A. INJURIES - Avoid accidents - First-aid kit - Minor cuts and burns - Getting a hook out of a hand - Broken bones

B. ACCIDENTS - Coastal navigation - Lights - Man overboard - Fire

C. BREAKDOWNS - Engine maintenance - Tools and spare parts - Alternative propulsion - Anchors and sea anchors

D. SIGNALLING FOR ASSISTANCE - Tell someone your plans - The 'SOS' signal - Arm signals - The 'V' signal - Flares - Radio signals - Misuse of distress signals

E. SURVIVAL AT SEA - Supplies - Water collection - Shade - Warmth - Food - Avoiding accidents
Fishing boats are places where sharp and dangerous objects are being used to catch and subdue panicking and often powerful animals. Minor injuries such as cuts and bruises are almost a certainty, and there is great potential for more serious accidents. The sensible fisherman will take all reasonable precautions to reduce the chances of accidents to a minimum and be ready to cope with them when they do occur.

**Avoid accidents**

The boat’s skipper should ensure that all his crew adopt safe working practices and avoid injury to themselves and other crewmen. In particular, gloves should always be worn to protect the hands from lines, hooks, fish spines and teeth, and knives. Fishing gear and knives should be stowed safely when not in use, where they will not slide about or be stepped on.

**First-aid kit**

In many countries, the law requires boat owners to carry a basic first-aid-kit. Even where this is not mandatory, fishing boats should have some first-aid supplies on board. These should include panadol or paracetamol (for pain), bandaids, a couple of small bandages and some antiseptic liquid and ointment.
Minor cuts and burns

Fish slime is full of bacteria which can cause painful infections in even small knife cuts, hook scratches and line burns. These should always be washed in fresh water and then treated with antiseptic cream and covered using a band aid or small bandage. Gloves should always be worn to prevent any dressings on the hands being pulled off.

Getting a hook out of a hand

If a barbed hook gets impaled in a finger, or anywhere else, it is usually extremely painful to pull it back out again. A less painful way to get it out is to push the hook right through the flesh until the point and barb stick out clearly. Then, using pliers or wire cutters, snip either the eye or the barbed point off the hook. This will allow it to be pulled out more easily. If the hook is too thick to be easily cut, gently file down the barb, or squeeze it shut using pliers, so that it offers less resistance to being pulled back out.

Broken bones

Again, this is a case where the best remedy is to get the injured person ashore as soon as possible. If the sea is rough and he is unable to lie in relative comfort, it may be necessary to try to relieve his pain by immobilising the broken bone. For a broken arm or leg, a splint made from a paddle or gaff handle should be tied along the broken limb, using cloth strips. This will keep the limb straight and prevent it from moving. For a broken collarbone. a cloth sling should be made to support the affected arm in a comfortable position across the chest.
CHAPTER 9: TROUBLE AT SEA
SECTION B: ACCIDENTS

Most accidents at sea are caused by carelessness or lack of preparation. All boat owners have a responsibility to themselves and their crew to ensure that they have done their best to make sure that accidents will not happen, and to be in a position to cope with them if they do.

Coastal navigation

A basic knowledge of coastal navigation - the use of a compass and marine charts - is important to any fisherman travelling outside his own locality. As well as helping him locate good fishing grounds, the ability to navigate and read charts will assist him to avoid groundings, find shelter in rough weather, and locate places to put ashore in an emergency.

In areas where marine traffic is heavy, it is also important to know the rules of the road**, that is, which boats have right of way in a given situation. This is especially so when trolling, when there is the risk of other boats running over the lines.

Lights

Most seagoing collisions occur at night, because people are not aware of the meaning of ships' lights and navigation markets. Learn the system of navigation beacons in your locality and the meaning of ships' running lights. A boat's port (left) side should have a red light, its starboard side a green light, and its stern a white light. One or more white masthead lights may also be carried on larger boats. These lights allow you to work out the direction in which other boats are travelling, so you can avoid collisions. Know the meaning of the lights - and make sure you have lights yourself if you travel at night.

Man overboard

If one of the crew falls over the side, it is obviously necessary to go back and get him. Sometimes, it may not be possible to do this straight away - for example, if the vessel is under sail, or towing lines which could foul the propeller during a sharp turn. In such a case, the first priorities are to ensure that the man in the water does not drown, and to keep him in sight. This is best done by throwing overboard a large float for him to cling to, preferably something large and very visible, such as an orange float or life vest.
If there is no marker or float to hand, one of the crew should keep the man overboard in sight at all times, while the others ready the vessel (trim the sails, bring in the lines, etc.) prior to turning around to pick him up. If he becomes lost to view, it may be very difficult to spot him again from a distance, especially in rough weather.

There is a fire risk on all small motorised fishing boats, due to the inflammable nature of engine fuels. It is always sensible (and in some countries mandatory) to carry a small fire extinguisher, which should be of the 'B' type, suitable for burning liquids as well as solids. These need not be expensive: small, cheap extinguishers sold for car, pleasure boat and camping use will usually be suitable.

Petrol is a much more flammable fuel than diesel (gasoil). WHEN PETROL IGNITES, YOU DO NOT GET A FIRE, YOU GET AN EXPLOSION OF WHICH THERE ARE NO WARNINGS AND OFTEN NO SURVIVORS. Petrol fumes present the greatest fire risk of all, so precautions should be taken to ensure that they do not build up. Petrol cans and tanks should be stowed in a ventilated part of the boat, and never in the cabin, where people may be smoking. Before starting inboard petrol engines, the box or cover should be removed for a few minutes to allow fumes to disperse. This will reduce the risk of an explosion caused by sparks from the starter motor's electrical system.

It is a sensible practice to ban smoking completely on board a petrol-driven boat. In any case, the lighting of cigarettes, Colman lamps, etc, should be done well away from fuel tanks and from the engine itself.
For an engine to keep on running smoothly and reliably, it needs regular maintenance. Read the manufacturers' maintenance instructions and carry out the regular checks and tasks—changing the oil, cleaning plugs and points, replacing oil and fuel fillers, checking wear on seals and bearings, etc. Learn to carry out the maintenance routines yourself, if necessary under the guidance of an experienced mechanic when this is possible. In this way, you will become familiar with the engine and its individual quirks, and will slowly build up a collection of the tools you need to carry out routine repair jobs.

Never leave shore without the tools and spare parts you will need to fix minor breakdowns. What you need depends on the engine you have but you should always be ready to cope with common problems such as blocked fuel lines, pumps and carburettors, dirty spark plugs, and dampness or salt water in the electrical system. Take an adequate range of spanners (wrenches), screwdrivers and an aerosol can of water-repellent oil (WD40, CRC or similar). Be ready for repeats of any problems you have had in the past.
Alternative propulsion

All motorised boats should have an alternative way of returning to shore or to safety if the main engine breaks down and cannot be repaired on the spot. For small boats, paddles may be adequate, while an emergency sail can be carried on a vessel equipped to use one. Most boat owners opt for a small auxiliary outboard motor. In this case, the spare motor should be used regularly, even if only for a 10-minute test run every week or two. If an auxiliary motor is allowed to lie idle for too long, there is a good chance that it will not start when needed.

SEA ANCHORS

For deep water slow down drifting using buckets...

...a parachute or tarpaulin...

...or long ropes

Anchors and sea anchors

In the event of a complete breakdown, it is important to check the direction in which the boat is drifting straight away. Current and tide will affect the direction of drift to some degree, but the most important factor for a small boat is the wind. Unless the boat is moving back to shore, it should be anchored to prevent it drifting out of sight of land and possible help. Being stationary also make it easier for searchers to locate the boat after flares or other signalling devices (see Section 9D) have been used.

The boat should therefore carry adequate anchor gear at all times. This should consist of a real anchor (not a rock or lump of coral), at least 5m of chain, and a sensible length of strong rope. The gear should be able to hold the boat in a strong blow.

If the breakdown happens in deep offshore waters, where the anchor will not reach the bottom, the drift can still be slowed down a lot by improvising sea anchors. This can be done by tying buckets onto the ends of ropes, or making an underwater 'parachute' from a tarpaulin or canvas, and trailing them in the water. If buckets or tarpaulins are not available, a surprising amount of resistance against wind drift can still be created simply by trailing as much rope in the water as possible.
The crew of a small vessel in distress usually need to obtain assistance as quickly as possible. Knowing certain distress signals, and being able to make them, may attract attention to the fact that the boat is in trouble, or help searchers locate it more easily.

Tell someone your plans

Before setting off, tell a member of your family or someone close to you roughly where you are going and how long you expect to be away. If you are very late in returning, that person can raise the alarm and direct a search party to the right area.

Tell someone your plans...

...then they know where to look if you don't come home

The 'SOS' signal

This is the best known of all international distress signals, and consists of three short pulses, followed by three long ones, then three short ones again, the whole group being repeated regularly. The 'SOS' signal can be made using lights—for example, switching a torch (flashlight) or masthead light on and off, using a bucket to cover and uncover a Colman lantern, or in the daytime, using a mirror or other flat, shiny object to flash sunlight towards an observer. The signal can also be made using sound if a whistle, hooter or other sounding device is to hand.

Arm signals

The international arm signal for distress is to hold the arms out horizontally from the sides and lower and raise them repeatedly. However, this signal is not very well known and in the Pacific Island region, it is probably more effective to wave the arms about frantically using a coloured cloth or a shirt as a flag.

The 'V'signal

The letter 'V' painted on a boat deck is another international distress signal, particularly useful if you are trying to attract the attention of aeroplanes. The 'V' can be painted on the back of a tarpaulin ready for emergency use. (Make sure that the 'V' is never displayed during normal use). Alternatively, if there is a pot of paint on board, it can be painted directly onto the deck or cabin top.
CHAPTER 9: TROUBLE AT SEA

SECTION D: SIGNALLING FOR ASSISTANCE

**Flares**

One of the best ways to attract attention and to signal distress is to use flares, of which there are two main types. Smoke flares are for daytime use only and are practically invisible at night. ‘Starburst’ or ‘parachute’ flares which shoot a burning red or white firework into the air, are clearly visible in daylight but are even more noticeable at night. For practical purposes, starburst flares are much more useful for alerting distant observers that a boat is in trouble. Smoke flares are only good in daylight, and then only if the observers are relatively close by or at high altitude. However, smoke flares are very valuable for assisting actively searching planes and boats to locate the vessel in distress.

**ALL** small fishing boats should carry a minimum of three starburst flares at all times. They can usually be bought quite cheaply, and could well save lives -perhaps yours. If you do have to use flares, try to do so when there are most likely to be people awake and outside to see them. Fire the flares straight up for maximum visibility. Spread them out allowing a reasonable time (2-3 hours) between flares, rather than firing them all off at once. Don’t waste your flares unless you think there is likely to be someone around to see them.

**RADIO SIGNALS**

*Ships radio...*

*...walkie-talkie*

*...EPIRB...*

*...can be used to signal shore, planes or ships*

**Radio signals**

The most effective way to attract attention in areas close to urban centres is to carry a single-side band or VHF 2-way radio. Although expensive, this is the best way to call for help, provided that you know the frequencies to use to contact the local marine radio station, coastguard, or other vessels. Unfortunately, radio facilities are not very useful in most rural or outer-island areas in Pacific island countries.

Another radio device is the EPIRB (Emergency Position Indicating Radio Beacon). These units are now commonly available and when activated emit signals on international distress frequencies which can be picked up by passing planes or boats, or nearby shore stations. EPIRB signals can be detected by radio receivers hundreds of miles away.

**Misuse of distress signals**

Distress signals should never be made except in cases of real emergency. As well as being foolish and dangerous, deliberately making false distress signals is punishable by law in most countries. The penalties are usually severe, and may include the guilty party having to pay the entire cost of any search and rescue operations mounted on his behalf.
CHAPTER 9: TROUBLE AT SEA
SECTION E: SURVIVAL AT SEA

If misfortune befalls a fisherman and he finds himself drifting lost at sea, there are a few important tips he should know to increase his chances of survival until help arrives.

Supplies

Never set off without adequate food and water for the fishing trip, and ALWAYS CARRY PLENTY OF SURPLUS WATER. Thirst is a much greater threat than hunger. If he has to, a man can survive for several weeks without food, but only for a few days without water. Keep a few gallons of emergency water rations on board your boat at all times.

WATER COLLECTION

When it rains...

...collect drips

Increase catchment using...

...ordinary cloth...

...or plastic sheet

Look for floating coconuts

Use a cloth to collect condensation from windows

A bucket or bag of sea water will collect fresh water — condensation at night

Water (not blood) from sharks belly is not very salty

Water collection

Even before your water supplies start to run low, make every effort to use as little as you can, and to collect extra water at every opportunity.

When it rains, use buckets to collect drips or run-off from the deck or cabin top, or arrange a tarpaulin, cloth or canvas as a collector.

During the night, fresh water will condense on cold objects, such as glass windows, metal items, the deck and the inside of that part of the hull which lies below the waterline. Try to collect it, and to improvise additional condensation collectors, such as plastic bags or buckets filled with seawater. These will cool down during the night, so that condensation forms on the outside and this can be shaken or scraped off into a cup or bowl.

Other sources of water include the juice of drifting coconuts, and the fluid from the belly cavity of sharks. This fluid is foul-tasting, but has a low salt content and can be tolerated by the human body if things are really desperate. A number of drifting micronesian fishermen are known to have survived by drinking shark "belly-water" (not blood).
**Shade**

As far as possible, stay out of the sun during the daytime. If you have no shelter on your boat, try to rig up some sort of shade from clothing, a tarpaulin, or deck boards. This will reduce the risk of sunstroke or severe sunburn, and cut down on water loss from the body. The result is that less drinking water will be used, and water supplies will last longer.

**WARMTH**

*Shelter from wind and rain*

If no shelter, it may be warmer to hang in the sea for short periods during squalls

**Food**

Try to catch fish or seabirds to eat rather than consuming any preserved or canned food you have on board - save this for as long as possible. Improvise harpoons to catch basking fish, sharks or turtles which may approach the boat. If you have lamps, use them at night to attract fish close to the boat where they can be speared, hooked or netted.

**Avoiding accidents**

Breakdowns at sea, small boats going missing and fishermen drifting ashore in other countries after spending days or weeks at sea, are all-too common events in the Pacific islands region. Sometimes the boat crew survive, but in many instances, there is considerable unnecessary suffering and loss of life. A large proportion of such mishaps are caused by carelessness or inadequate preparation by fishermen before fishing trips.

In this book, we have tried to emphasise the importance of thoughtful planning before heading out to sea. Make sure that you are one of those who avoids accidents by adopting safe fishing practices and preparing carefully for each fishing trip.
Small-scale pole-and-line fishing from modern plywood canoes