

Safety at sea: Essential Seamanship Practices in Fishing Vessels

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Introduction

Fishermen often face rough weather, strong waves and currents, long working hours and physically demanding tasks, sometimes far away from help or rescue services. Under such conditions, safety becomes one of the most important aspects of fishing operations. Today, the fishing industry has improved with major technological developments. The Global Positional System (GPS), Radio Detection and Ranging (RADAR), Sound Navigation and Ranging (SONAR), communication systems and weather forecasting tools have made Navigation and fishing operations easier and more efficient (Fig. 1). However, technology alone cannot ensure safety at sea. Safe fishing operations still depend greatly on proper Seamanship practices and the ability of the crew in handling different situations during the voyage.

Seamanship means the practical skills and knowledge required to operate a vessel safely and efficiently. It includes navigation, rope work, anchoring, watchkeeping, emergency handling and teamwork during operations. In fishing vessels, it is not only about technical skills but also involves discipline, awareness, responsibility and staying calm during difficult situations.

Importance of Safety in Fishing Operations

Fishing is considered as one of the most hazardous jobs in the world. According to the International Labour Organization (ILO, 2017), fishing crews face many risks at sea because of rough weather conditions, vessel movement, heavy machinery, fatigue and unexpected emergencies. Unlike commercial ships that mainly transport goods, fishing vessels work in constantly changing Marine environments while carrying out active fishing operations at the same time. The working conditions onboard the fishing vessels are physically challenging. Crew members handle heavy fishing gear, work on wet and slippery decks, yet they continue to work both during the day and night in different weather conditions.

Another important challenge in fishing operations is that help may not always be available

immediately. Many fishing vessels operate far from the shore, where rescue or medical assistance can take time to arrive. The crew on board often have to use their own skills, teamwork and quick response to deal with emergencies safely. Experience, awareness and practical knowledge continue to play a major role in ensuring safe fishing operations.

Navigation and Safe Vessel Handling

Navigation is one of the most important aspects of safety at sea. Today, Modern fishing vessels use technologies such as GPS, RADAR, Automatic Identification system (AIS) and Echosounders to help improve Navigation and increase awareness of the surrounding environment (FAO, 2020). Nevertheless, safe Navigation is not only about relying on electronic equipment. The sea is constantly changing and factors such as wind, waves, currents and poor visibility can affect a vessel's movement. Because of this, fishers often need to make quick decisions and change their course depending on the weather conditions.

The International Maritime Organization (IMO, 2018) also emphasizes that proper vessel handling and good Navigational awareness are necessary for maintaining safety at sea. Experienced captains usually depend both on technology and practical experience. Many of the decisions come from years of working at sea and understanding how the vessel reacts in different situations, not just from reading instruments. Calm waters can suddenly become rough, forcing all the crew members to immediately adjust Navigation and fishing activities. In such situations, proper handling of the vessel becomes very important not only to protect the equipment and vessel, but also to ensure safety of all the crew onboard.

Weather and situational Awareness

Weather is one of the most unpredictable factors affecting fishing operations at sea. Sudden storms, strong winds, poor visibility and rough waves can quickly create dangerous situations for fishing vessels and crew members. Even though modern weather forecasting systems provide useful information, fishers still depend a lot on their observations while at sea. During fishing operations, crews continuously watch changes in wind direction, and wave movement to understand how the weather may change.

According to the Food and Agriculture organization (FAO, 2016), bad weather is one of the major causes of accidents in Marine fisheries because understanding weather conditions and reading environmental signs are considered very important parts of Seamanship.

Situational awareness refers to the ability to observe surroundings, understand ongoing conditions, and respond effectively. This awareness helps the crew to identify the possible dangers early before they become serious problems. At sea, even small changes in the environment can sometimes indicate worsening weather conditions. Experienced crew members

are often able to notice these signs quickly and take precautions immediately.

Rope Handling and Safe Deck Operations

Fishing deck operations require constant movement, teamwork and attention. Tasks such as setting nets, hauling gear, handling ropes and managing fishing equipment are physically tiring and usually carried out on wet and unstable decks. Because the vessel is always moving, even normal work can become challenging (FAO, 2018). During fishing operations, an experienced crew can often be seen moving carefully while always remaining aware of the positions of others. Their communication is usually short and clear, especially during difficult or fast-moving operations, where quick understanding is necessary.

It includes knowing how to handle ropes safely, moving carefully on deck, maintaining balance and communicating clearly with other crew members (Figure 2). These may seem like simple skills, but they are very important in preventing accidents and ensuring safe operations (IMO, 2018). Handling the ropes improperly can easily lead to accidents such as slips, entanglement injuries or equipment damage. Similarly, poor coordination during fishing operations can create dangerous situations, especially when several crew members are working together in a limited space (ILO, 2017).



Figure 2. Handling of fishing gear

Emergency Preparedness and Response

Emergencies such as fire, flooding, collision, engine failure or manoverboard situations can happen unexpectedly and the crew must be ready to respond immediately. Unlike the situations on land, help at sea may not arrive quickly, especially during deep sea fishing operations. In many cases the safety of the vessel crew depends mainly on how well prepared the crew is to handle emergencies on their own. The International Maritime Organization (IMO, 1995) states the importance of safety training, emergency drills and proper watchkeeping

practices for fishing vessel personnel.

Safety equipment's such as life jackets, life buoys, distress signals, fire extinguishers and communication devices should always be kept ready and in good working condition. The crew members must also know how to use them properly during any emergencies. Before the commencement of a fishing trip, crews usually carry out routine safety checks. These checks may seem small, but they play a very important role in reducing risks and improving safety during unexpected situations at sea.

Fatigue and Human Factors

Human factors play a very important role in safety. Fishing operation usually involves long working hours, lack of sleep and physically demanding work which can lead to fatigue. Tiredness can reduce concentration, slow down reactions and affect decision making during important situations. The International Maritime Organization (IMO, 2018) states that fatigue is one of the major causes of accidents at sea. Similarly, the National Institute of Occupational safety and Health (NIOSH, 2021) also highlight that exhaustion and stress increases the risk of injuries during fishing operations. Onboard the fishing vessels, crews often work according to fishing conditions rather than fixed schedules due to which proper sleep may not always be possible. In such situations, teamwork and communication become very important. Therefore, human awareness, discipline and responsibility become vital.

Seamanship and Modern Technology

Technology has improved safety in different ways. Modern equipment's such as GPS, RADAR, Acoustic devices, emergency alert devices etc., helps the fishers to navigate more accurately and respond better during difficult situations at sea. According to Food and Agriculture organization (FAO, 2020), the use of technology has helped in improving both safety and efficiency in Marine fisheries.

While technology alone cannot guarantee safety as the equipment can sometimes fail due to harsh weather or technical problems, which is why basic Seamanship skills remains very important. Experienced fishers usually depend on technology as a supporting tool while also relying on their own judgement and practical understanding of the sea. The International Chamber of Shipping (ICS, 2019) also emphasizes that modern Navigation and communication system plays an important role in reducing risks during vessel operations. Therefore, maintaining this balance between modern technology and traditional Seamanship continues to be essential for safe fishing operations.



Figure 1. Acoustic Devices

Conclusion

Safety at sea continues to remain one of the most important concerns in fishing operations. Although modern technologies have improved Navigation and communication, Seamanship remains the foundation of safe vessel operation. Essential Seamanship practices such as navigation, weather interpretation, rope handling, emergency preparedness, watchkeeping and crew coordination help to reduce risks and improve operational safety. These skills are not developed overnight, they are strengthened through training, experience, and continuous exposure to marine environments. This article highlights that safety at sea depends not only on equipment or regulations but also on awareness, discipline, teamwork and practical judgement. As fishing operations continue to modernize, preserving Seamanship knowledge and strengthening safety training will remain essential for the future of Marine fisheries.

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