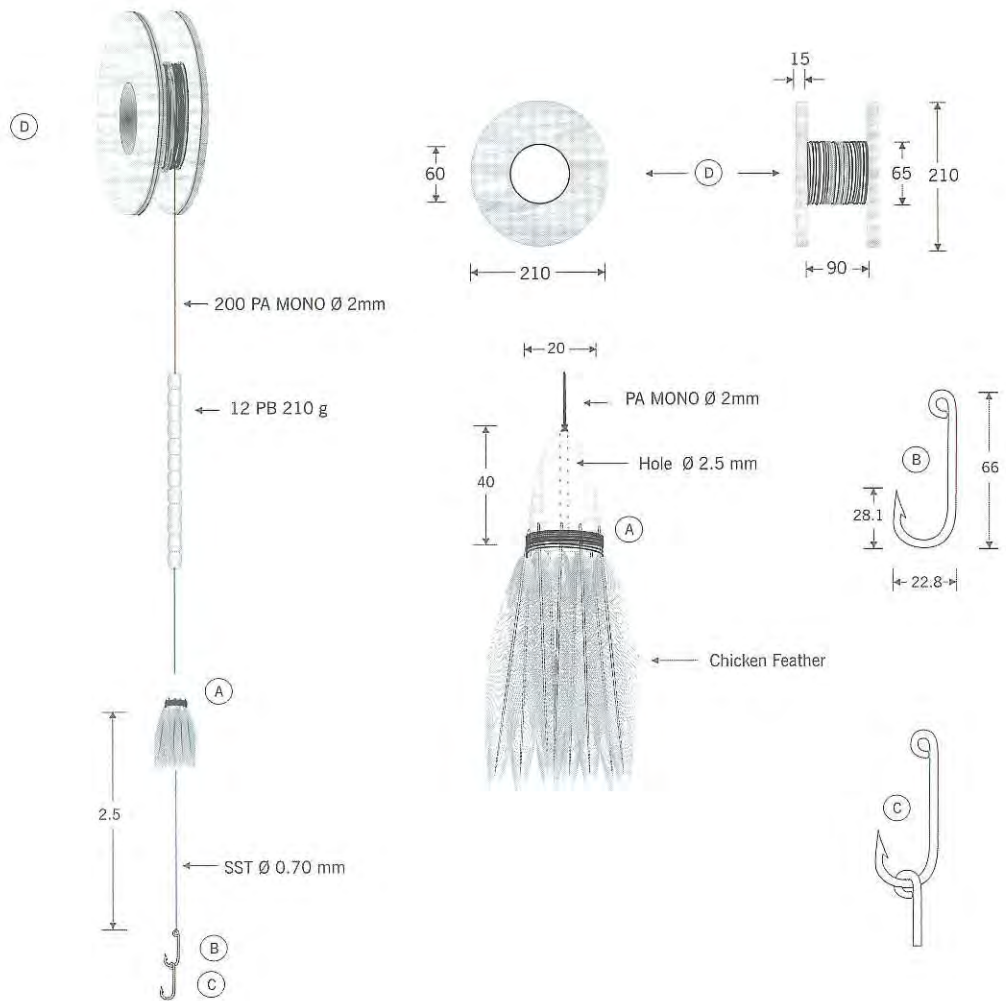
VESSEL

Loa : 10.00 m
 GT : -
 Hp : 16

LOCATION

San Narciso

Quezon





HOOK AND LINE

Bottom longline
Kitang

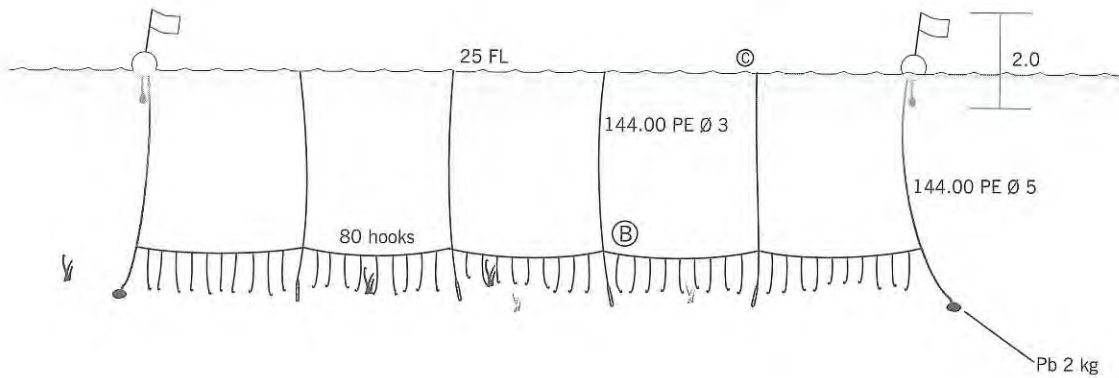
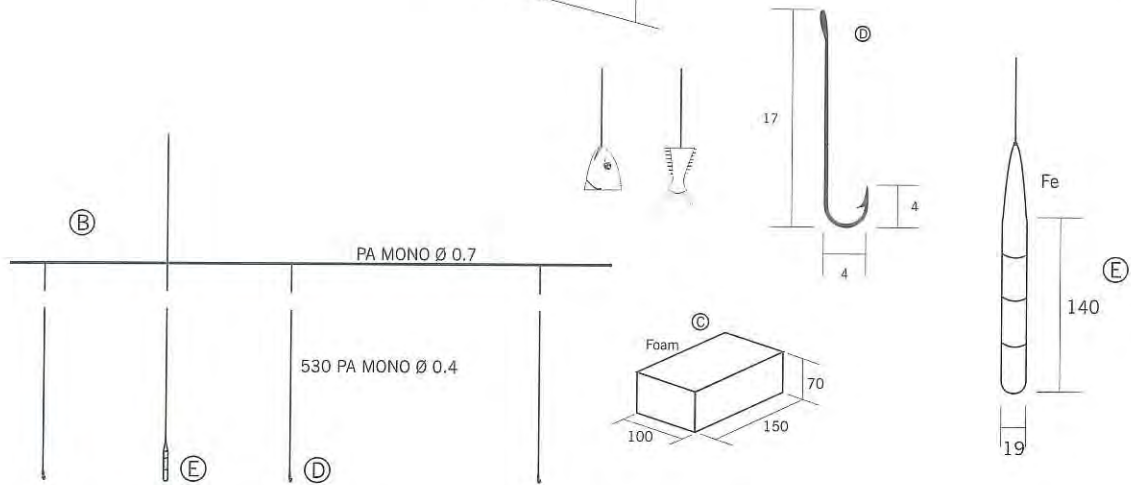
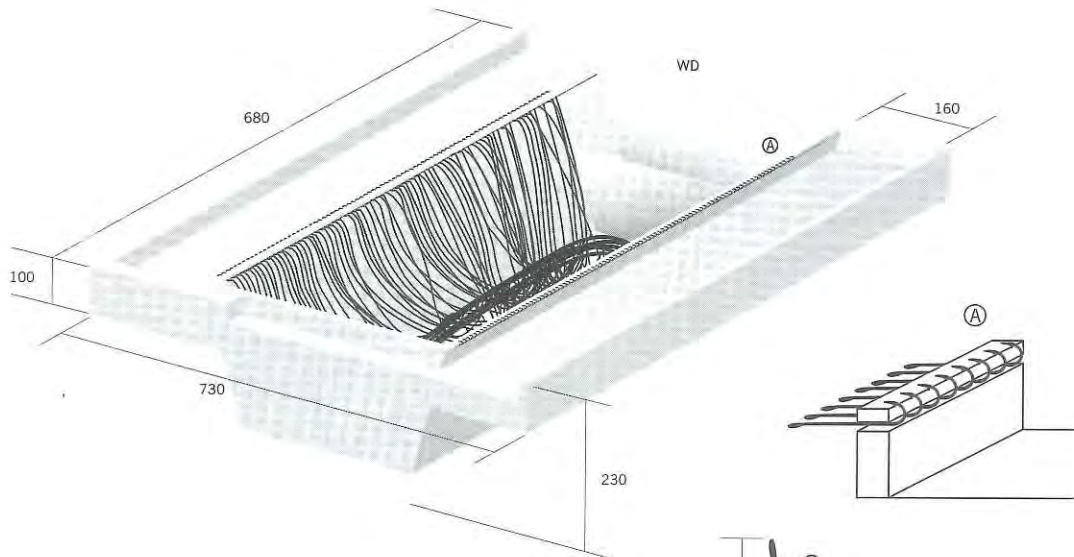
Sea bream, other demersal fishes

VESSEL

Loa : 8m
Hp : 16

LOCATION

Nasugbu
Batangas



Fishing Gear & Methods in Philippines

HOOK AND LINE

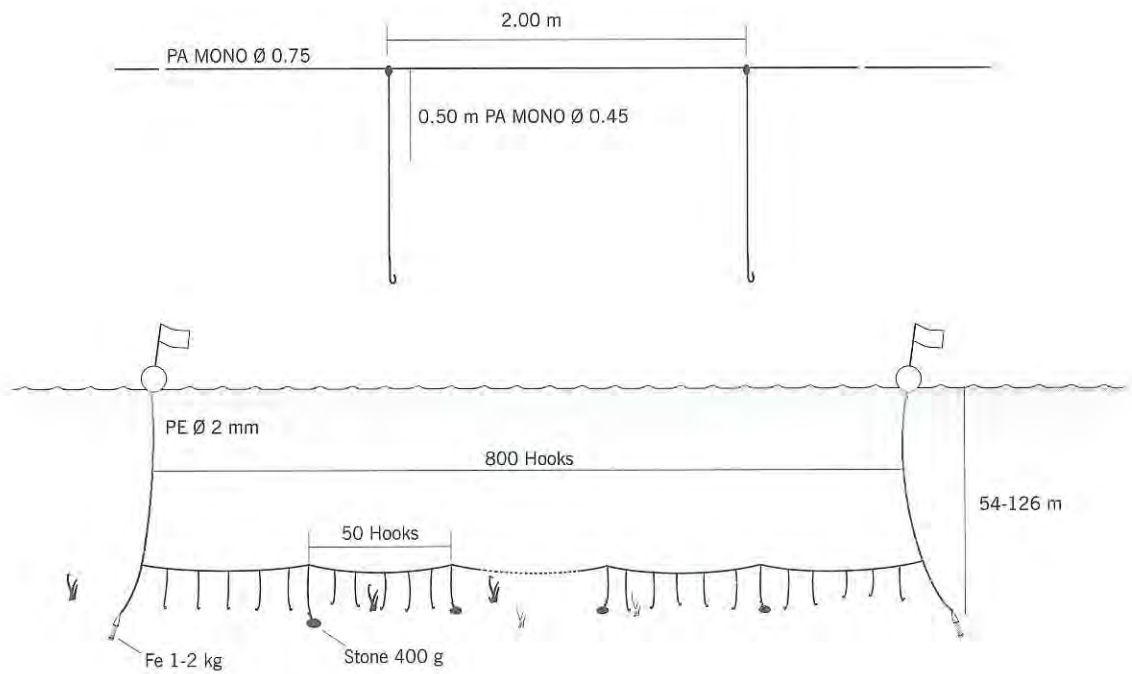
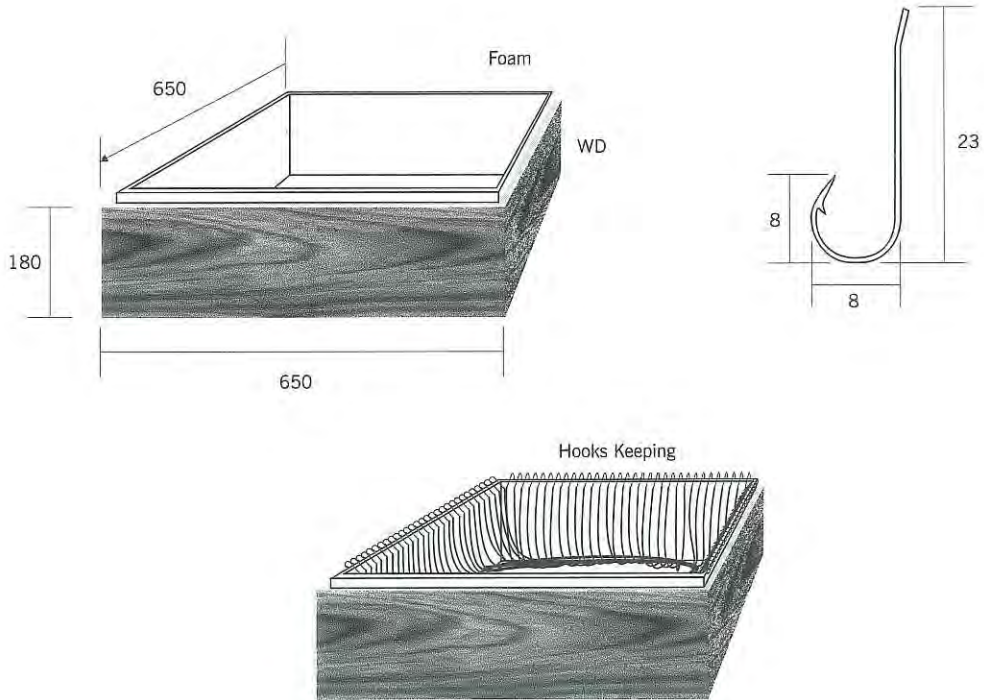
Bottom set longline
Kitang
 Grouper, snapper, breams, cavalla

VESSEL

Loa : 7m
 Hp : 16

LOCATION

Pasuquin
 Ilocos Norte





HOOK AND LINE

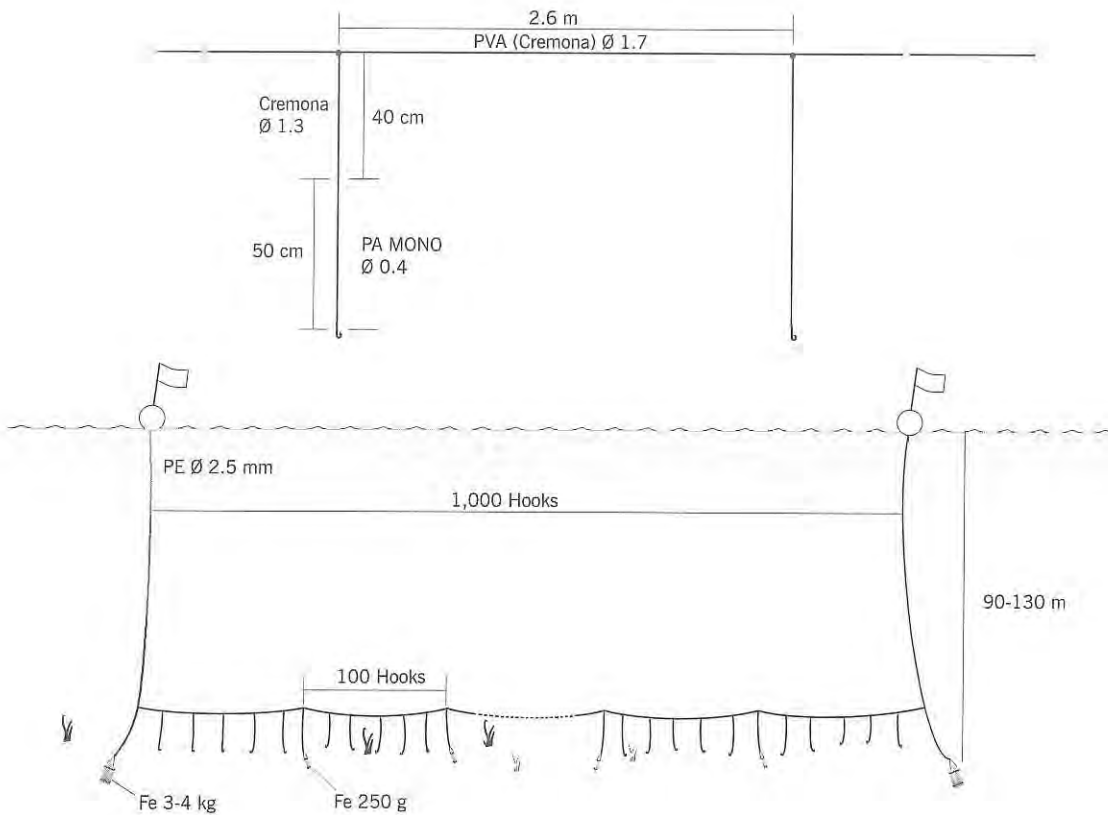
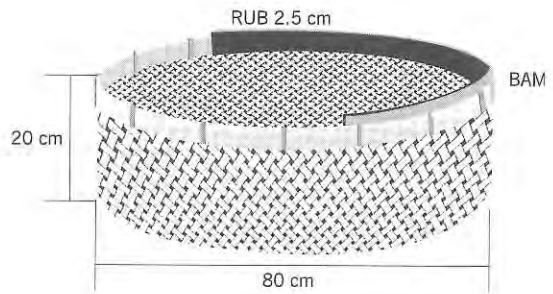
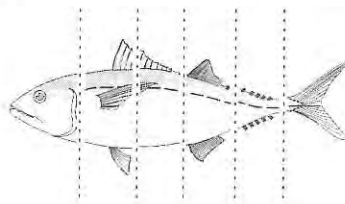
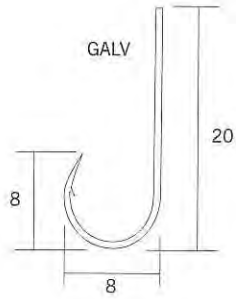
Bottom set longline
Kitang
Threadfin, Cavalla, Bream,
Grouper, Snapper

VESSEL

Loa : 7m
Hp : 10

LOCATION

Currimao
Ilocos Norte

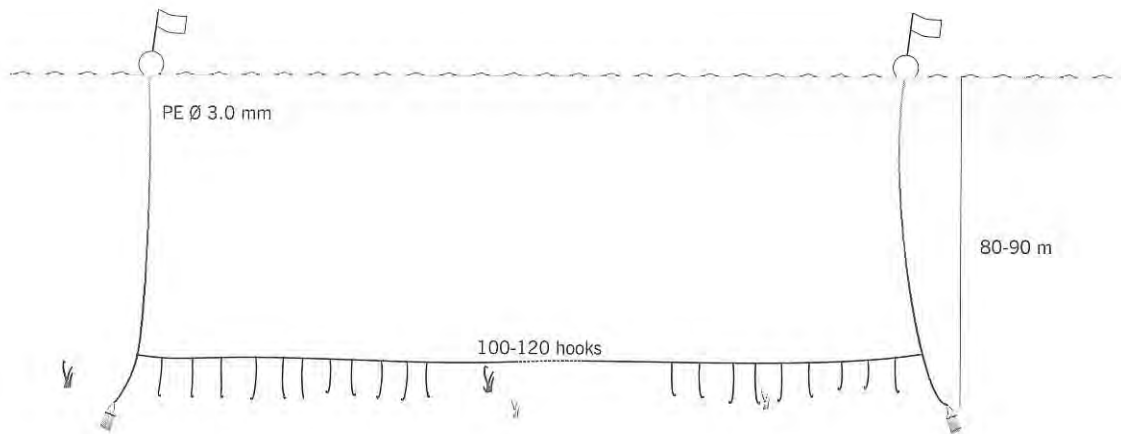
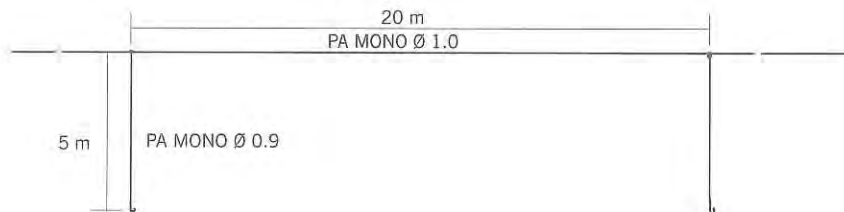
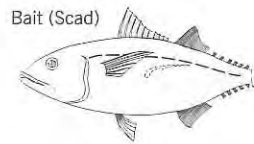
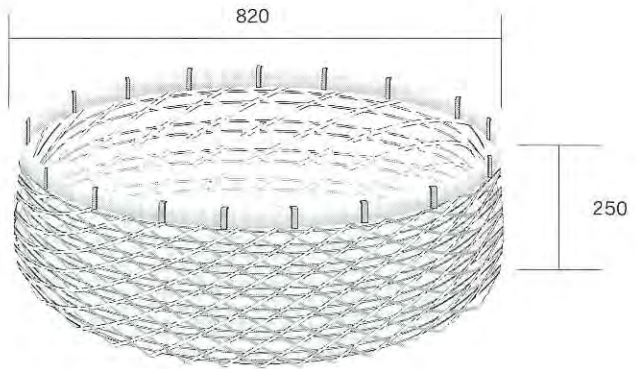
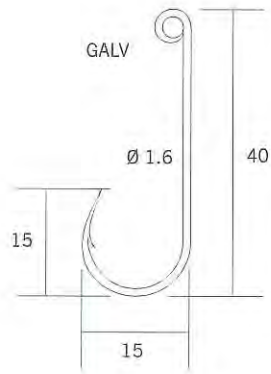


Fishing Gear & Methods in Philippines

HOOK AND LINE
Bottom set longline
Kitang
Jack, Shark, Snapper, Grouper

VESSEL
Loa : 6-7m
Hp : 16

LOCATION
Pasuquin
Ilocos Norte





HOOK AND LINE

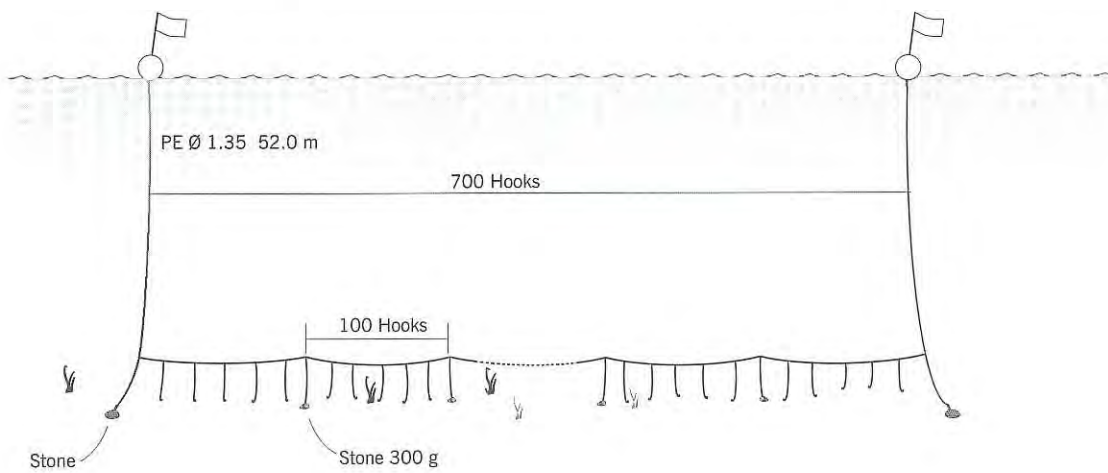
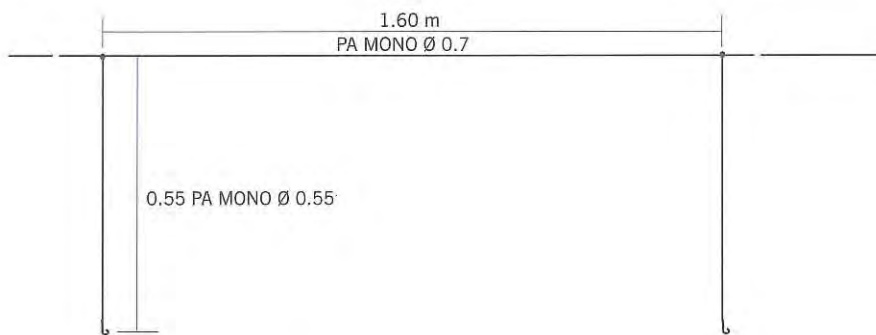
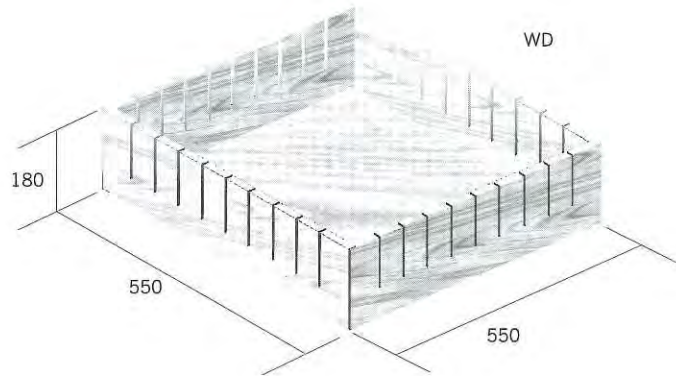
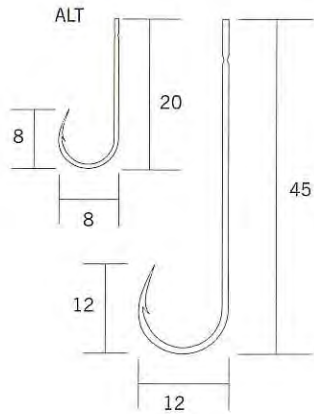
Bottom set longline
Kitang
Cavalla, Grouper, Snapper,
Shark, Breems

VESSEL

Loa : 7m
Hp : 10-16

LOCATION

Bangar
La Union

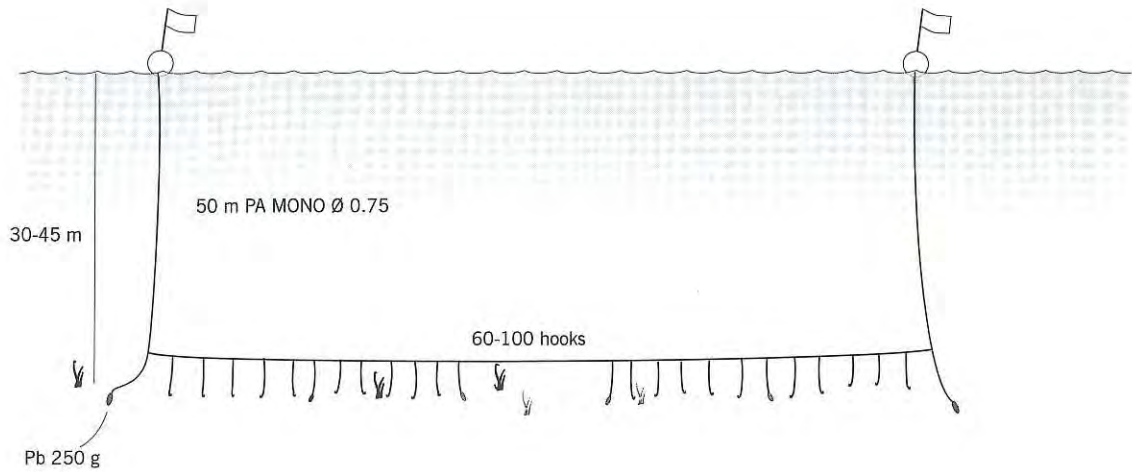
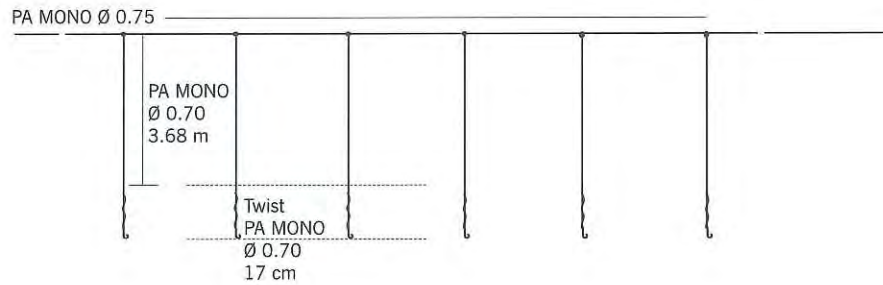
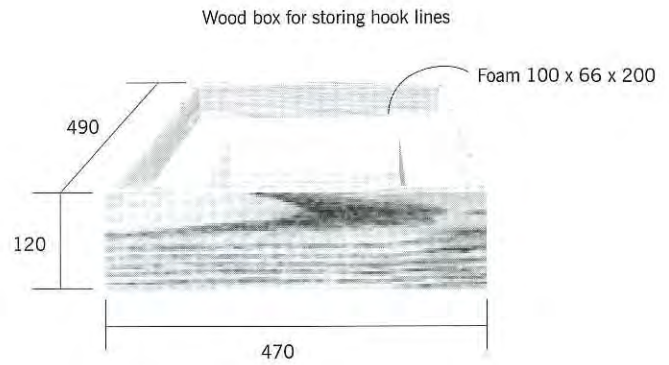
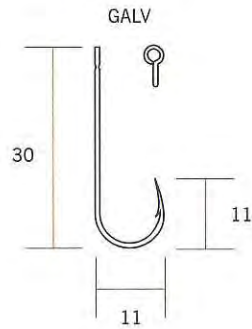


Fishing Gear & Methods in Philippines

HOOK AND LINE
 Bottom set longline
Kitang
 Yellow Leather skin, cavalla, jack

VESSEL
 Loa : 7m
 Hp : 10

LOCATION
 Currimao
 Ilocos Norte





HOOK AND LINE

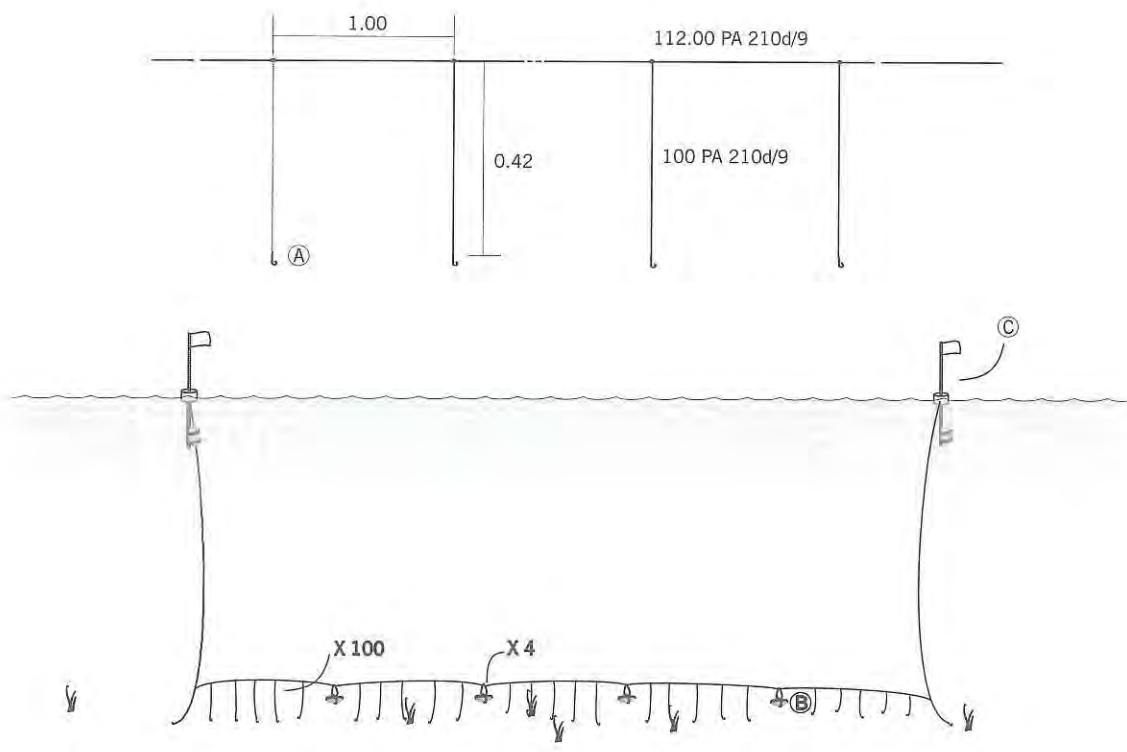
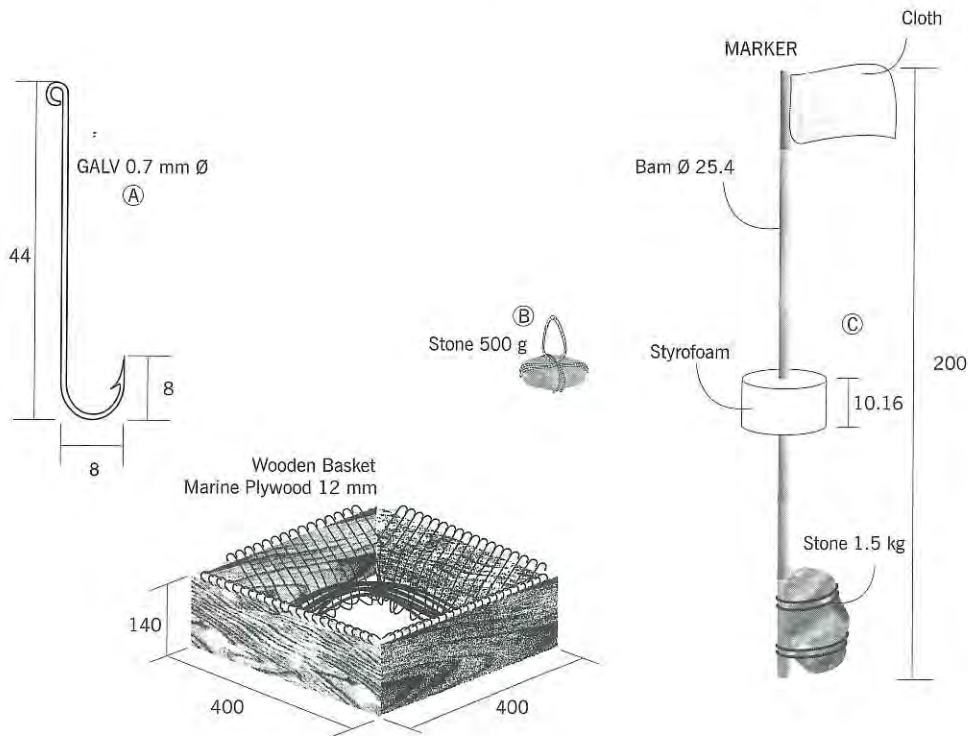
Bottom set longline
Kitang
Mudfish, Carp, Goby

VESSEL

Loa : 7m
Hp : 10-16

LOCATION

Pillila
Rizal



Fishing Gear & Methods in Philippines

HOOK AND LINE

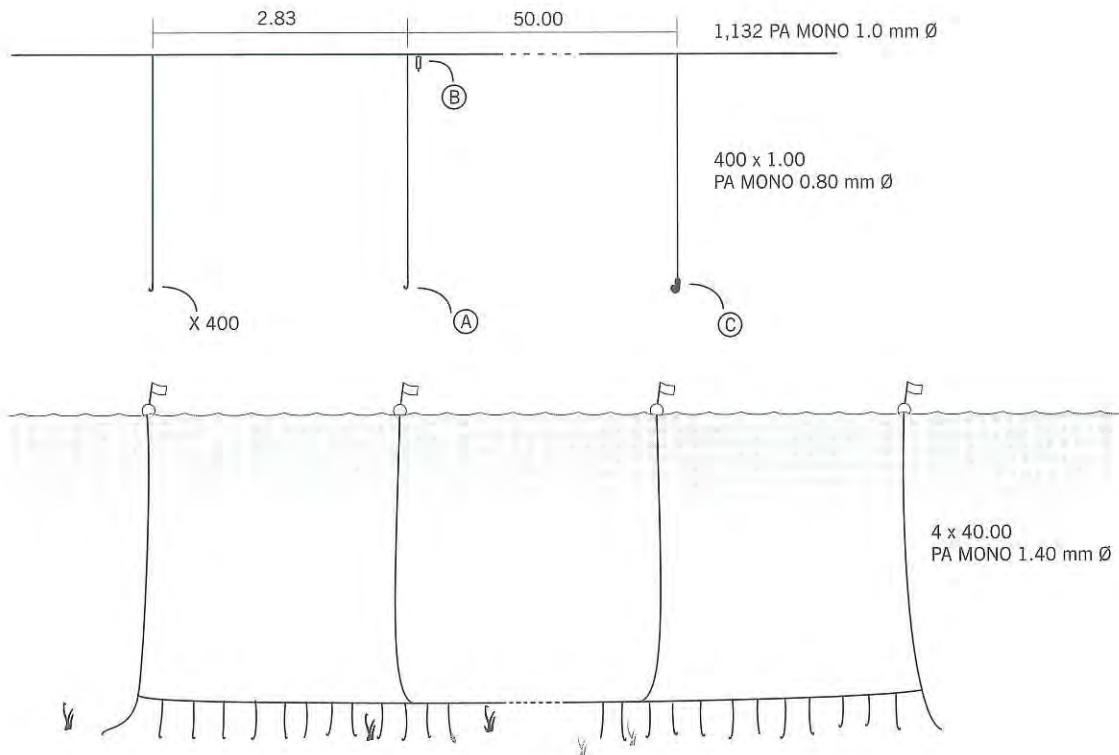
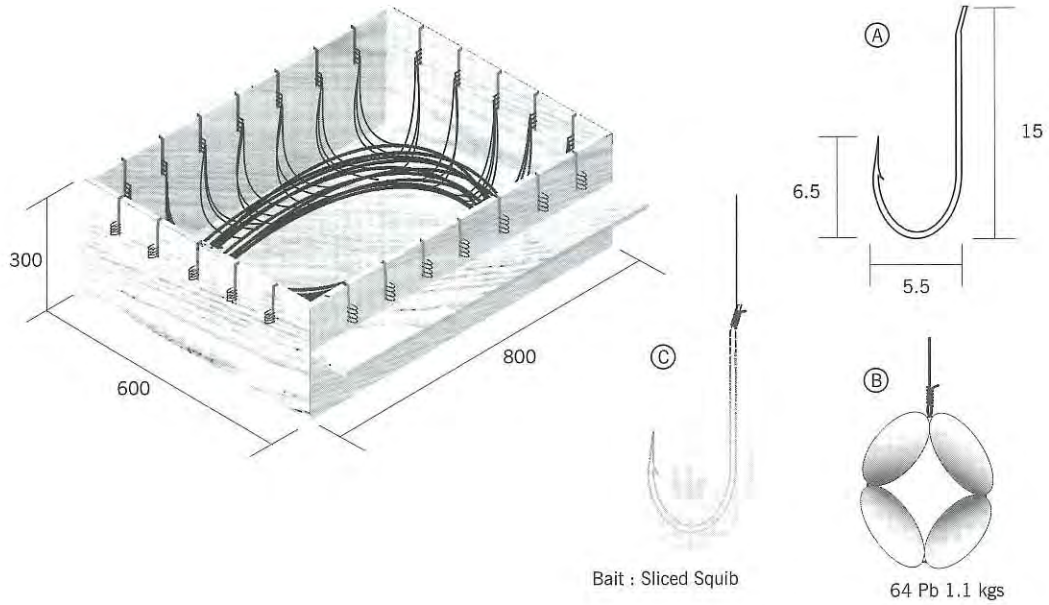
Bottom set longline
Kitang
 Nemipterid, Snapper

VESSEL

Loa : 4.87m
 Hp :

LOCATION

Catbalogan;
 Tarangnan
 Samar





HOOK AND LINE

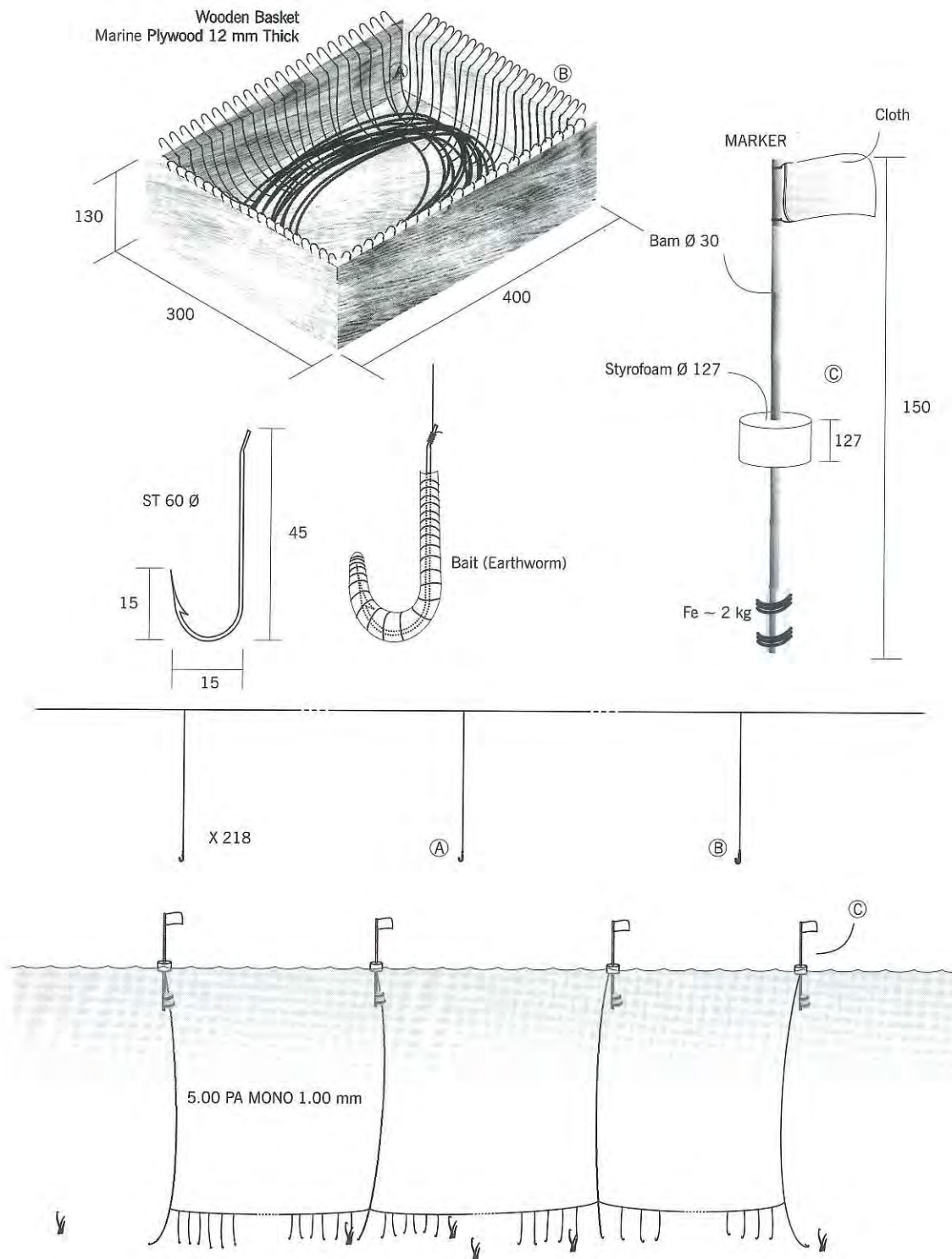
Bottom set longline
Kitang
Striated murrel,
Carp, Tilapia

VESSEL

Loa : 7.50m
Hp : 10

LOCATION

Naujan Lake
Mindoro



Fishing Gear & Methods in Philippines

HOOK AND LINE

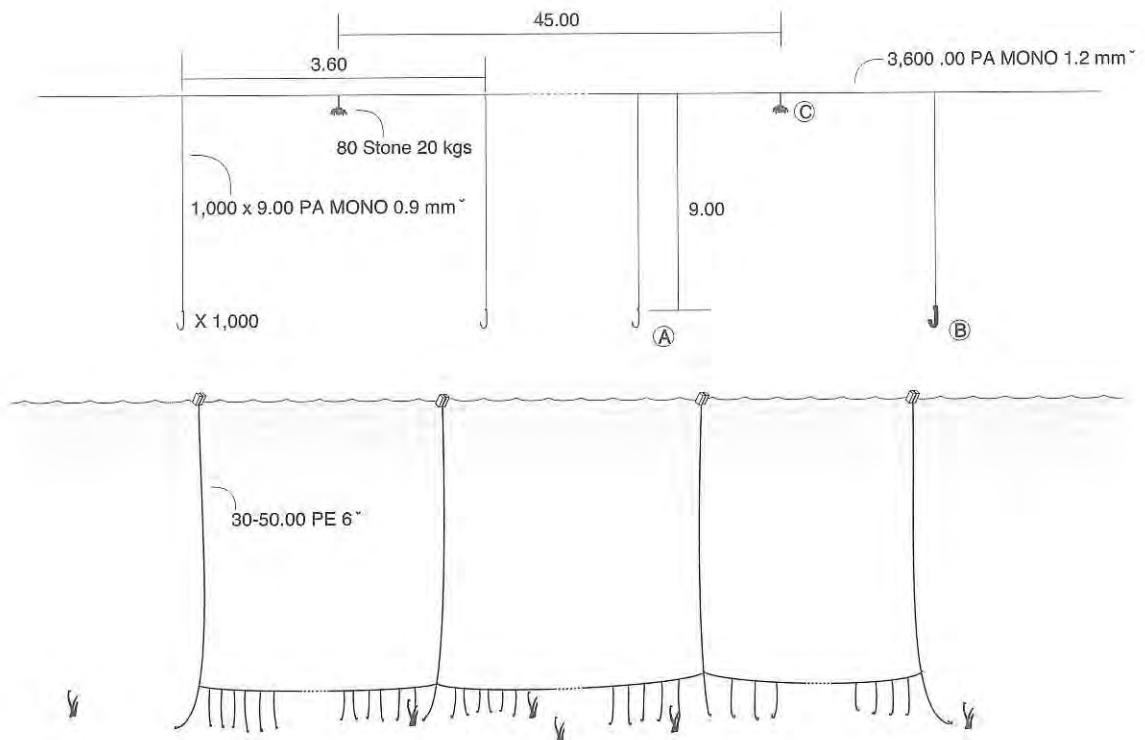
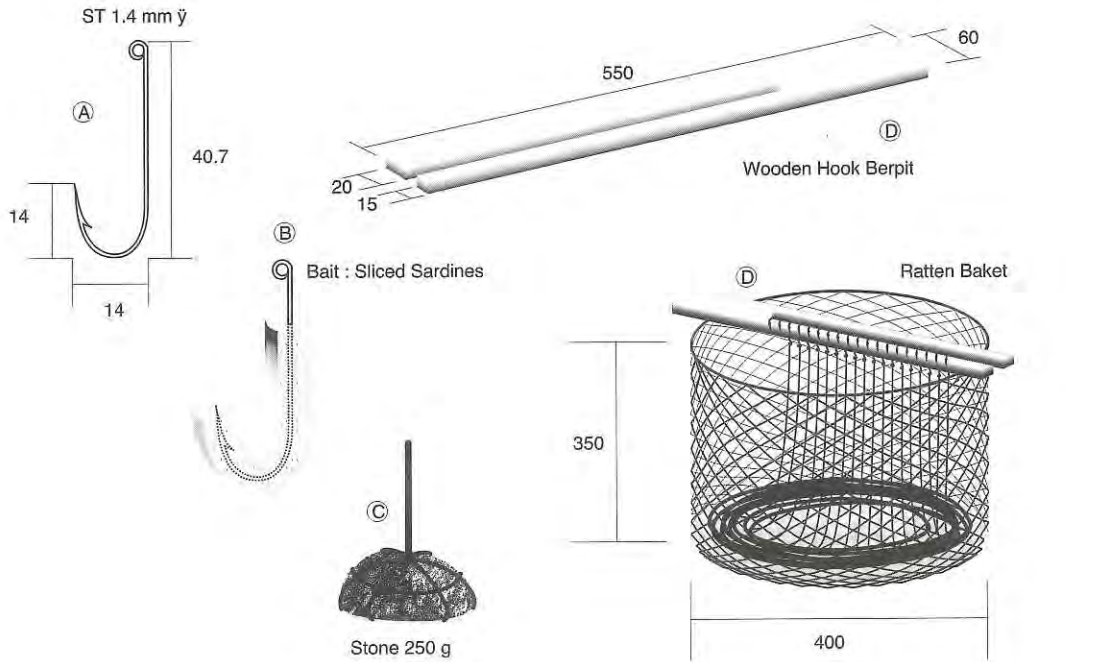
Bottom set longline
 Kitang
 Snapper, Nemiterid,
 Grouper, Caranx sp.

VESSEL

Loa : 9.00m
 Hp : 16

LOCATION

General Luna
 Quezon





HOOK AND LINE

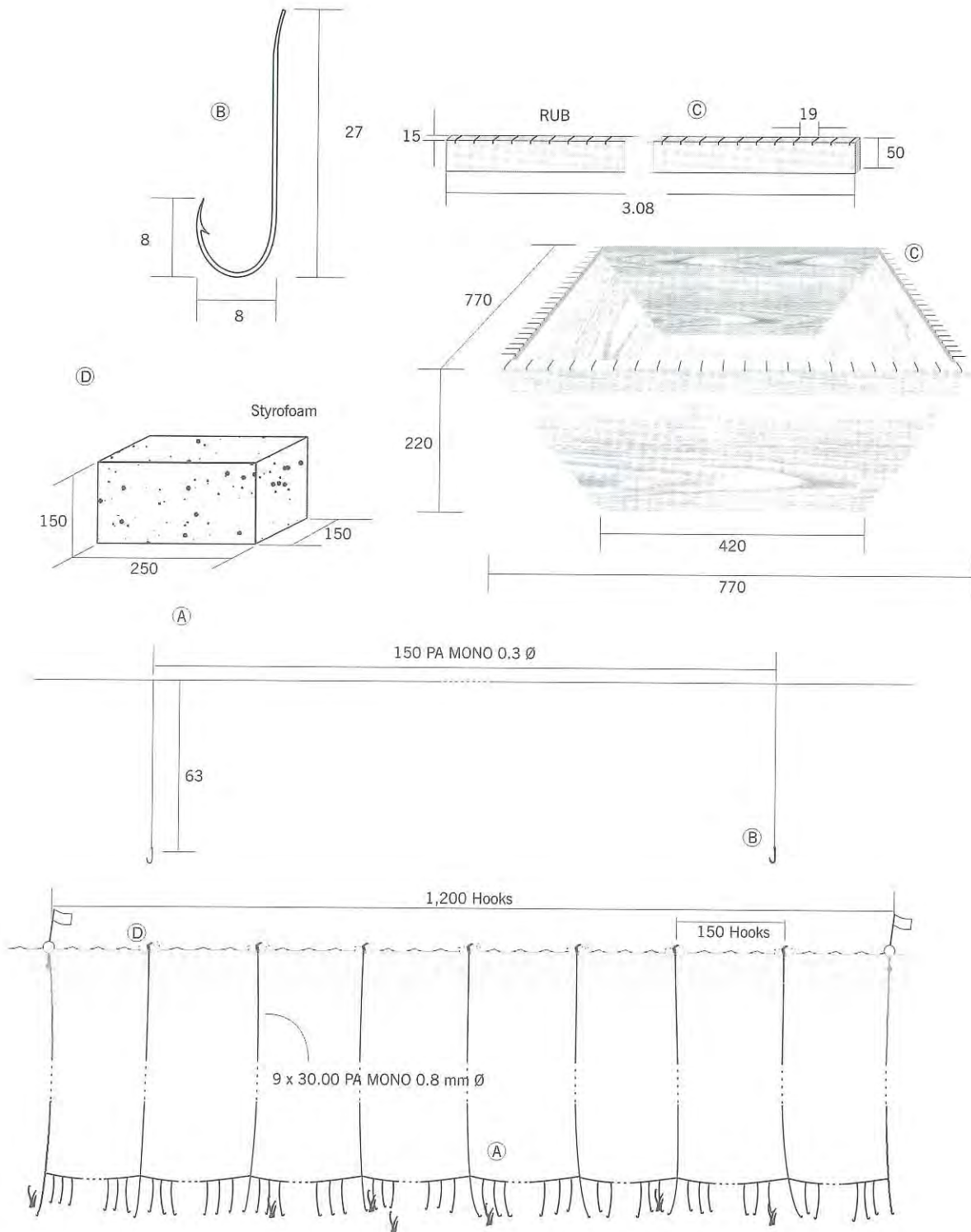
Bottom set longline
Kitang
Snapper, Lizard fish,
Nemipterid, Rays

VESSEL

Loa : 5.60m
Hp :

LOCATION

Cabucgan / Cawayan
Biliran
Carigara / Capoocan
Leyte



Fishing Gear & Methods in Philippines

HOOK AND LINE

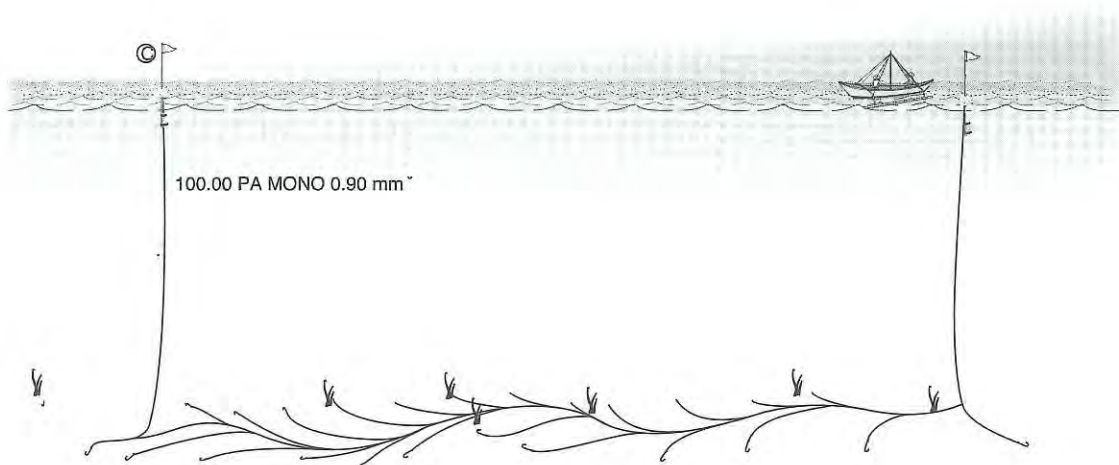
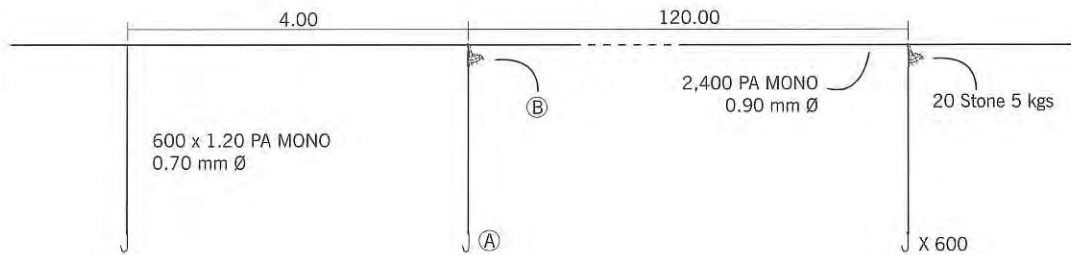
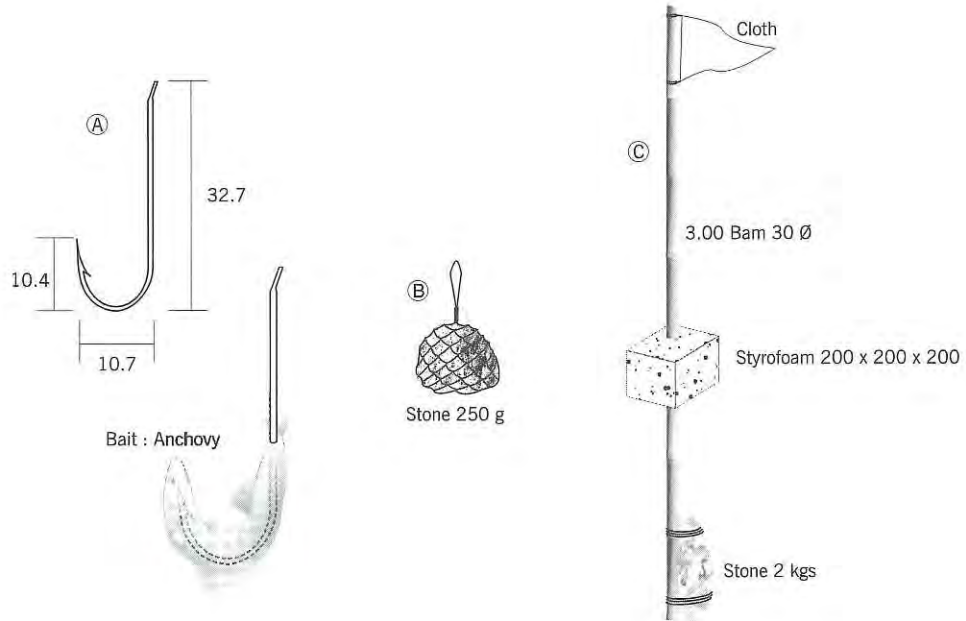
Bottom set longline
Labay
 Theraponid, Snapper, Eel

VESSEL

Loa : 7.53m
 Hp : 10

LOCATION

General Santos City
 South Cotabato





HOOK AND LINE

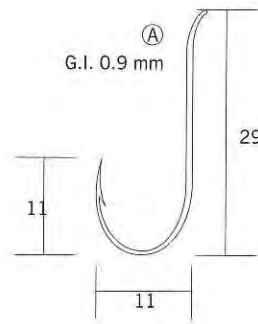
Bottom set longline
Kitang
Scad, Hair tail,
Snapper, Nemipterid

VESSEL

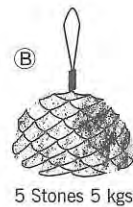
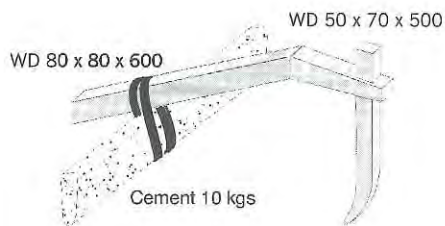
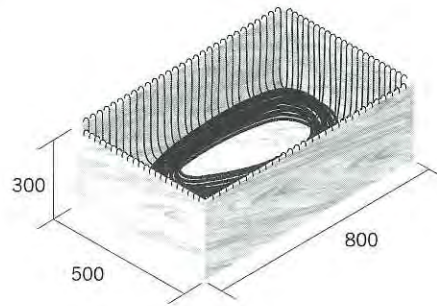
Loa : 6.71m
Hp : 10.5

LOCATION

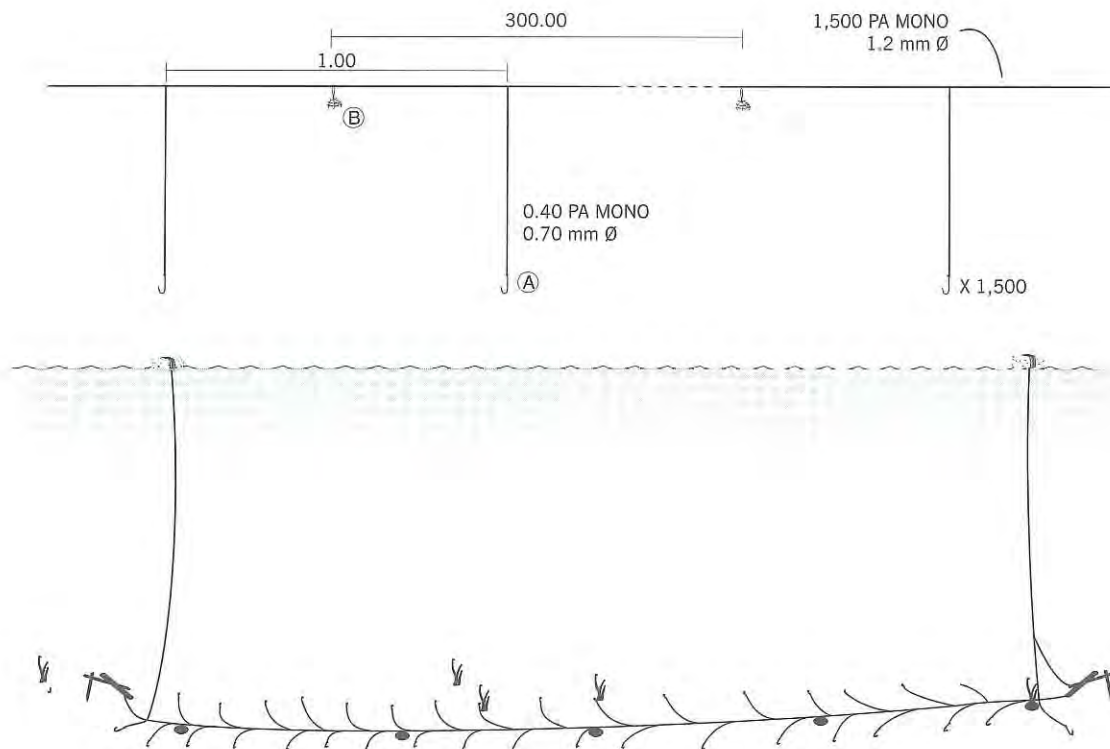
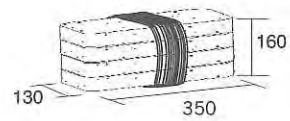
San Fernando
Masbate



Bait : Anchovy



Styrofoam Float



Fishing Gear & Methods in Philippines

HOOK AND LINE

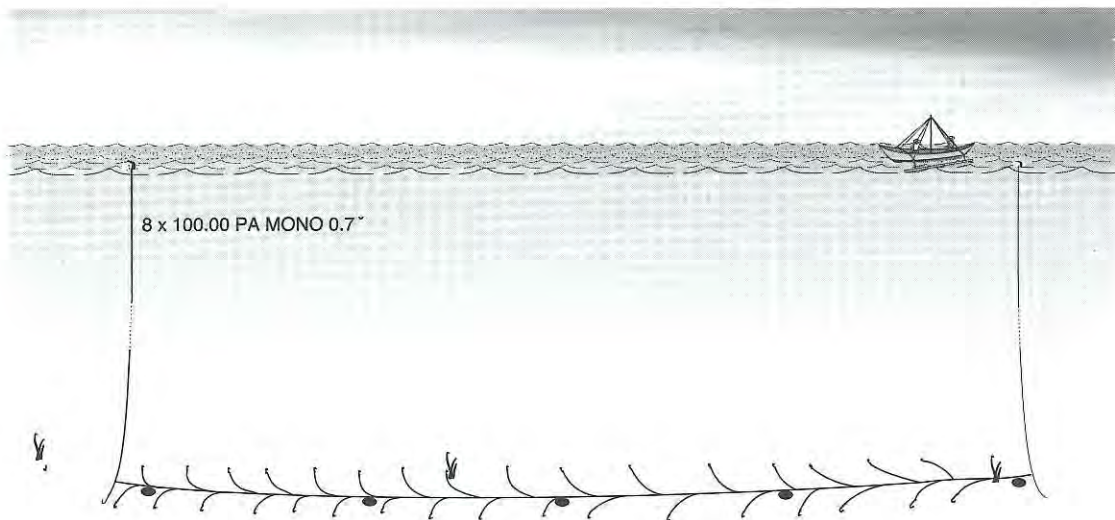
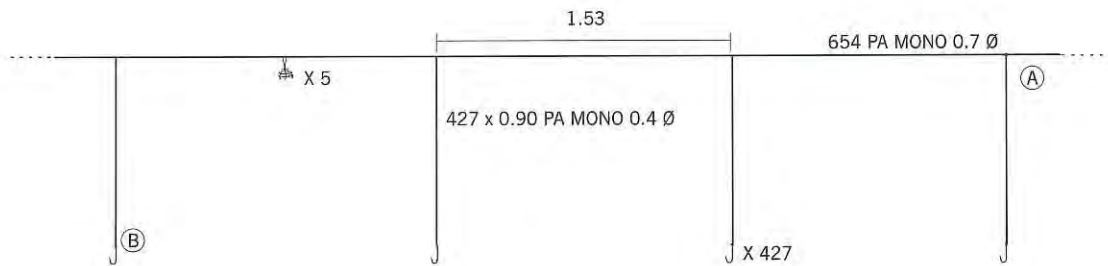
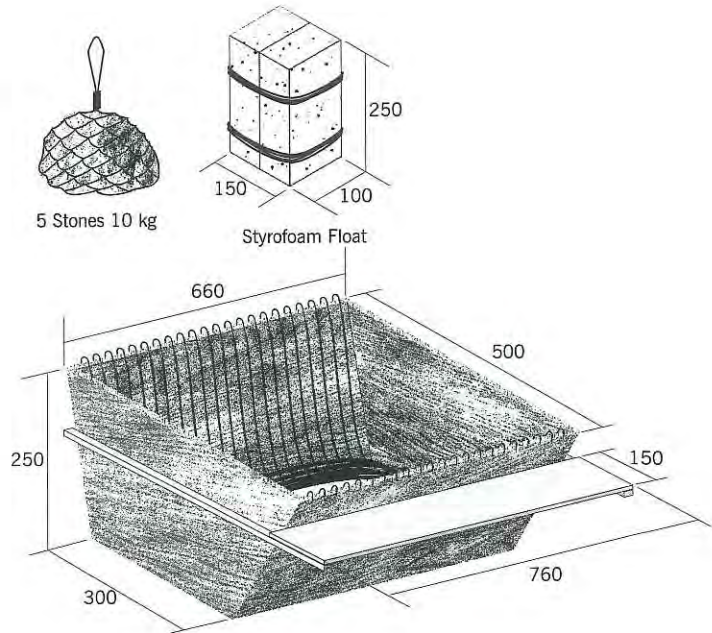
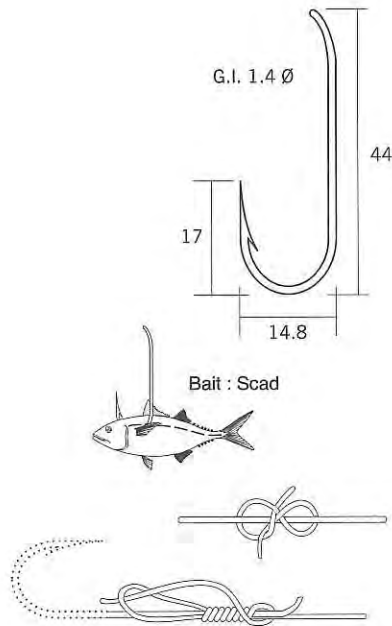
Bottom set longline
Kitang
 Grouper, Snapper,
 Lizard fish

VESSEL

Loa : 10.97m
 Hp : 16

LOCATION

Aparri
 Cagayan





HOOK AND LINE

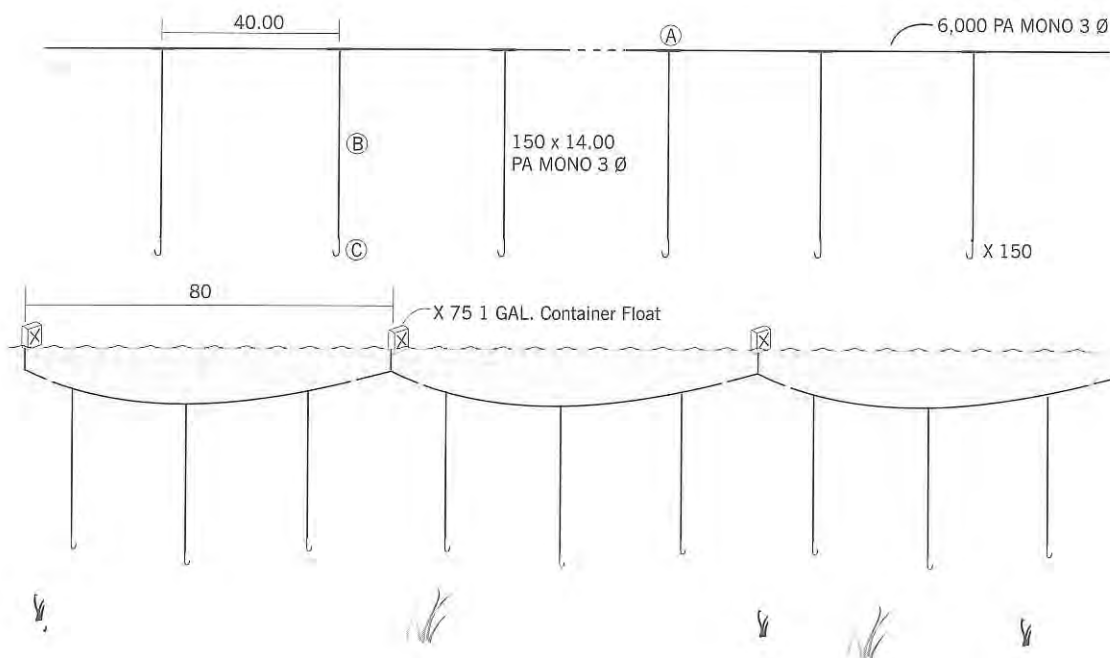
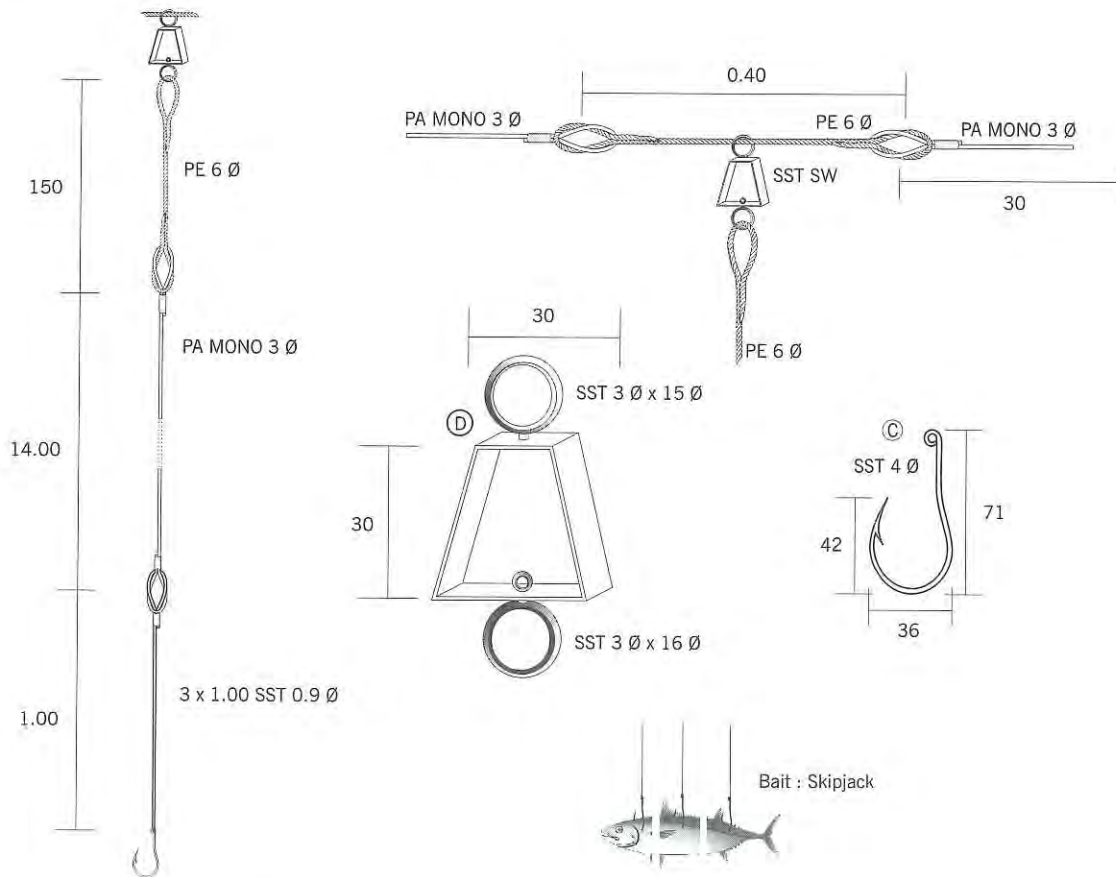
Bottom set longline
Kitang-pangpating
Shark

VESSEL

Loa : 12.19m
Hp : 80

LOCATION

Mercedes
Camarines Norte



Fishing Gear & Methods in Philippines

HOOK AND LINE

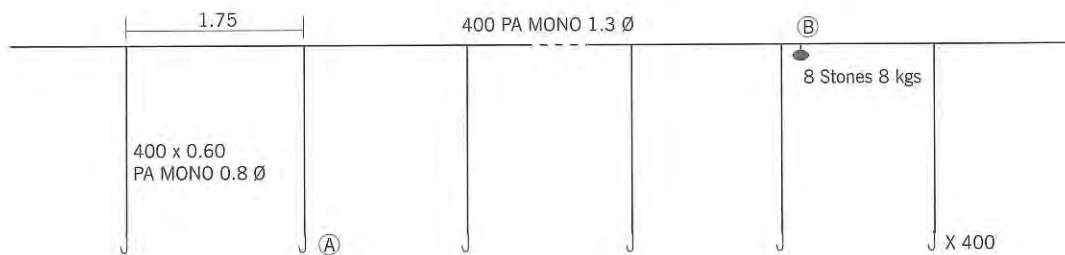
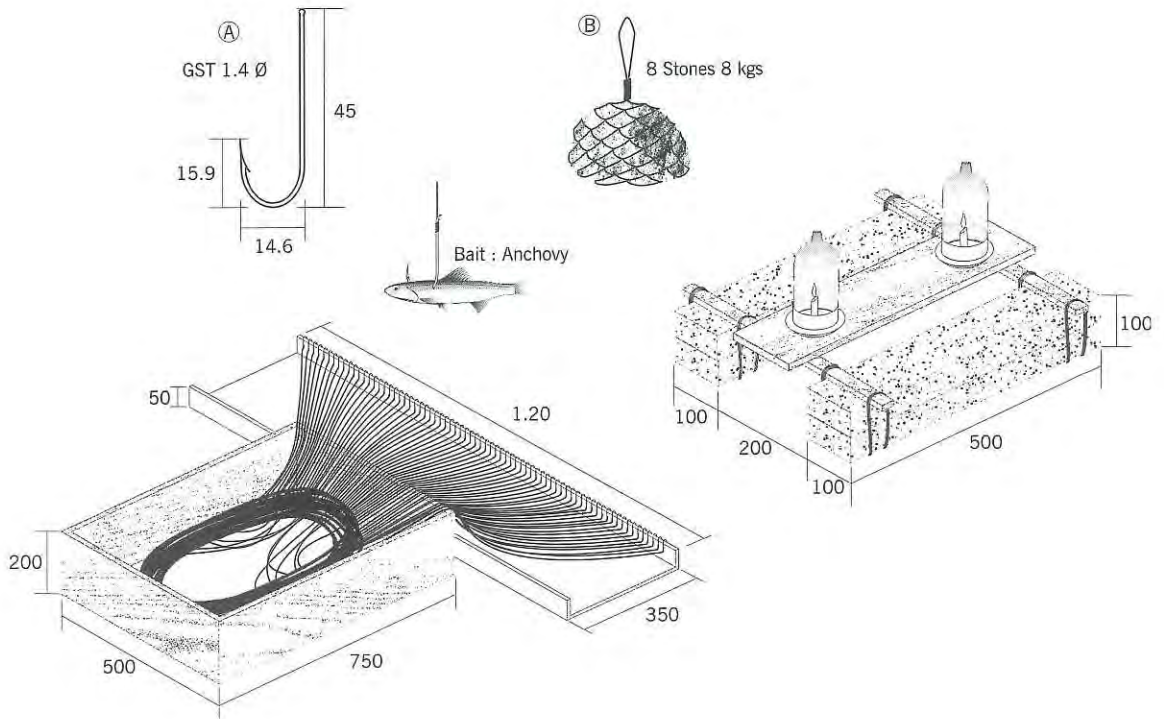
Bottom set longline
Pakitang
 Snapper, Grouper, Rays

VESSEL

Loa : 7.31m
 Hp : 16

LOCATION

Matnog
 Sorsogon





HOOK AND LINE

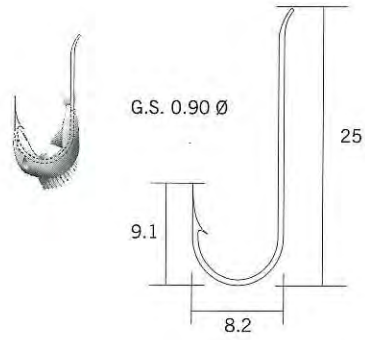
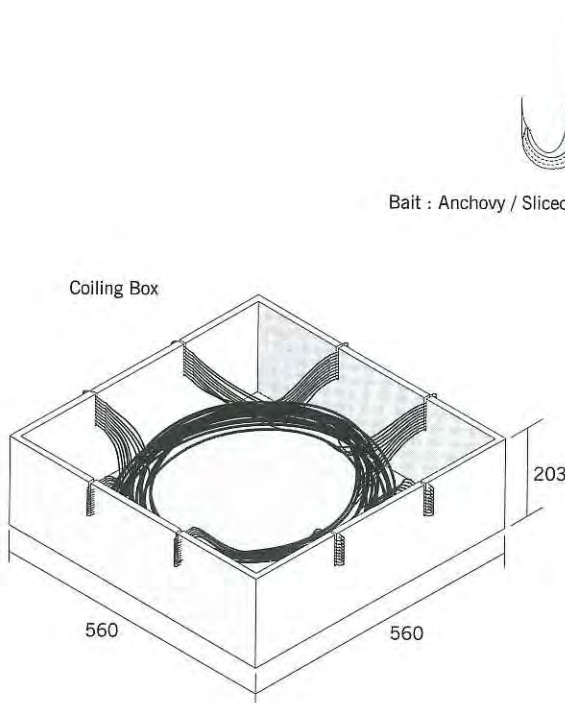
Bottom longline
Kitang
Snapper, Nemipterid,
Caranx sp.

VESSEL

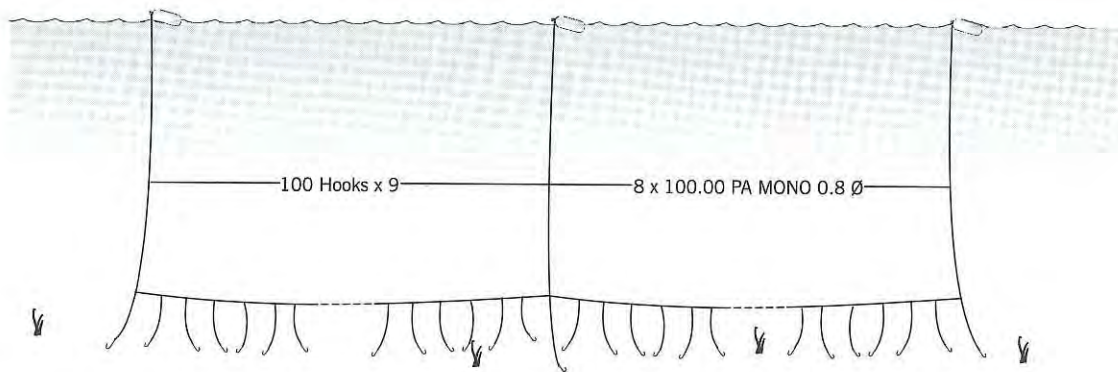
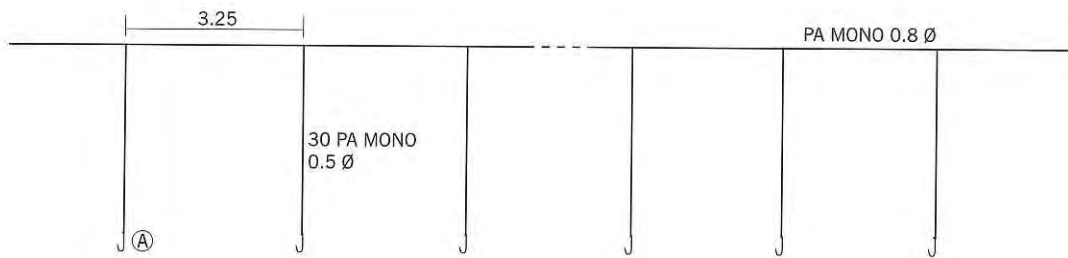
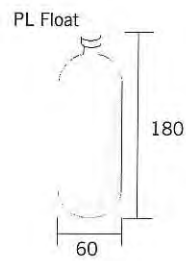
Loa : 7.5m
Hp : -

LOCATION

Tiwi
Albay



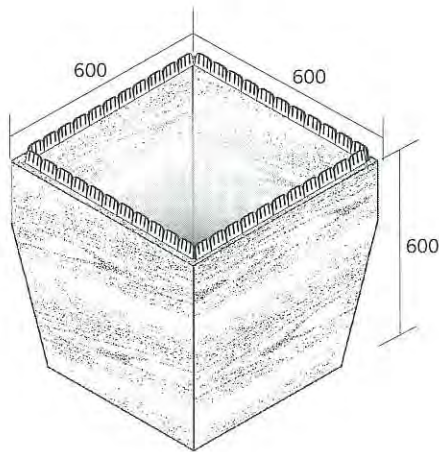
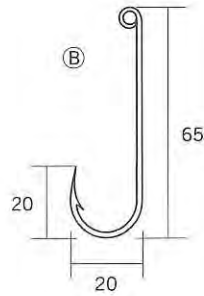
HOOK QUALITY No. 900N-564



Fishing Gear & Methods in Philippines

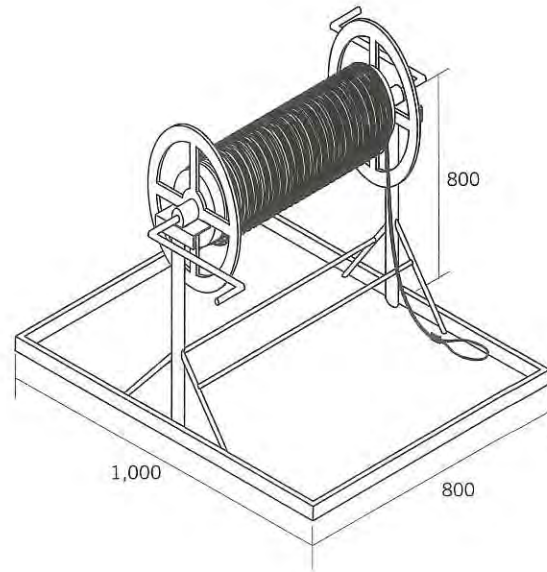
HOOK AND LINE

Bottom set longline
Kitang
 Dogshark, grouper,
 snapper, big ray



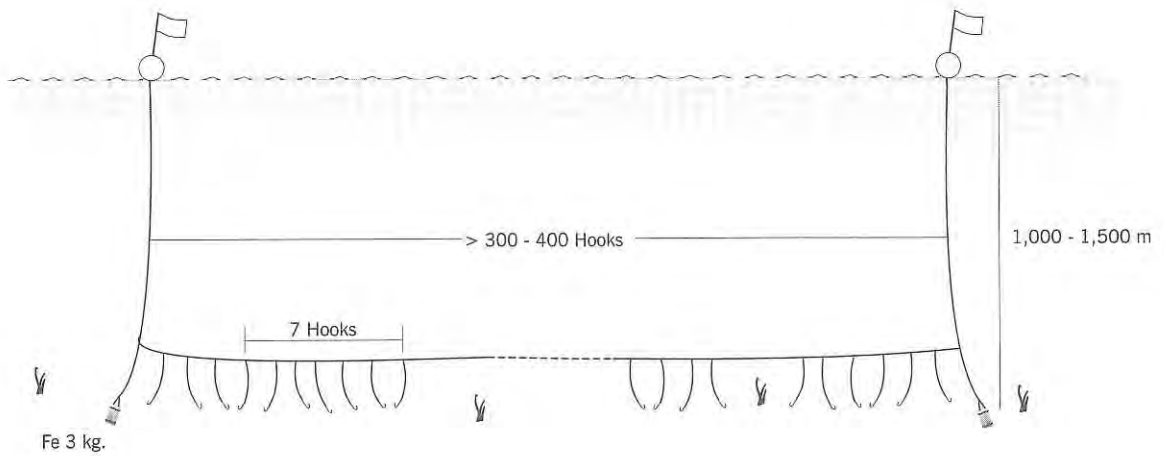
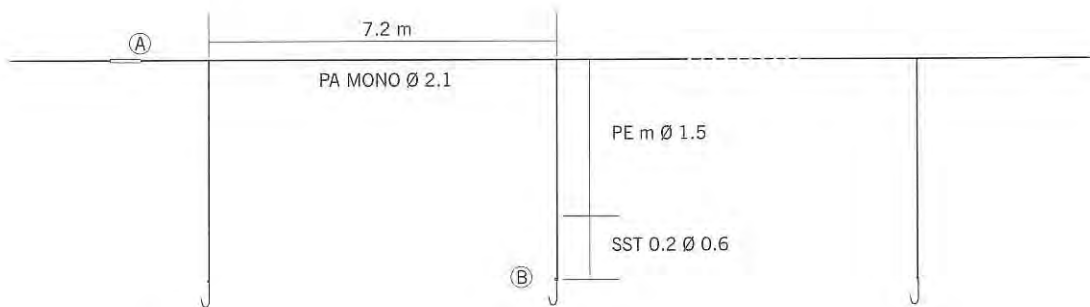
VESSEL

Loa : 8 m
 Hp : 16



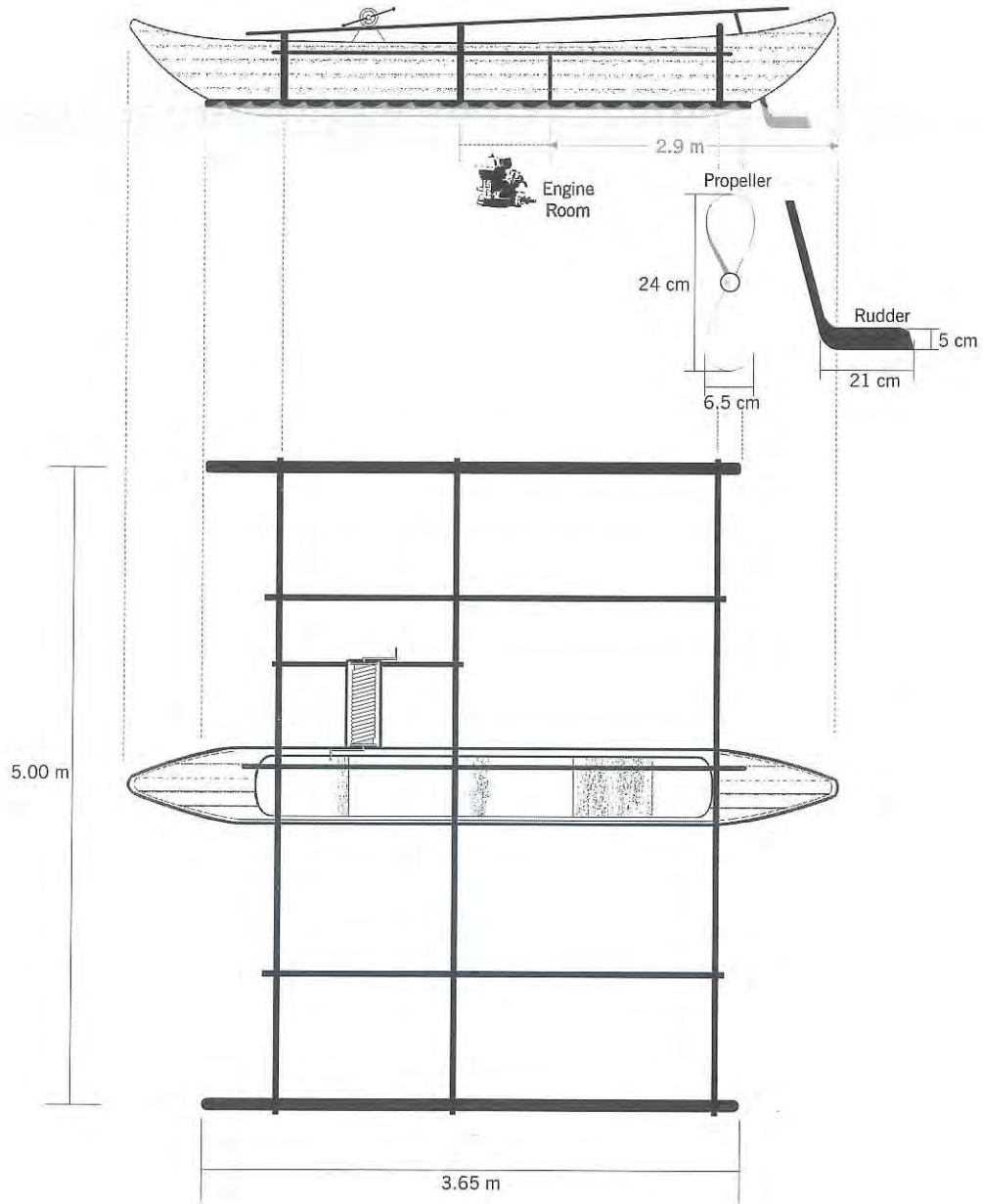
LOCATION

Magsingal
 Ilocos Sur





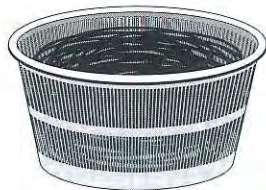
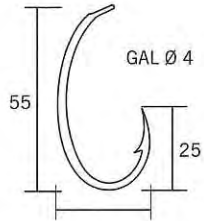
MOTORIZED BOAT



Fishing Gear & Methods in Philippines

HOOK AND LINE

Tuna Longline
 Yellowfin tuna, Big-eye tuna,
 Shark, Marlin, Swordfish

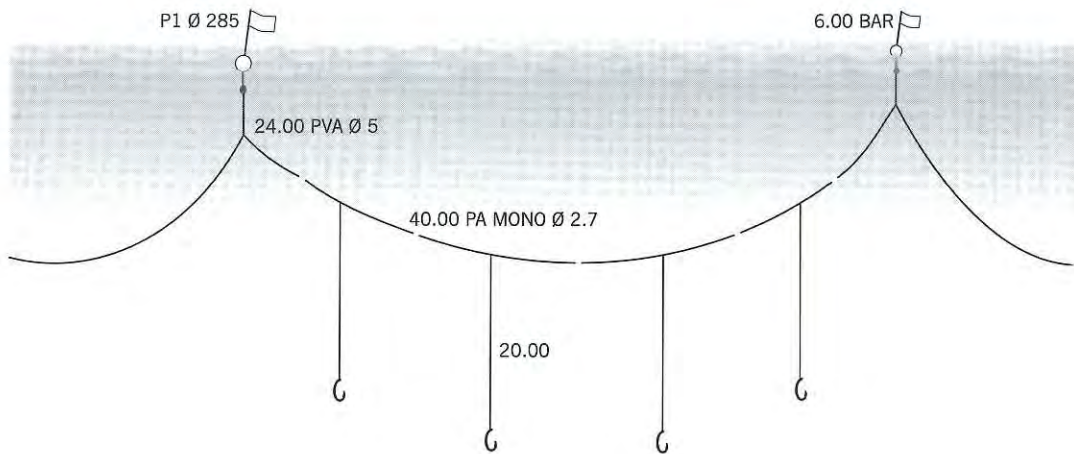
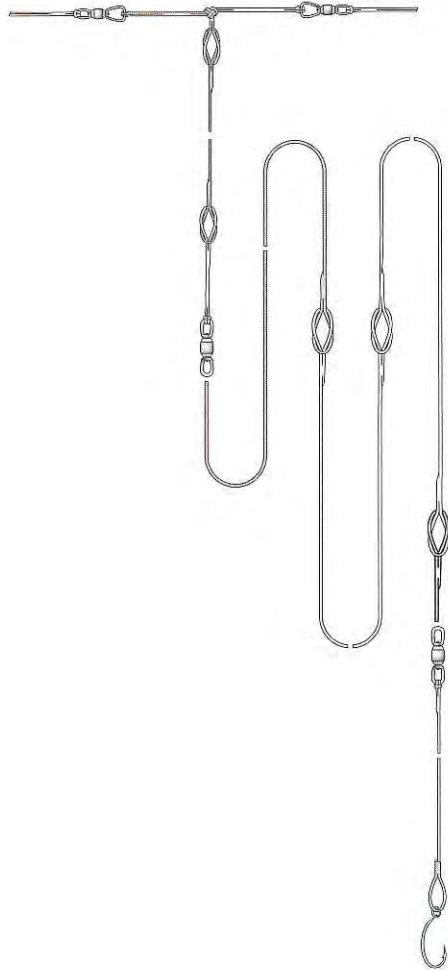


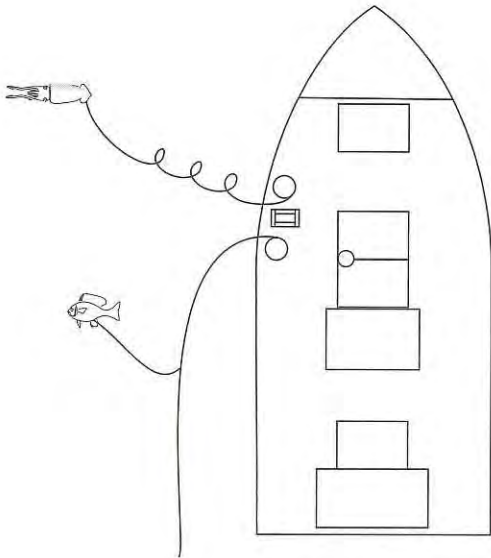
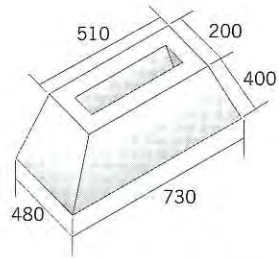
VESSEL

Loa : 15m
 GT : 34
 Hp : 85

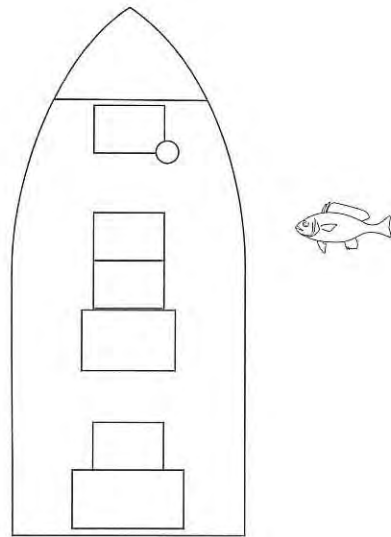
LOCATION

Iloilo City
Iloilo

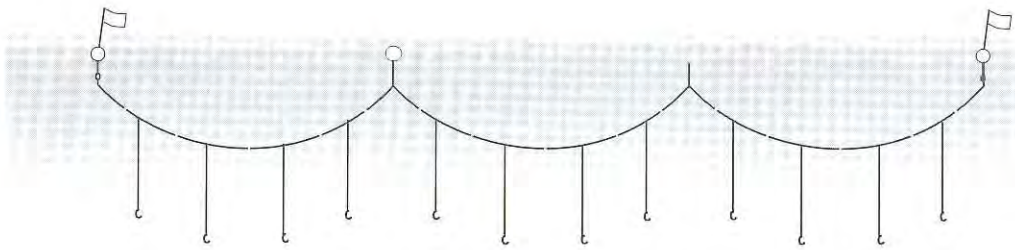




Shooting



Hauling



< Chapter 12 >

Drive-in-Nets



Drive-in-net Fishing

The municipal drive-in-net is a minor fishing gear among small-scale fishermen. It is very seldom used nowadays and its contribution is less than 1% to the total municipal and commercial fishing production. Small-scale drive-in-nets differ in design, methods of operation and materials used. They are commonly operated in Bogoto, Cebu; Bolinao, Pangasinan; and Guimbal, Iloilo.

The commercial drive-in-net in the 1980s, the “muro-ami” had been banned together with the smaller type “Kayakas”. The use of bubbles generated by compressors through plastic hoses to scare coral reef fishes without affecting the coral ecosystem has been introduced. It is presently operated by three fishing companies. The gear is called “Paaling” which means to wait. It is used for catching the fusiliers and other coral reef fishes. Major fishing grounds are the western and eastern waters of Palawan.

Fishing Gear and Methods

1 Drive-in-net for Flying Fish and Half-beak

The rectangular main net is divided into three parts. The center part is made of 210d/2 nylon twine with a mesh size of 18 mm. The outer sides or wings are nylon 210 d/9 netting with 25 mm mesh size. The net is 270 m long and 32.4 m deep. The gear has rings connected to the headline by bridles.

Another type of drive-in gill net for flying fish has the main webbing made of nylon 210d/4 with 20 mm mesh size. The length and depth of the net is 108 and 21.6 m, respectively. The selvage is nylon 210d/6 with 30-40 mm mesh size. The construction in the lower part is ladder type with both wings shallower than the middle portion. Rings are tied to the headline using 50 cm PE ϕ 3 mm bridles. There are 21 lead rings measuring 5.3 cm x 1.6 cm distributed along the headline at 12.6 m interval. The scare ropes has a length of 1,000 m of PE ϕ 6 mm at both sides during fishing operation.

Upon seeing a school of fish, the net is first set and followed by the scarelines which drives the school towards the net. Two boats are used in the operation. When the two ends of the net meet, one boat pulls the purse line while the other boat tows the net boat to prevent it from entangling with the net. Both ends of the net are hauled simultaneously until the catch is brought on deck for storage.

2 Drive-in-net for Fusiliers and Other Coral Reef Fish

In shallow water, the drive-in-net for coral fish resembles a trawl net. The wings measure 22-meter long and are made of PA mono of 0.5 mm diameter. Two different mesh sizes are found in the upper (40 mm) and lower portions (35 mm). The belly has three sections of nylon mono 0.4 mm diameter with 35 mm mesh size but the upper part is PA mono of 0.5 mm diameter with 40 mm mesh size. The bag is also PA mono of 0.4 mm but the mesh size is 30 mm. The

Fishing Gear & Methods in Philippines

scareline has a length of 400 m PE 0 8 mm. White plastic strips are inserted at 15-20 cm intervals. Stones weighing 100-200 g are placed at 3-4 m interval in the leadline as additional weights. The gear is operated at 10-20 m deep in coral reef areas by first setting the net. The scareline is pulled by two boats towards the net.

The new fishing gear for catching coral reef fish is the "Paaling". It consists of a bagnet and two (2) detachable wings, effecting the capture of fish by spreading the net in an arc around reefs and shoals. With the use of plastic hoses emitting bubbles, the fishermen scare and drive the fish towards the waiting net.

The wings are duralon netting, 25 m long by 200 meshes down with mesh size of 101.6 mm. The bag is 29 m long by 18.6 m wide also made of kuralon netting 20s/21-40 with mesh sizes from 33.8-101.6 mm.

One complete set for the operation consists of the mother boat (200-300 GT), 4 net boats, 4 air boats for the compressors, and 250-300 fishermen/swimmers aside from the 20 officers and crew of the boat.

Upon reaching the fishing ground, shallow areas (10-20 m) of shoal reef are marked with flagbuoys. Fisherman scout the area and determine the current direction. With a good area determined, the net is set in the bottom against the current. The mother boat encircles the set net and maintains a distance of 500 m. The fishermen go near the air boats and get their respective plastic hoses with styrofoam floats. The plastic hoses with plastic strips are jerked as they come nearer the net. At about 50 m away from the net, the compressors are opened up thus releasing a wall of bubbles that scare the fish. When the fish are inside the net, the fishermen bring the net to the surface and pour the catch on deck for icing and sorting. The mother boat again locates another shoal reef for the next operation. Fish caught by the "paaling" are mostly caesios, cavalla, crevalle, surgeon fish, siganids, wrasses, and parrot fish.

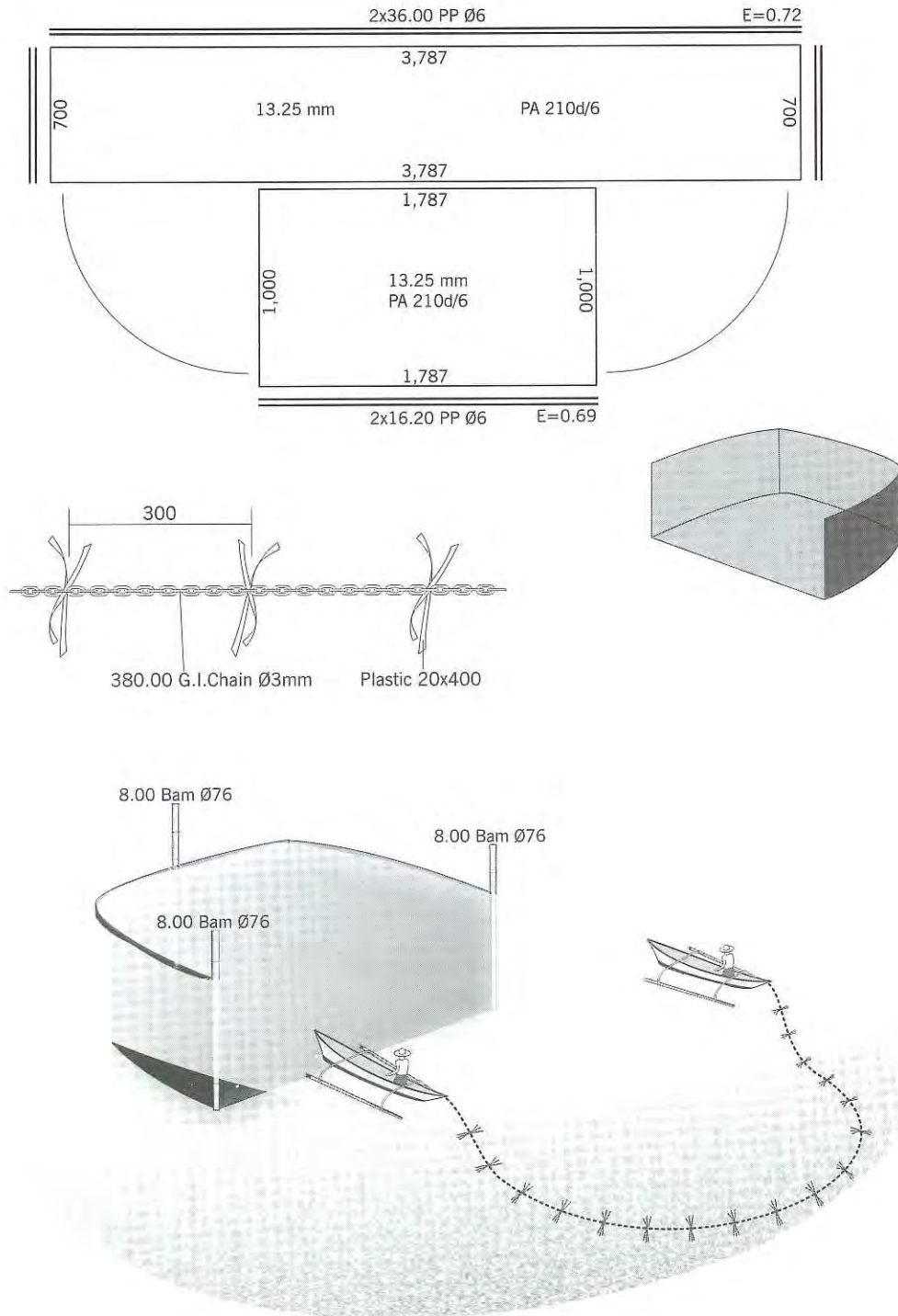
With its high catching efficiency, the operation of the gear is regulated in terms of the number of fishing vessels, drives per day, mesh size, areas of operation, and fisherman's groups.

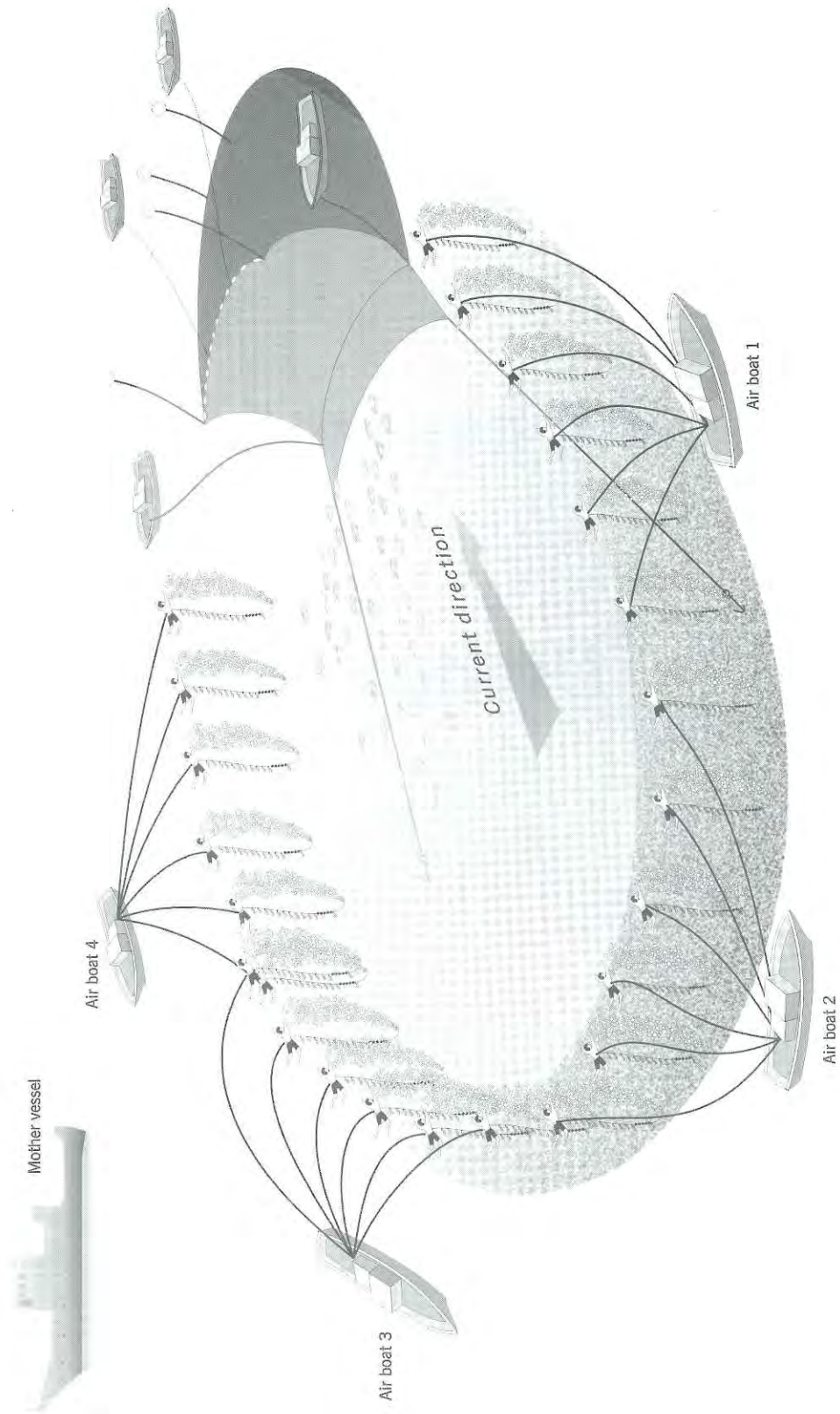
Fishing Gear & Methods in Philippines

DRIVE-IN-NET
 Drive-in-net
 Seket
 Tilapia, Fresh-water catfish,
 Goby, Carp, Mudfish

VESSEL
 Loa : 2x7.00 m
 Hp : 2x16

LOCATION
 Sinilo-an
 Laguna







< Chapter 13 >

Dredge Nets

Dredge Fishing

Dredge fishing is not a popular fishing gear in the country because shell resources and areas are limited. Most of the dredges made of iron wire, bamboo, and combination of wood, net and iron materials, are operated nearshore and on a small scale. Small shells are also collected by a dredge towed by a small banca.

Fishing Gear and Methods

1 Hand Dredge

This gear is provided with either a bamboo or wooden handle. It can be pushed or dragged by one fisherman in waist-deep waters. The bamboo handle is 1.5-2.5 m long, with a diameter of 5.5 cm. The net is made of polyethylene PE 400d/9, 15-20 mm mesh size. The mouth opening is triangular in shape, 1.2-1.6 m. long in the base and 0.9-1.2 m on both sides.

Other hand dredges consists of a wooden handle which is placed at the top of the dredge. It is used to control the touching of the bottom by the dredge base. It is also provided with a pull rope attached to the lower corners of the frame. The pull rope is put around the fisherman while moving backwards. The webbing is made of stainless steel chicken wire, of 1.5 mm, 1 x 1 cm mesh size. The front frame is made of iron f 1.3 cm. with a vertical diameter of 55 cm. The gear is used to collect shell in the daytime.

2 Boat Dredge

This is a drag dredge for collecting shells as a feed for duck and prawn. It has a beam-like structure, made of iron bar of 20 mm diameter. The rectangular mouth opening is about 80 cm long and 18 cm wide. The net is made of polyethylene minnow net, 400d/2 with 4 mm mesh size. The triangular iron bar is used to control the vertical shape opening of the dredge. A polyethylene PE ϕ 14 mm is used as the towing rope.

Fishing Gear & Methods in Philippines

DREDGE

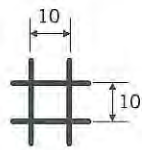
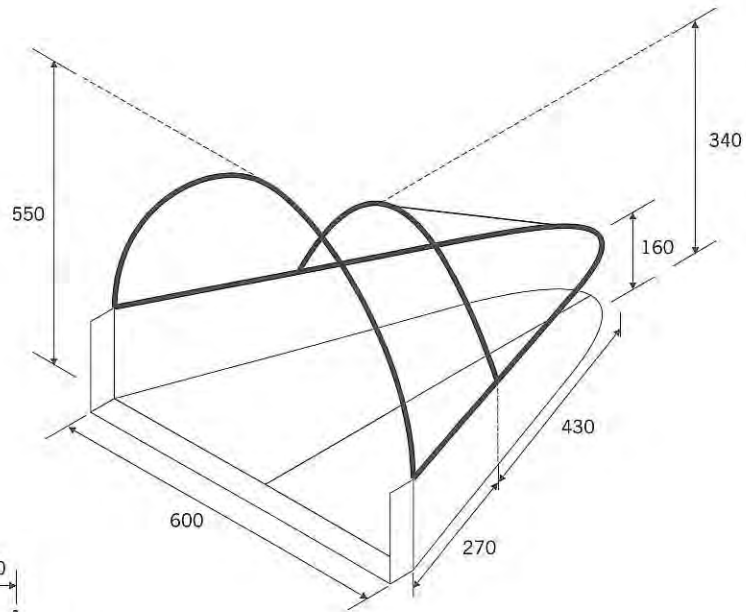
Dredge
Wedge Shell

VESSEL

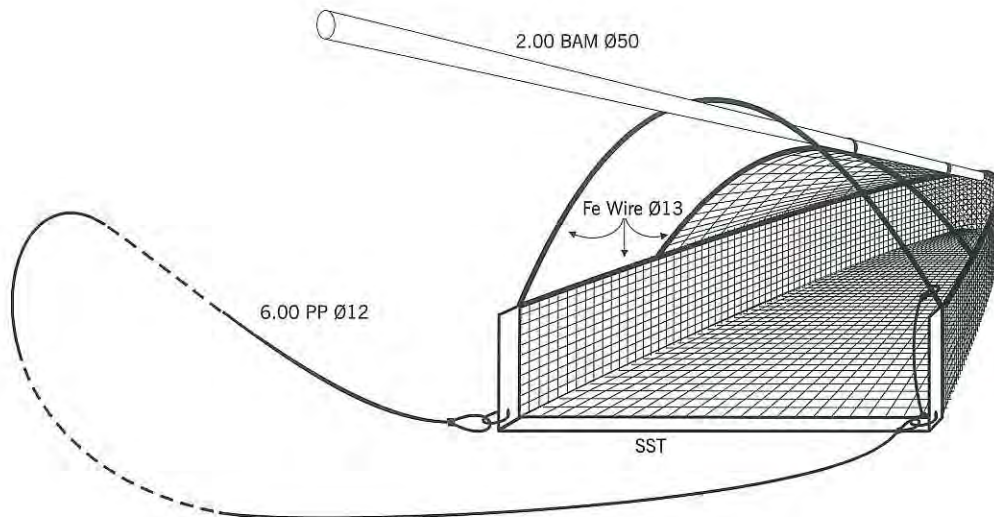
Loa -
hp -

LOCATION

Amaya, Tanza
Cavite



SST Wire $\varnothing 1.5$





DREDGE

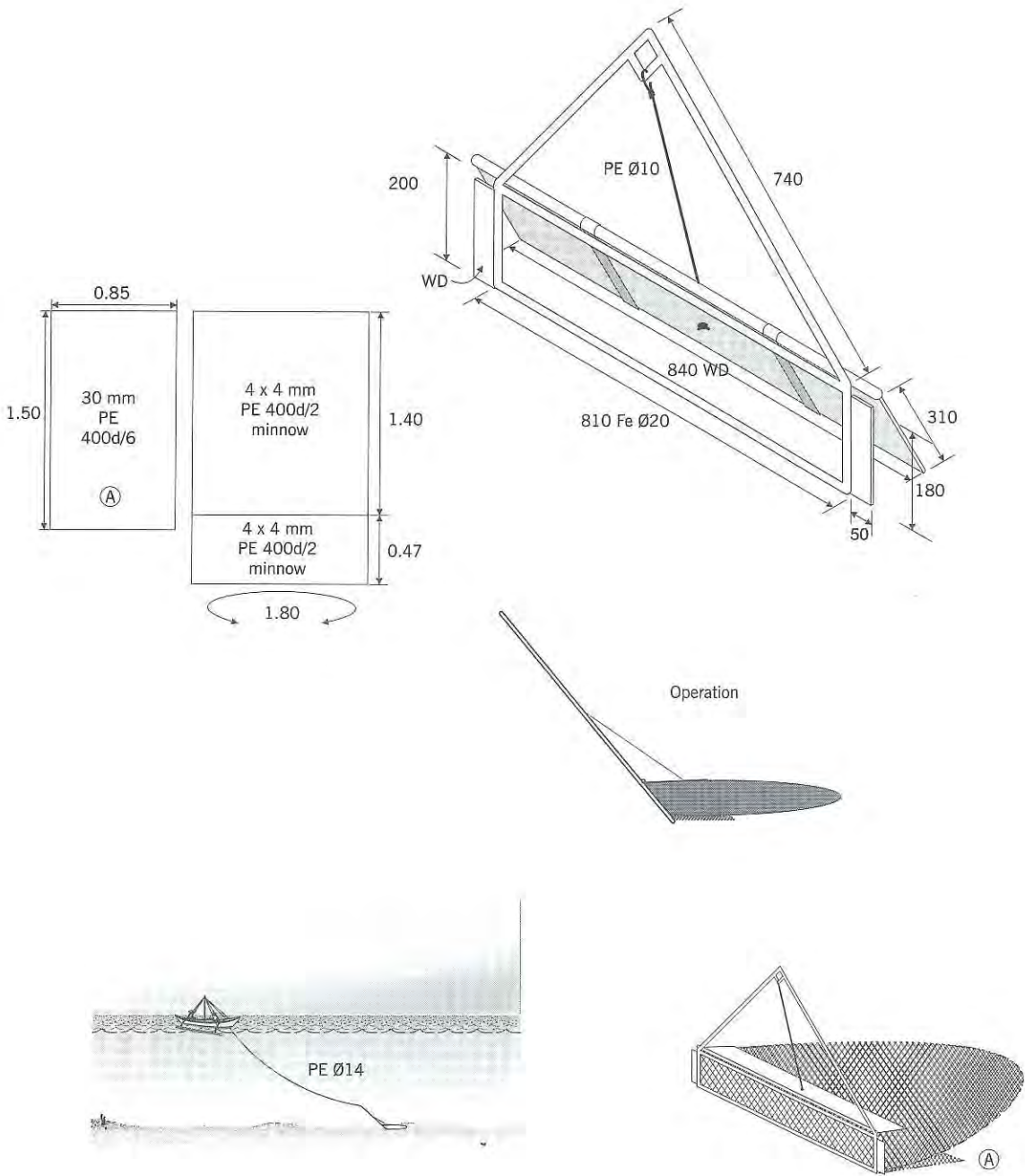
Dredge
Kar-kar
Small Shell

VESSEL

Loa - 6-8 m
hp - 16

LOCATION

Capandanan, Lingayan
Pangasinan





< Chapter 14 >

Miscellaneous Gear

Miscellaneous Gear Fishing

There are many miscellaneous types of gear used by fishermen. Although their existence is unrecorded, most of them are considered accessories or secondary parts of major gear for catching a particular species. It covers a variety of gear with mixed methods and techniques of operation. It is however, used by hand during operations. Others are dug in mud to make a hole near the shore or in tidal flats. Several branches or twigs of trees or bamboos are placed into the hole as shelter. During high tide, fish are brought to the shore and blocked by the hole. As the tide recedes, the fish will be left in the hole. Fishermen then remove the branches and collect the fish by hand or in a scoop net.

Fishing Gear and Methods

1 Octopus Luring Device

The octopus like device is made of one kg. black stone which is covered by a black cloth with eyes and tentacles. The floatline or towing line is a nylon monofilament 2.0 mm diameter, 40 m long. It is towed slowly in known octopus fishing grounds. The octopus is attracted and grapples with it. The fisherman immediately hauls in the line and removes the octopus. A shrimp-like device can also be used.

2 Spear Gun

It resembles a long hand gun where a barbed iron bar is shot into a fish, lobster or octopus by means of stretched rubber as the source of power. The spear is made of wood, about 1-2.8 m long. The end of the iron bar is fastened in the trigger of the gun, simultaneously stretching the rubber band. The trigger is pressed and the iron bar is released, thus hitting the target. A canal is carved in the middle of the wooden gun while the iron bar is guided by a circular metal ring.

3 Squid Luring Device

This gear consists of a combination wood-iron bar handle with nylon monofilament 0.2-0.5 mm and the squid lure. The squid lure resembles an octopus or fish which is covered with pink synthetic silk cloth or silver tin paper. Both wooden handle and the iron bar are 40 cm long. A scoop net is used in scooping the catch. The gear is operated at night using lights.

A circular line with plastic straw strips as artificial bait is also used to attract squid. It is operated in a small banca at night time using light. The line is connected in such a manner that it can be continuously rotated on one side of the banca. Squid that bite the artificial bait are caught by the scoop net.

4 Miracle Hole

These are small square holes about 1-5 m each sides and 0.1-0.5 m deep dug along tidal flats near the shoreline. They are provided with branches of bamboos or twigs of trees. During high tide, they are flooded and some fish are therefore brought to the shore. The fish seeks



shelter in the hole and as the tide recedes, the fish are impounded. The fishermen remove the branches and the fish are collected by scoop net or by hand.

5 Gaff Hook

This is a hand instrument used to drive the octopus and lobster out of their crevices. It consists of a wooden handle and pointed or curved iron or stainless steel bar 0.4-1.0 m long, 0.5 cm diameter. The fisherman dives into the water and looks for rocky or coral reef areas. The gaff hook is inserted into crevices to catch the octopus and lobster after they come out. It is a minor item and accessory to other gear like line fishing.

Fishing Gear & Methods in Philippines

MISCELLANEOUS

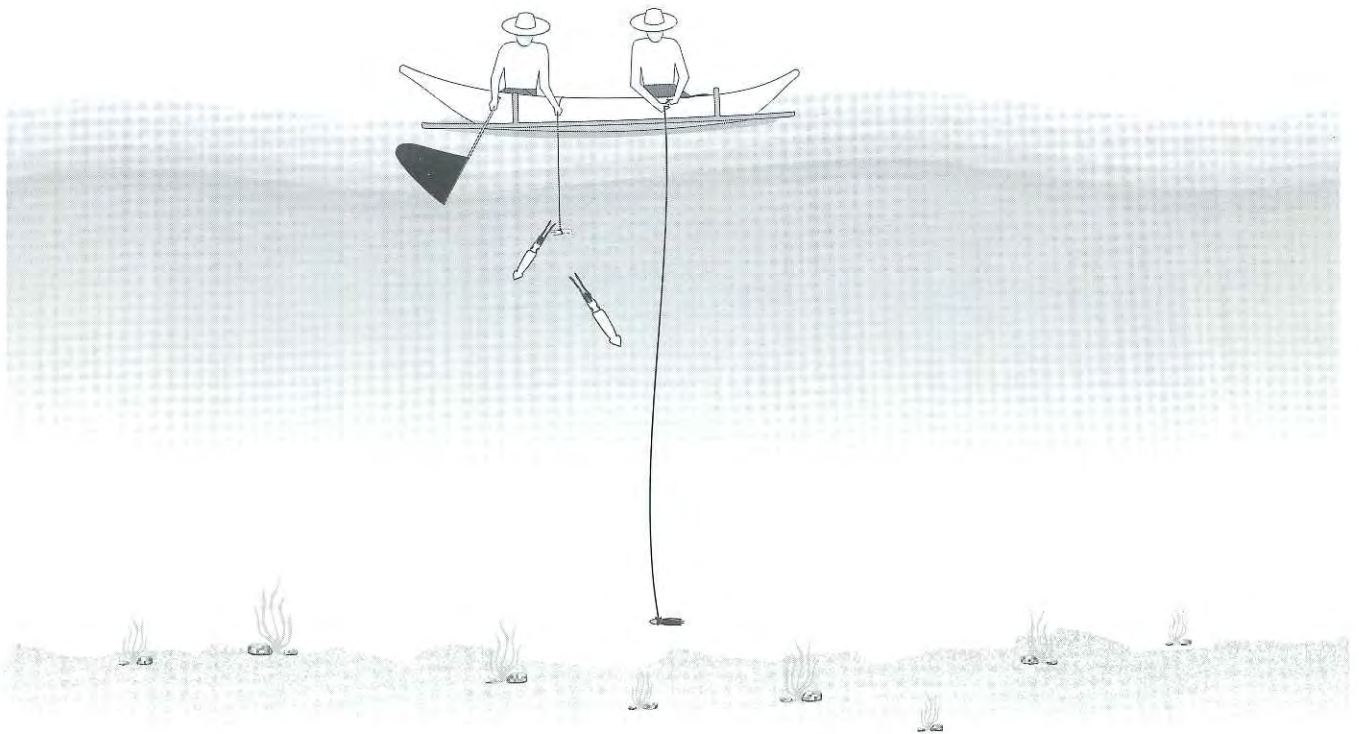
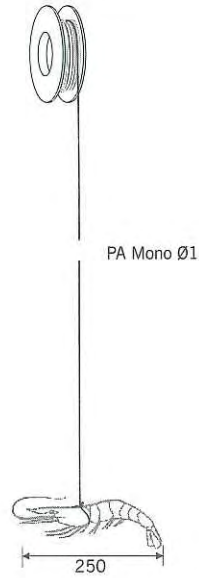
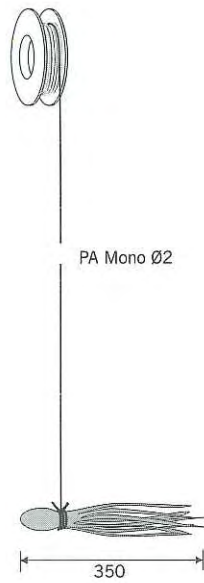
Octopus luring device
Pangati
Octopus, Squid, Coralfish

VESSEL

Loa : 4 m
Hp : -

LOCATION

Nasugbu
Batangas





MISCELLANEOUS

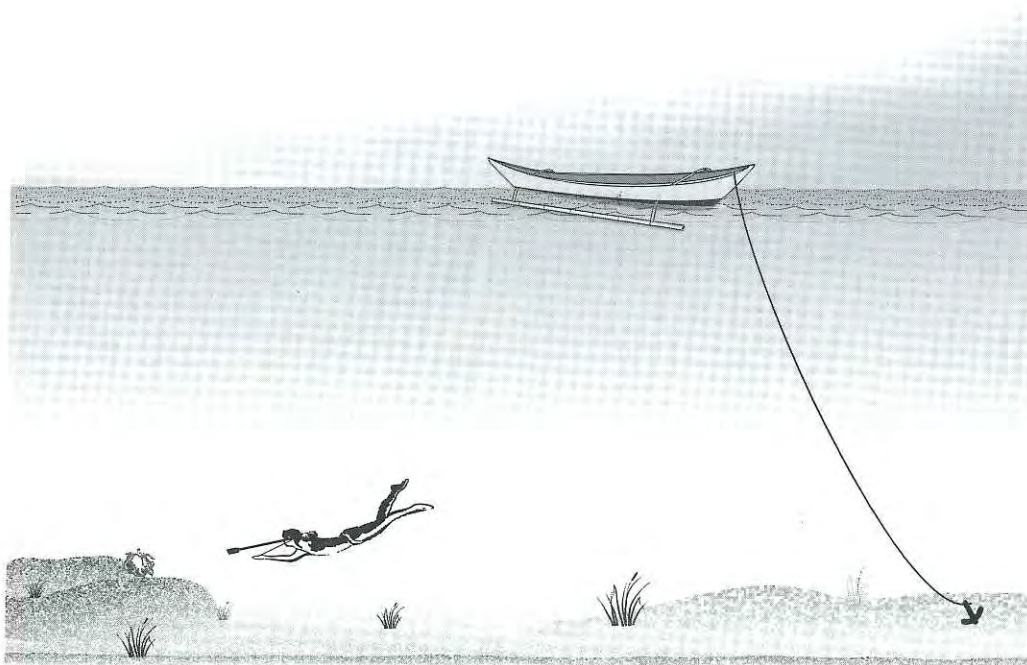
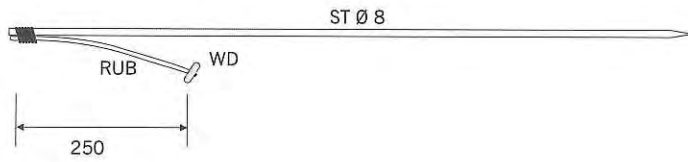
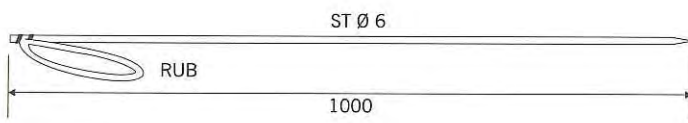
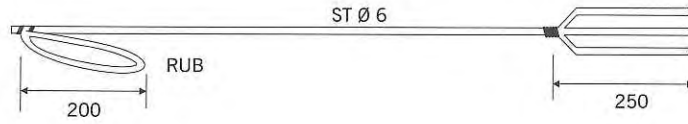
Spear/Sling
Octopus, Cuttle fish, Coral fish

VESSEL

Loa -
hp -

LOCATION

Bantayan
Cebu



Fishing Gear & Methods in Philippines

MISCELLANEOUS

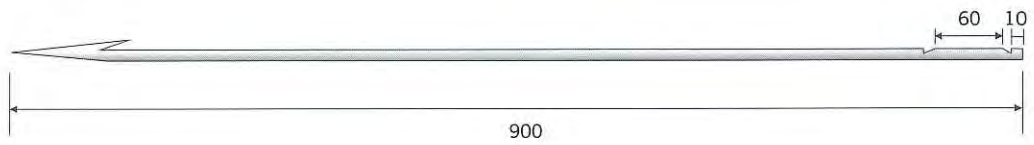
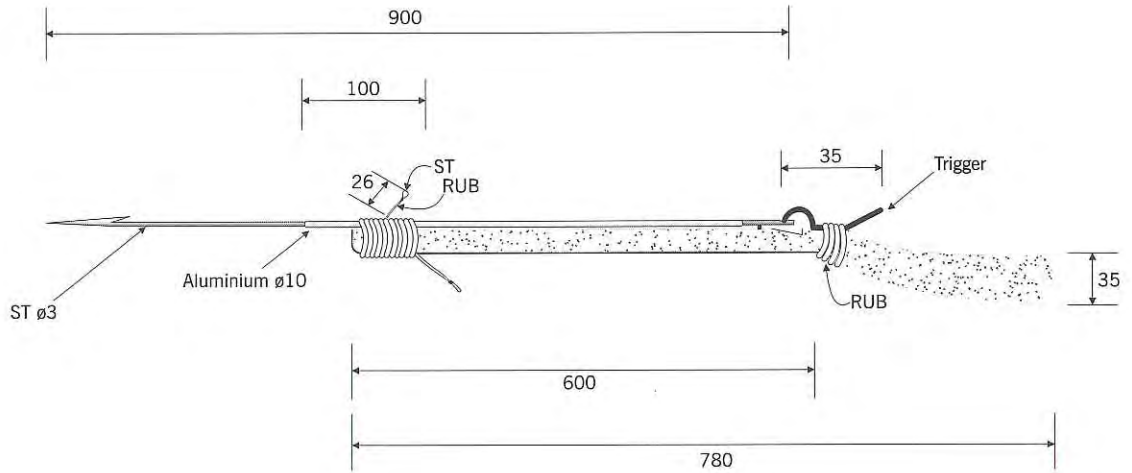
Speargun
Pana
 Grouper, Parrot fish, Octopus,
 Siganids

VESSEL

Loa - 4 m
 hp -

LOCATION

Nasugbu
 batangas





MISCELLANEOUS

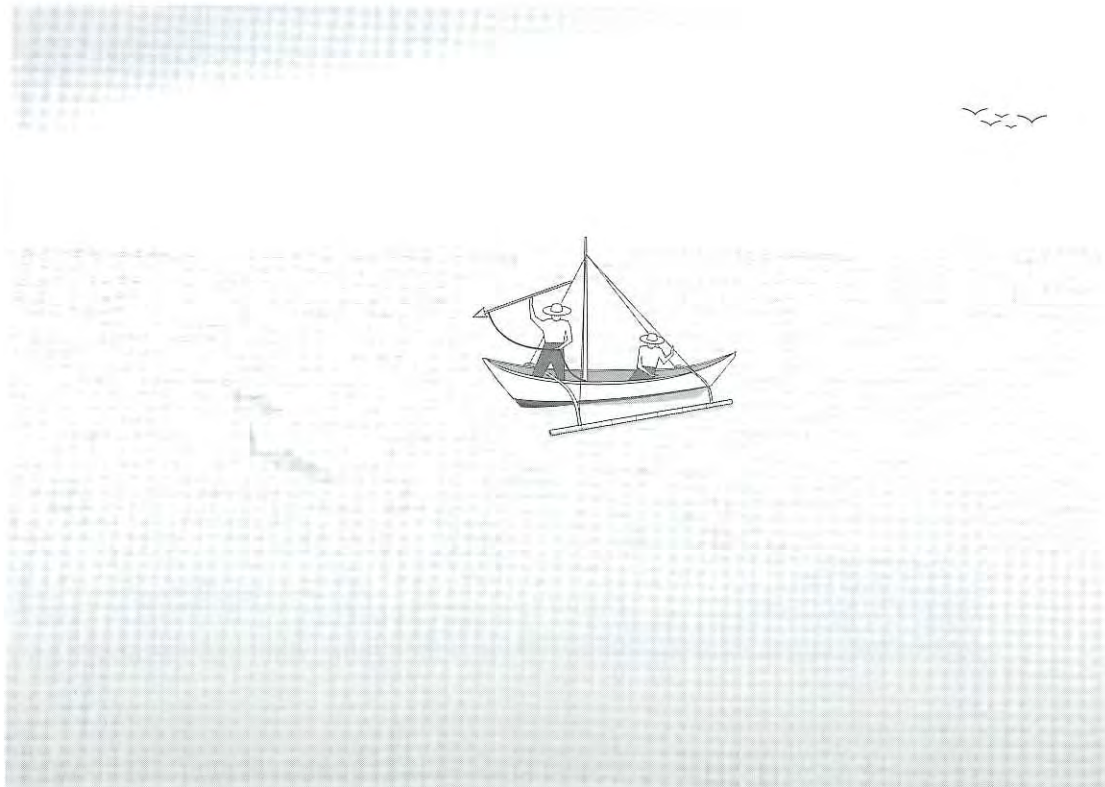
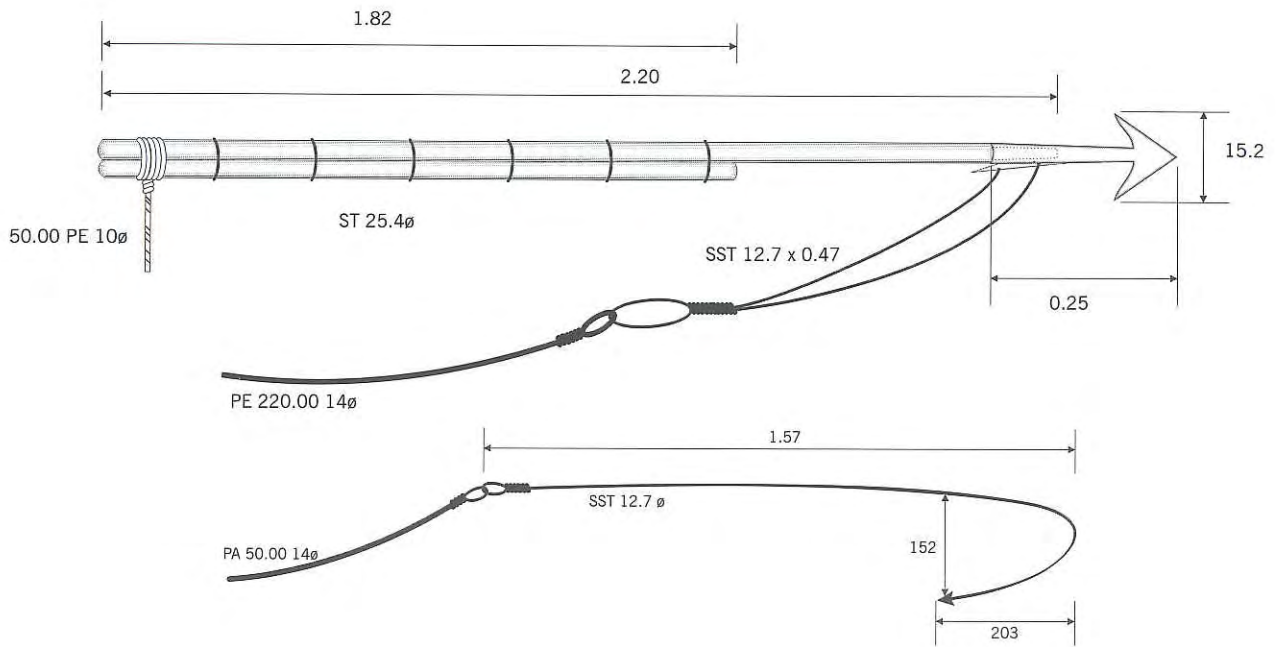
Harpoon
Sibat
Whale Shark, Dolphin

VESSEL

Loa - 9.14 m
hp - 16

LOCATION

Perez
Quezon



Fishing Gear & Methods in Philippines

MISCELLANEOUS

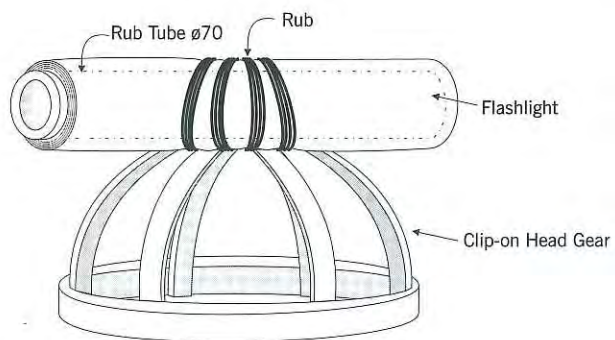
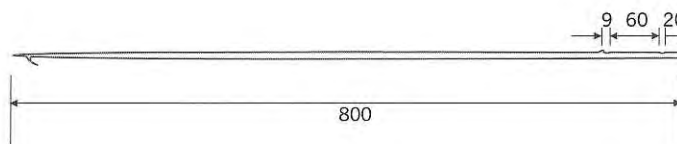
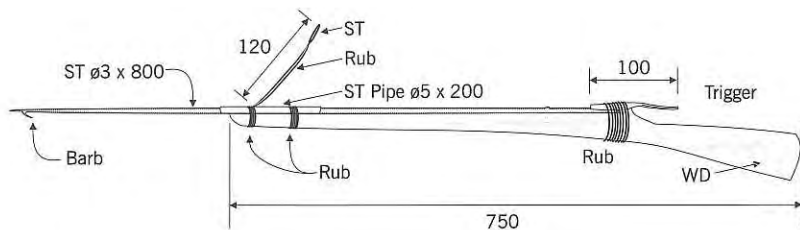
Spear gun
Pana
 Grouper, Snapper,
 Parrot fish

VESSEL

Loa - 7.92 m
 hp - 8

LOCATION

San Pascual
 Masbate





MISCELLANEOUS

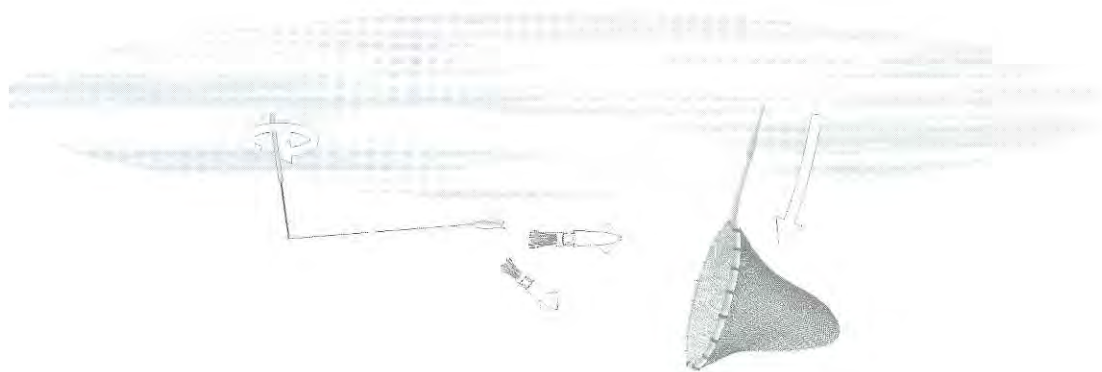
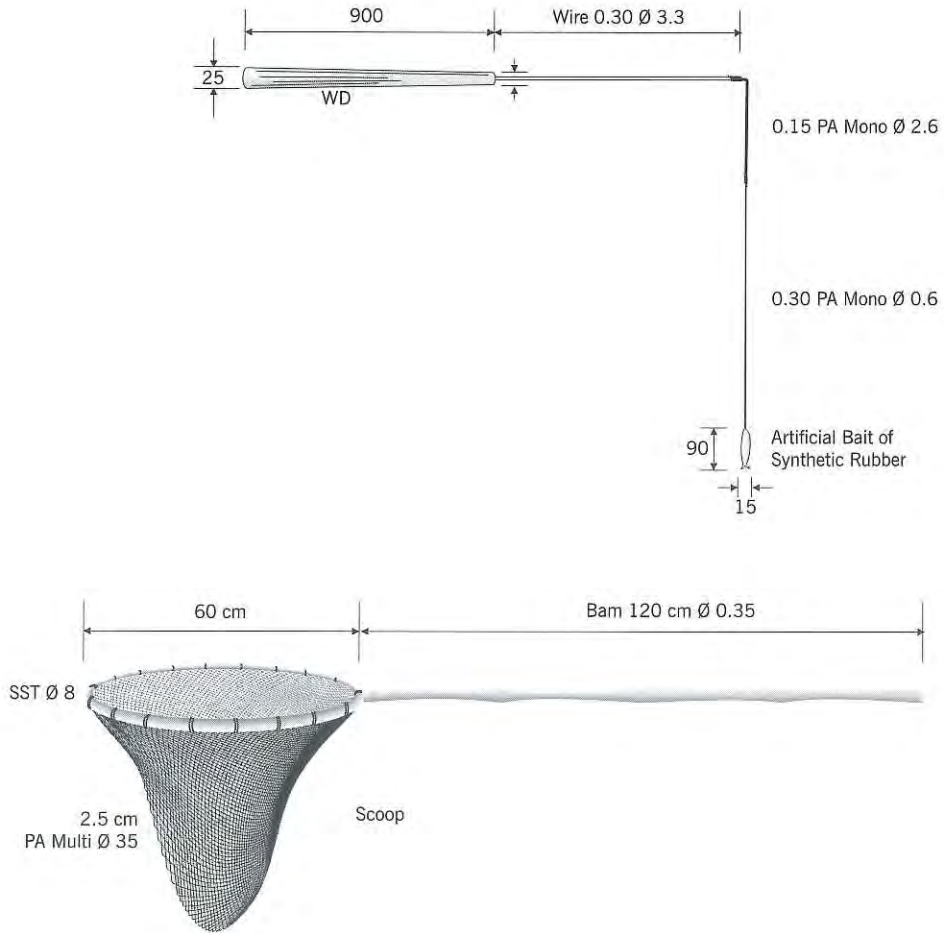
Squid luring device
Masi Masi
Squid

VESSEL

Loa 7-8 m
hp - 16

LOCATION

Puro, Magsingal
Ilocos Sur



Fishing Gear & Methods in Philippines

MISCELLANEOUS

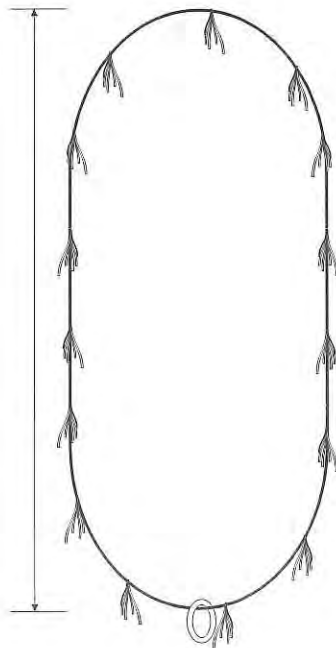
Squid luring device
Ferris wheel
Squid

VESSEL

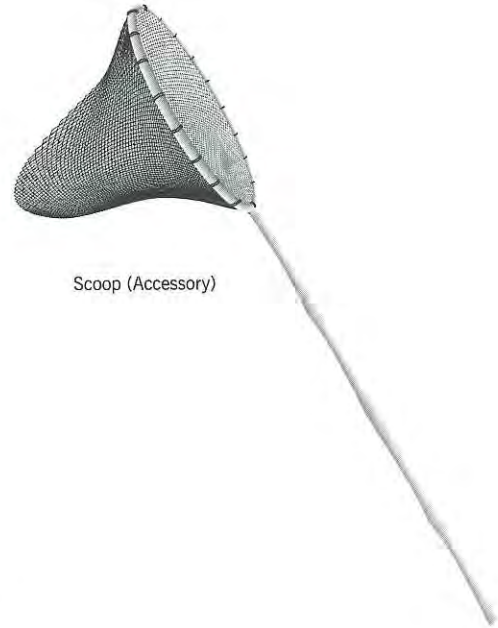
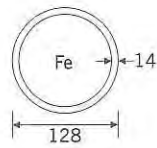
Loa 7 m
hp - 10

LOCATION

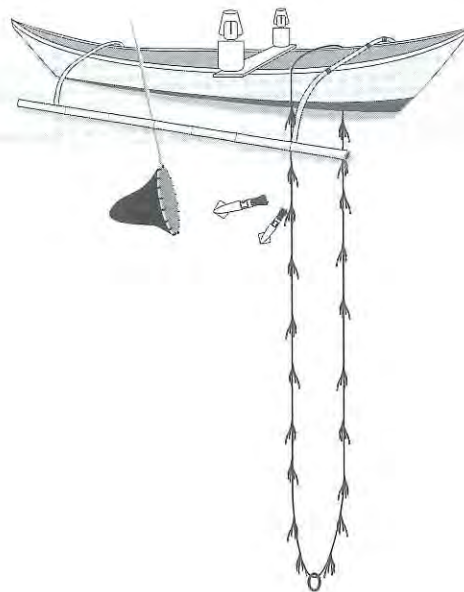
Dalahican, Lucena
Quezo



Plastic straw
(Artificial bait)



Scoop (Accessory)





MISCELLANEOUS

Mracle hole

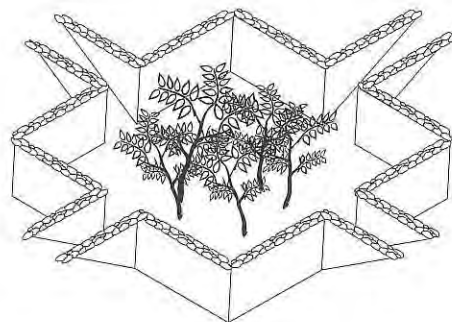
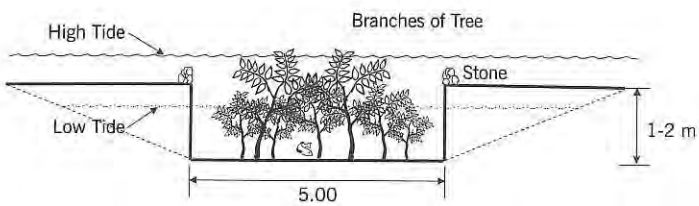
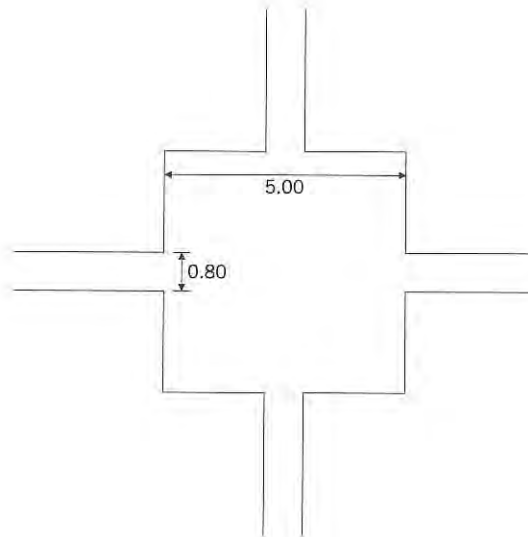
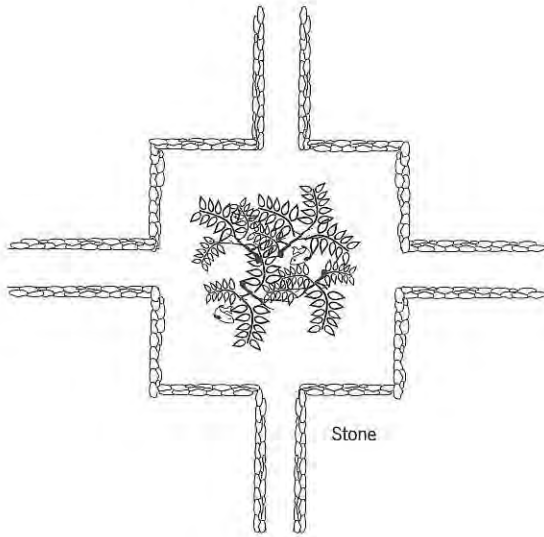
Mullet, Rabbitfish, Catfish,
Garfish

VESSEL

Loa -
hp -

LOCATION

Tagbilaran City
Bohol



Fishing Gear & Methods in Philippines

MISCELLANEOUS

Tickle rod and gaff hook

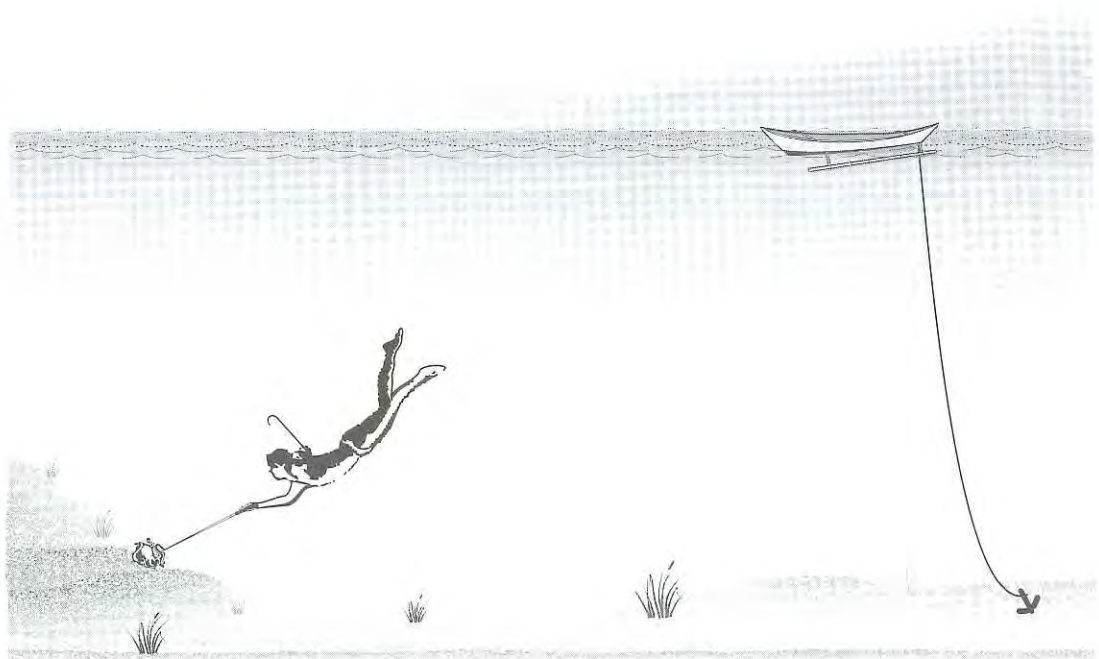
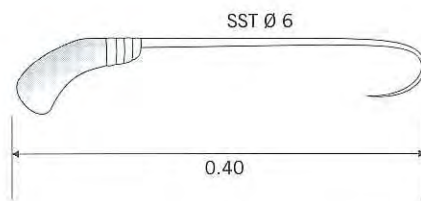
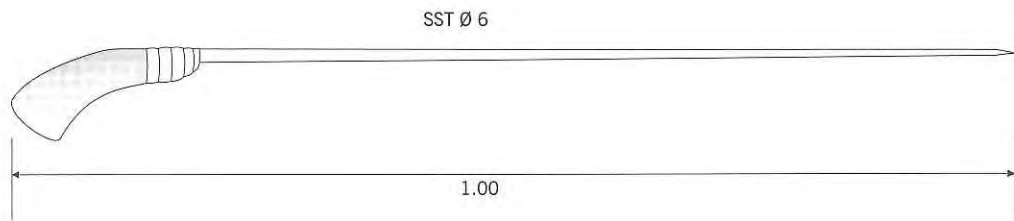
Octopus, Cattle fish, Crab,
Lobster

VESSEL

Loa 3 - 6 m
hp -

LOCATION

Colauag Bay
Quezon



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