

DOI: <https://www.doi.org/10.32523/2791-0954-2024-8-2-64-81>

Marine casualty as an interdisciplinary Issue: an analysis of Iran's maritime law approach in connection with the international law of the sea

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Abstract. The domestic and international community have always paid attention to the importance of maritime safety in the framework of maritime law on the one hand and the significance of the order of maritime zones in the framework of the law of the sea on the other hand. A marine casualty can be considered as an incident that damage security and order in both scopes of maritime law and the law of the sea. Therefore, states in the international and domestic community are trying to enact laws and regulations due to manage marine casualty. Iran, as a maritime state, needs to create a regular legal framework in line with these collisions. Therefore, the basic question of this article is, what is the Iran's maritime law framework to deal with the marine casualties? using a qualitative approach and examining Iran's maritime law, the article came to the conclusion that Iran's maritime law, taking into account the conventions on the law of the sea, has established regulations under two stages before and after a maritime casualty, and these regulations make a regular framework in relation with the collision to maintain maritime security in Iran's maritime realm.

Keywords: marine casualty, maritime law, law of the sea, security, maritime zones.

Теңіздегі оқиғалар пәнаралық проблема ретінде: Иранның халықаралық теңіз құқығына қатысты Теңіз құқығына көзқарасын талдау

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Түйіндеме. Ұлттық және халықаралық қауымдастық әрқашан бір жағынан теңіз құқығы шеңберіндегі теңіз қауіпсіздігінің маңыздылығына және екінші жағынан теңіз құқығы шеңберіндегі теңіз аймақтарының орналасу тәртібінің

маңыздылығына назар аударды. Теңіздегі апатты теңіз құқығы тұрғысынан да, халықаралық құқық нормалары тұрғысынан да қауіпсіздік пен тәртіпке нұқсан келтіретін оқиға ретінде қарастыруға болады. Сондықтан халықаралық және Ұлттық қоғамдастықтағы мемлекеттер теңіздегі апаттардың жағдайын реттейтін заңдар мен нормативтік актілерді қолдануға тырысады. Иран теңіз мемлекеті ретінде осы қақтығыстарға сәйкес тұрақты құқықтық база құруы керек. Сонымен, осы мақаланың негізгі сұрағы-Иранның теңіз апаттарына қатысты мәселелерді шешу үшін теңіз құқығы саласындағы құқықтық базасы қандай? сапалы тәсілді қолдана отырып және Иранның теңіз заңнамасын зерттей отырып, мақала авторлары Иранның теңіз заңнамасы теңіз құқығы туралы конвенцияны ескере отырып, теңіз апатына дейін және одан кейінгі екі кезеңге қатысты ережелерді белгілейді және бұл ережелер Иранның теңіз кеңістігінде теңіз қауіпсіздігін сақтау үшін соқтығысуға қатысты тұрақты негіз болып табылады деген қорытындыға келді.

Негізгі сөздер: теңіз оқиғалары, теңіз құқығы, теңіз Заңы, қауіпсіздік, теңіз аймақтары.

Происшествия на море как междисциплинарная проблема: анализ подхода Ирана к морскому праву в связи с международным морским правом

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Аннотация. Национальное и международное сообщество всегда обращало внимание на важность безопасности на море в рамках морского права, с одной стороны, и на важность порядка расположения морских зон в рамках морского права - с другой. Аварию на море можно рассматривать как инцидент, который наносит ущерб безопасности и порядку как с точки зрения морского права, так и с точки зрения норм международного права. Поэтому государства в международном и национальном сообществе пытаются ввести в действие законы и нормативные акты, регулирующие ситуацию с авариями на море. Ирану, как морскому государству, необходимо создать постоянную правовую базу в соответствии с этими коллизиями. Таким образом, основной вопрос этой статьи заключается в том, какова правовая база Ирана в области морского права для решения проблем, связанных с морскими авариями? используя качественный подход и исследуя морское законодательство Ирана, авторы статьи пришли к выводу, что морское законодательство Ирана, принимая во

внимание конвенции по морскому праву, устанавливает правила, касающиеся двух этапов - до и после аварии на море, и эти правила составляют регулярную основу в отношении столкновения для поддержания морской безопасности в морском пространстве Ирана.

Ключевые слова: морские происшествия, морское право, морской закон, безопасность, морские зоны.

Introduction

Recent Statistics which published by the European Maritime Safety Agency regarding maritime collisions show that marine casualties are still a challenging issue for maritime zones [5]. According to the Agency's annual report on marine collisions, more than 2500 marine collisions occur annually. As, from 2014 to 2022, almost 24,000 collisions have occurred at maritime areas, which have had disastrous consequences in human, environmental, financial and economic dimensions within the marine industry. (Figure 1)

Years Maritime incidents	From 2014 to 2022	2022
Casualties and incidents	23,814	2,510
Ships involved	26,108	2,701
Ship lost	184	6
Investigation Launched	1,090	79
Serious casualties	6,784	612
Very serious casualties	638	44
Pollution events	542	38
Injuries	6,781	597
Fatalities	604	38

Figure 1: Statistics of maritime casualties from 2014 to 2022 (source: European Maritime Safety Agency)

Undoubtedly, protecting and preserving the security and order of the maritime realm in connection with marine casualties requires a strict legal framework at the international and domestic levels. It is worthy to note that marine casualty is a multi-disciplinary problem that involves the international law of the seas on the one hand

and requires the attention of domestic maritime law on the other hand. The relationship between marine casualty and the international law of the sea has led marine casualty to be considered as a challenge to maritime security and order not only by the Convention on the Law of the Sea (UNCLOS) [23], International Convention for the Safety of Life at Sea (SOLAS) [11] and The International Convention for the Prevention of Pollution from Ships (MARPOL) [19], but also by maritime states like UK [24], USA [25] Norway [20] in their domestic maritime laws and regulations. Iran as a maritime state has also addressed the marine casualty in line with its maritime law. Nevertheless, the amount of attention to the dimensions of marine casualties is so important in establishing a regular legal framework.

Therefore, based on the basic question of the present paper, i.e., what is Iran's maritime law framework to deal with the marine casualties? Three hypotheses are raised: First, marine casualty as an interdisciplinary issue has made a relationship between the international law of the sea and maritime law. This relationship has caused the Convention on the Law of the Sea on the one hand and domestic maritime law on the other hand to pay attention to the issue of marine casualties and create a legal framework to preserve maritime security. Second, making a regular and accurate legal framework needs careful attention to the dimensions of marine casualties; it means that domestic and international relevant officials should pay attention to the dimensions of how to prevent a casualty before happening and to the dimensions of maintaining maritime security after a collision. Thirdly, Iran's legislation, taking into consideration the pre-collision and post-collision dimensions in its maritime law, has passed regulations in accordance with the international law of the sea and established a regular framework.

According to the question and hypothesis, the current article proceeds in four parts as follows: The first part deals with the definition and analysis of marine casualties. The second part focuses on the measures taken before the marine casualty; In fact, in this section, the measures that prevent the casualties and have been taken into account by the Iranian legislator are analyzed. The third part is related to the actions after the casualty in Iran's maritime law, which covers civil and criminal jurisdictions. The fourth part is the conclusion.

1. Marine casualties

Marine casualty is considered to be the physical effect of two marine vessels on each other, which results in a damaging incident. This collision may occur between two ships or between a ship and a floating or fixed structure, such as an offshore drilling platform or an iceberg or even a port. In most collisions, the effects are so destructive that they cannot be easily evaluated, because the consequences of them cause a lot of damage to the private and public sectors, including: the loss of life of workers and crews of ships or structures, which is always an irreparable loss. Environmental damages that have negative effects on the marine environment, especially if any of the ships are carrying a chemical substance like an oil tanker. As the world has seen many casualties involving oil tankers. Oil spills from tankers after

incidents not only cause biological crisis, but also this damage remains for a long time and endangers maritime industries like fisheries, scientific works and shipping. In these cases, the most damage can be attributed to two sectors: First: the communities that live in the coastal areas close to a collision. Second: The owners of the ships or those who have financial interests in this regard [15]. The causes of ship collisions can be divided as follows:

Causes of marine collisions	Description
human errors	<ul style="list-style-type: none"> more than 80% of these collisions occur due to human error and carelessness [1]. which is either in incorrect judgment or in navigation or both. Hence in most cases this is a root cause.
Negative technical effects or equipment failure	<ul style="list-style-type: none"> Machinery failure (including engine failure) has risen as the top cause of shipping incidents over the past decade, a trend that is unlikely to change anytime soon, given rising repair costs and concerns over maintenance levels and larger vessels [13].
weather effects and force majeure	<ul style="list-style-type: none"> Harsh weather conditions can lead to many negative things in maritime work, resulting in marine accidents, whether between the ships or between ships and ports [2].
Subversive acts	<ul style="list-style-type: none"> in very rare cases, vandalism on the ship can also be mentioned, which causes such incident [17].

Figure 2: Causes of marine casualties in brief (source: author's research)

Due to the destructive effects of maritime collisions that originated from these reasons, domestic and international societies have also turned to preventive measures more than post-collision measures in this century, and this is also taking into account customary international law. As Hopkins believes that Centuries before the emergence of modern legislation in different states, there have been customary maritime rules to prevent collisions at sea [6].

Marine casualties cover a huge range of dimensions from the adoption of laws to practical measures. Iran as a strategic maritime state has paid attention to these dimensions. The maritime collisions in the coastal waters of Iran, especially the collisions that occurred in the Persian Gulf, led to the attention of Iranian maritime law to the prevention of collisions, such as the establishment of the Persian Gulf

Traffic Control Center. The purpose of the center includes continuous monitoring and navigational advice for all types of vessels, controlling the traffic of vessels and preventing maritime collisions based on the current laws in the Oman Sea and the Persian Gulf. All marine rescue operations are carried out under the direct management and supervision of the center. The equipment deployed in this system contains radar, automatic float identification device, CCTV cameras at entry and exit points, direction detection system, radio communication network and weather forecasting equipment. Currently, this system is in monitoring mode in three stations of Bandar Shahid Rajaei, Bandar Lange and Kish Island [7]. This system has been launched in line with the requirements of Iran's maritime laws. In addition, apart from pre-collision considerations, the application of post-collision jurisdictions in accordance with Iran's maritime laws has been considered.

2. Pre-collision

Today preventive measures are much more important than post-collision measures in marine casualties. The order and security of the seas and oceans require that the domestic and international communities pay attention to the dimensions of preventive measures. In this regard, I will first examine the preventive measures in the most important document of the law of the sea, i.e., UNCLOS. Then, in order to examine Iran's approach, I will evaluate Iran's maritime law.

2.1. International Law of the Sea Conventions

Since UNCLOS is called the Constitution of the Seas and Oceans [21], it is necessary to examine UNCLOS in order to achieve the necessary criteria to prevent maritime collisions. Today, it is clear that maritime transportation (people and goods) in safe conditions will benefit the international community, ship owners and seafarers. Therefore, the relevant sectors will try to prevent or reduce maritime collisions. The 1958 Geneva Convention on the High Seas [22], as well as UNCLOS, considering maritime collisions, have raised points that can be considered as measures to prevent collisions.

- Article 10 of the 1958 Geneva Convention states:

1. Every State shall take such measures for ships under its flag as are necessary to ensure safety at sea with regard, inter alia, to: (a) The use of signals, the maintenance of communications and the prevention of collisions; (b) The manning of ships and labour conditions for crews taking into account the applicable international labour instruments; (c) The construction, equipment and seaworthiness of ships.

2. In taking such measures each State is required to conform to generally accepted international standards and to take any steps which may be necessary to ensure their observance.

- UNCLOS also considers this concept in a broad way as states in article 94,

1. Every State shall effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag.

2. In particular every State shall: (a) maintain a register of ships containing the names and particulars of ships flying its flag, except those which are excluded

from generally accepted international regulations on account of their small size; and (b) assume jurisdiction under its internal law over each ship flying its flag and its master, officers and crew in respect of administrative, technical and social matters concerning the ship.

3. Every State shall take such measures for ships flying its flag as are necessary to ensure safety at sea with regard, inter alia, to: (a) the construction, equipment and seaworthiness of ships; (b) the manning of ships, labour conditions and the training of crews, taking into account the applicable international instruments; (c) the use of signals, the maintenance of communications and the prevention of collisions.

4. Such measures shall include those necessary to ensure that each ship, before registration and thereafter at appropriate intervals, is surveyed by a qualified surveyor of ships, and has on board such charts, nautical publications and navigational equipment and instruments as are appropriate for the safe navigation of the ship; (b) that each ship is in the charge of a master and officers who possess appropriate qualifications, in particular in seamanship, navigation, communications and marine engineering, and that the crew is appropriate in qualification and numbers for the type, size, machinery and equipment of the ship; (c) that the master, officers and, to the extent appropriate, the crew are fully conversant with and required to observe the applicable international regulations concerning the safety of life at sea, the prevention of collisions, the prevention, reduction and control of marine pollution, and the maintenance of communications by radio.

The emphasis on internationally accepted standards in Article 10 of the 1958 Convention and Article 94 of UNCLOS is due to practical needs. Although each state can theoretically apply its own legal standards (in matters such as seaworthiness and crew conditions) to ships under its flag and, to some extent, to foreign ships entering its ports or territorial waters, but if the standards are very different from each other or don't match each other, the chaos will be appeared. Fortunately, the international community has realized the importance of setting a uniform set of international standards to boost maritime safety. According to the articles 10 and 94, these standards can be categorized under four general topics:

Collision prevention standards	Description
Seaworthiness	The seaworthiness of a ship plays a critical role in ensuring the safety of life and property and the prevention of marine pollution [26].
Determining the shipping routs	Traffic separation schemes and other ships' routeing systems have been established in most of the major congested, shipping areas of the world, and the number of collisions and groundings has often been

	dramatically reduced [9].
Crew standards	To ensure crews are competent and have proper education for ships plying international waters, the International Maritime Organization (IMO 2004b) has adopted qualification standards for seafarers on merchant ships. These qualification standards were named the International Convention on Standards of Training, Certification and Watch keeping for Seafarers (STCW) [16].
Navigation aids [3]	The obligations of coastal states to provide Marine Aids to Navigation are included in international Conventions. The Safety of Life at Sea Convention Chapter V, Regulation 13 is of importance for aids to navigation, but other Conventions such as UNCLOS and also regional arrangements, for example EC Directives, may also apply. National legislation and regulations may also prescribe the obligations of Marine Aids to Navigation services providers, whether they are government or private [8].

Figure 3: Maritime collision prevention standards at a glance under the 1982 Convention on the Law of the Sea (source: investigation of author)

In order to create order in the maritime society, it is necessary for the maritime states to comply with these criteria in their maritime laws. Therefore, I will examine Iran's maritime law in accordance with these criteria.

2.2. Iranian maritime law

In accordance with the 1958 convention and UNCLOS, the Iranian government exercises administrative technical and social powers over the ships under its flag as well as its captains, officers and crews. Some gaps in Iran's maritime law have caused the Iranian government take steps by becoming a member of IMO and then participating in the ratification of new treaties or joining the existing codified conventions of this organization. Therefore, in this section, in addition to examining Iran's maritime law, I will have a brief look at existing conventions in this regard, which Iran has become a member of.

2.2.1. Seaworthiness

Seaworthiness is one of the basic factors of seafaring that can cause or prevent marine collisions. One meaning of seaworthiness is the fundamental ability to sail safely to a destination [26]. Since Iranian legislator knows about the importance of seaworthiness, the Iran's maritime law, including nationality and registration of a

ship, has considered seaworthiness till end of the voyage. In order to register a ship, the Iranian legislature requires the owner or his legal representative to submit his application for registration along with the declaration and technical certificates in two copies to the Ports and Maritime Organization.

The declaration must contain exactly the name of the ship, the motive power, the type of the ship's body, the date and location of the building, the dimensions and capacities, the number of chimneys, the type of motive power (steam, diesel, atomic energy, etc.), the characteristics of the name and nationality and the residence of the owner or owners and the share of each of the owners of the ship. Also, article 19 of Iran's Maritime Law states that in case of major changes in the ship's construction, a new declaration must be submitted to the Ports and maritime Organization or Iran's consular representatives outside Iran, and sufficient technical explanations about the necessity of the changes must be given. It is clear that on the one hand, the faulty propulsion is one of the significant factors of marine collisions, and on the other hand, it is a factor for measuring seaworthiness. Therefore, the legislator of Iran has paid attention to the sound motive power, dimensions, capacities and its type in the declaration, technical certificates and even the ship registration document.

In addition, the technical health of the ship is so important that it has to be confirmed by the competent authorities. Therefore, ship technical certificates for ship registration must be issued by Iran Ports and Maritime Organization or one of the international authorities whose authority is accepted by Ports and maritime Organization. In this regard, the department of Technical Inspection and Measurement of Ships of the Ports and Maritime Organization is obliged to examine the full capacity and specifications of the ship in the manner mentioned in the declaration, and after compliance, if it is correct, confirm and certify. Of course, until the Department of Technical Inspection and Measurement of Ships was not established, the certificates and technical inspections of the following institutions were accepted: Lloyds Shipping-London, Germanischer Lloyd-Hamburg, American Borwharf shipping- New York and Japanese Marine Corporation-Tokyo. The regulation of ship registration introduces foreign accredited institutions to guarantee ship safety, seaworthiness and obtain technical certificates. At the time, there was no technical inspection department in Iran, and therefore Iran used foreign institutions to guarantee seaworthiness.

According to paragraph 1(c) of article 10 of the 1958 Geneva Convention and also paragraph 3(a) of article 94 of UNCLOS, the flag state has to guarantee the safety of the ship and the sea, and therefore it is necessary to build, equip and check the seaworthiness of the ship. Hence, in paragraph (a) and (b) of article 54 of Iran's maritime law, in accordance with the conventions on the law of the sea, the Iranian legislator obliges the shipping operator to prepare the ship for sailing before and at the beginning of each voyage and to prepare the staff, equipment and supplies. In addition, if the carrier himself is the owner of the ship, he is obliged to apply sufficient diligence from the beginning of the journey and throughout the time of the shipment in preparing the ship for seafaring, providing staff and providing food and

equipment and taking care of passengers in every way. If the carrier is not the owner of the ship, he will be responsible for the actions of the ship owner or outfitter and their authorized officers while performing their duties. In this regard, the legislator puts forward some hypothesis in which the ship belongs to several partners, and therefore, in order to focus on the affairs of the ship, it requires the partners to appoint one person as the executive director; Even if they need more than one person, they can appoint several people to manage the ship's affairs, including the equipment of the ship as CEO.

Iran's maritime law was amended in 2012. The sixth chapter can be considered as one of the developments of the amended law which is about the duties of the captain of the ship. According to article 80 (3) of amended law, the Iranian legislature has taken a step exactly in line with the paragraph 4(c) of article 94 of UNCLOS. Based on the article, the captain, officers, and to the extent appropriate, the ship's crew are fully familiar with applicable international regulations regarding the safety of life at sea, preventing collisions and maintaining the radio communications and comply with them. In accordance with the article 80 of amended Maritime Law of Iran, the captain is responsible for the management of the ship and the ship must be managed according to shipping techniques and in compliance with domestic regulations and international treaties to which Iran is a member, as well as internationally accepted shipping customs.

In addition, Iran's legislators devoted a chapter to guaranteeing the ship's seaworthiness. based on the chapter, before starting the journey, the captain must check the seaworthiness of the ship, including the suitability of technical equipment, qualified staff and crew, the validity of legal certificates, the presence of required items on the ship and suitable conditions for delivery, transportation and ensure the storage of goods on the ship; The captain must also ensure that the goods are placed in the right place, there is no extra loading and the necessary balance and stability are achieved in the ship, there is enough fuel, and the doors of the warehouse and all the openings on the deck are closed. In the case of uncertainty about any of the mentioned cases, the captain is obliged to prevent the movement of the ship and inform the owner about the matter. During the voyage, the captain must take the necessary measures to keep the seaworthiness of the ship. In addition, another duty of the commander is to use all his power, experience and knowledge to ensure the safety, security, health of the ship, passengers and cargo before and during the maritime voyage and to perform conventional measures and refrain from doing any work which endangers the ship, passengers and cargo, including entering the areas where the ship is likely to face collision.

It should be noted that the most important convention regarding the seaworthiness is the International Convention on Safety of Life at Sea (SOLAS) dated back 1974. The convention contains complex provisions for shipbuilding standards, fire safety, lifesaving equipment, transportation of dangerous goods, and special nuclear regulations. Member states must apply these standards to their ships.

Iran is also a member of the SOLAS Convention, and in this way, it has removed the gaps in Iran's maritime law regarding seaworthiness [10].

2.2.2. Determining of the shipping routes

Accurate determining of the shipping routes in the last century has greatly reduced the number of maritime collisions compared to previous decades [9]. This standard is considered in international conventions and domestic laws. The International Maritime Organization (IMO) can be considered the executive arm of UNCLOS, which has paid special attention to the issue of determining shipping routes. The routing system was known as traffic separation schemes from the very beginning. In line with IMO measures and also article 17 of the 1958 Geneva Convention regarding the Territorial Sea, Iranian legislator has paid attention to the issue of determining shipping routes.

According to paragraph 4 of article 55 and article 129 of Iran's maritime law, the ship's route should not be changed without a reasonable reason, and the captain is obliged to move directly on the predetermined route. Considering all the previous and subsequent articles in Iran's maritime law, as well as one of the philosophies of enacting the maritime law (that is, prevention of marine collisions), one can realize the purpose of the legislator in articles 55 and 129. The goal of Iran's legislator is to protect the safety of ships, passengers, cargo and the maritime environment. In fact, the commander is obliged to move in determined routes to avoid collisions, and the thing is that he can change the direction to prevent collisions as well.

In addition, in line with the traffic separation schemes, one can specifically refer to Convention on the International Regulations for Preventing Collisions at Sea (COLREGs). For the first time, COLREGs considers the schemes officially. Iran is also a member of the convention. Considering Article 10 of the COLREGs, one can better understand the purpose of Iran's legislation in Articles 55 and 129. Article 10 covers the precise dimensions of the schemes and shows how the vessels can use the routes to prevent collisions and keep the safety of the maritime areas. Although Iran has paid some attention to the determination of shipping routes in articles 55 and 129, its membership in COLREGs caused the current gaps regarding the dimensions of schemes to be resolved. It is clear that the schemes are established in cooperation between IMO and coastal states. The jurisdiction of the coastal state, which Iran has also paid attention to, are determined in accordance with articles 22 and 41 of UNCLOS.

Based on the article 22 of the UNCLOS, the coastal State may, where necessary having regard to the safety of navigation, require foreign ships exercising the right of innocent passage through its territorial sea to use such sea lanes and traffic separation schemes as it may designate or prescribe for the regulation of the passage of ships. In the designation of sea lanes and the prescription of traffic separation schemes, the coastal State shall take into account: (a) the recommendations of the competent international organization (like IMO); (b) any channels customarily used for international navigation; (c) the special characteristics of particular ships and

channels; and (d) the density of traffic. In accordance with the article 41, States bordering straits may designate sea lanes and prescribe traffic separation schemes for navigation in straits where necessary to promote the safe passage of ships. Such States may, when circumstances require, and after giving due publicity thereto, substitute other sea lanes or traffic separation schemes for any sea lanes or traffic separation schemes previously designated or prescribed by them. Before designating or substituting sea lanes or prescribing or substituting traffic separation schemes, States bordering straits shall refer proposals to the competent international organization with a view to their adoption. The organization may adopt only such sea lanes and traffic separation schemes as may be agreed with the States bordering the straits, after which the States may designate, prescribe or substitute them. In respect of a strait where sea lanes or traffic separation schemes through the waters of two or more States bordering the strait are being proposed, the States concerned shall cooperate in formulating proposals in consultation with the competent international organization.

Two basic points in line with articles 22 and 41 are as follows: First, the coastal states determine the traffic separation plans by themselves. Second, states should pay attention to the recommendations of IMO as competent organization. In the new amendments to the maritime law, Iranian legislators pay more attention to the issue of maritime management in line with traffic separation schemes. Article 85 obligates the captain to move in maritime zones in accordance with the traffic separation schemes and direct the ship in the designated routes and prevent unjustified changes of routes and also by using his knowledge and experience, Prevent possible collisions. Although more detailed laws are being passed day by day to prevent marine incidents, marine collisions are still common.

2.2.3. Crew standards

Skilled and experienced crew is one of the main factors to prevent marine collisions [18]. As under the article 2 of Iran's maritime law, the hiring of skilled crews is in the center of attention. This article, in accordance with paragraph 1(b) of article 10 of the 1958 Geneva Conventions and in line with paragraph 3(b) of art. 94 of UNCLOS, stipulates as follows, the ship owner must hire skilled Iranian crews and train them at his own expense. Also, the training program should be prepared by the ship owners and implemented by the owners after the approval of the Ports and maritime Organization. Iran's maritime law requires the Ministry of Economy to establish a training school for commercial maritime workers in one of the southern ports within one year from the date of approval of Iran's maritime law. According to UNCLOS, it is very important to hire a competent crew because such a crew can maintain the safety of the ship in critical situations, including collisions. Iran's maritime law has also paid attention to this issue in line with paragraph 4(b) of article 94 of UNCLOS. In fact, the Iranian legislator not only obliges the ship owner to appoint a competent captain, but also obliges the captain to appoint competent crews.

It is clear that crews who have not received sufficient training or do not have the necessary conditions can become the major factor in marine collisions. Therefore, before the adoption the comprehensive convention regarding ship crew standards, attention was paid to the standards of competent crew under some conventions. Based on the SOLAS, all ships must have adequately trained crews. Convention No. 147 of the International Labor Organization dated back 1976 on minimum standards for merchant ships requires member states to ensure the favorable conditions of seafarers employed on ships registered in their territory and their training for the performance of their duties [14]. Also, these standards were more precisely reflected in the international convention on standards of training, Certification and watchkeeping for seafarers which was approved in 1978. This convention has determined the minimum mandatory requirements for the issuance of certificates for masters and other crew members and describes the basic principles of shipping and engineering care. The implementation of these regulations is basically the responsibility of the flag state, but the coastal states also have some authority to control the document [12]. Joining as a member, Iran has somewhat reduced the need to approve newer domestic laws regarding crew standards.

2.2.4. Navigation aids

The significance of navigation aids for maritime safety is obvious. The SOLAS obliges member states to establish and keep navigation aids, including radio equipment and electronic aids. In this regard, the convention asks the member states to consider the level of risks and the volume of traffic in order to launch more precise assistance and arrange that the information related to this assistance is available to all its beneficiaries. Iran is the member of the SOLAS and has adopted such measures in its maritime zones. According to historians, during the Achaemenid period, Iranians were aware of the value of the sea and paid great attention to seafaring. During this period, Iranians had created technical facilities in the Persian Gulf to guide sailors. As historians have stated, from a time whose exact history is not clear to us, towers were built in the Persian Gulf that were useful for guiding ships, which are compared to today's lighthouses. On top of these towers were firecrackers that functioned like lighthouses today. These light towers served the following purposes: 1. Guiding sailors 2. Reporting and announcing danger 3. Preventing the ship from entering shallow waters. According to Professor Hadi Hassan, an Indian scientist, in the shipping guide book written by Qiyatan, which was compiled between 785-805 AD, it is stated that Iranian built warehouses in the Persian Gulf and lit torches on them at night. So that the ships don't lose their way [4]. Therefore, it is clear that Iranian kingdom with such a brilliant background, has paid attention to the navigation aids to ensure the safety of shipping until today.

According to the 1958 Geneva Conventions and UNCLOS, all coastal states are obliged to inform every one of the maritime dangers that exist in their territorial sea. Although Iran has not joined UNCLOS, it has properly paid attention to the Convention, because based on the article 85 (10), one of the captain's duties is to

provide a report in the cases of collisions. The report is covering all aspects of the collision. The “relevant measures” under this article shows that the Iranian legislature has fully paid attention to the 1982 Convention, because the relevant measures are actually measures for the future, which also include navigation aids.

3. Post collision

Iran's maritime law includes both pre- marine collision regulations and post-collision measures and duties. In this section, post-collision measures will be discussed. It is necessary to check the nationality of ships in collisions before examining Iran's jurisdiction over maritime collisions, because the nationality of ships affects Iran's jurisdiction as well. Ship collisions are divided into 4 categories based on nationality: 1. a collision between two ships registered in Iran. 2. a collision between two ships registered in a country other than Iran. 3. a collision between two ships, one of which was registered in Iran and the other in another country. 4. a collision between two ships that have been registered outside of Iran and in two different countries. Unfortunately, every year these types of collisions occur in the territorial sea of the southern regions of Iran due to the international and strategic position of the region. The different nationalities of the ship may cause problems for the judges as to which law and which country should be dealt with.

3.1. Civil jurisdiction regarding maritime collisions

According to Iran's maritime law, the jurisdiction to deal with civil claims can be considered under two sections: 1. Civil claims resulting from the collision of ships with the same nationality of the coastal state 2. Civil claims resulting from the collision of ships with different nationalities (which may one of those ships have the nationality of the coastal state).

In addition, regarding the location of the collision and its effect on the exercise of civil jurisdiction, the Iranian legislator believes that in the case of a collision between seagoing ships and special shipping vessels in internal waters, compensation for damage, regardless to the location is according to the provisions of this chapter. In all cases where collisions occur, the captain of the ship is the responsible person for maintaining the management of the ship. According to Iran's maritime law, two basic duties are assigned to the captain after a collision:

First, in case of a ship collision in the port waters, the captain is obliged within 24 hours after the incident, and if the collision is outside the port waters, within 24 hours after entering the port waters, to prepare a written report about the collision and submit it to the Ports and Maritime Organization. So that this organization can also deliver the report to the competent authority in order to take appropriate measures, which include judicial and legal ones.

Second, the captain is obliged to help the other ship and its employees and passengers after the collision without causing any serious danger to the ship or its employees or passengers; and if possible, provides a comprehensive and detailed report about the route, the ship's crew, the collision and the technical details of the

ship at the time of the collision and informs the opposite ship. This article is very useful in clarifying civil responsibility. In addition, in articles 163, 164 and 165 of the Iranian Maritime Law, the states of civil liability before the Iranian Civil Court are described in four states: 1. One of the two ships should be declared guilty. 2. If both ships are found guilty to some extent, then both ships will ultimately bear the burden of responsibility. 3. Both ships are guilty and responsible, but the amount of responsibility of each is not possible. 4. None of the two ships should be blamed and, for example, the collision is the result of force majeure.

3.2. Criminal jurisdiction regarding maritime collisions

Iran's maritime law has not paid special attention to the issue of criminal jurisdiction. However, it is possible to indirectly find references to criminal jurisdiction in some articles. According to UNCLOS, in the event of a collision on the high seas in which the criminal responsibility of the captain or other crew members is raised, no criminal proceedings can be conducted against these persons, except before the judicial or administrative authorities of the flag state or a state that the person has its citizenship. In this regard, two cases are envisaged; the Iranian legislator implements the first case according to UNCLOS, and the second case is partially included in Iran's maritime law. First, one of the accused natural or legal persons is an Iranian citizen, and there is no doubt Iran's criminal jurisdiction will be applied. Second, the collision occurred outside the territorial waters of Iran and the ship entered the internal waters of Iran; in this regard based on the captain's duty, after submitting a report of the collision to the Iranian Ports and Maritime Organization, appropriate judicial measures, including criminal measures, will be taken.

Conclusion

Despite advanced technologies in the 21st century, marine collisions are still one of the most challenging issues in maritime zones. Today, in order to ensure the safety of the seas in line with maritime collisions, competent authorities and institutions at the international and domestic levels should pay attention to the dimensions of maritime collisions. The dimensions of marine collision include pre-collision and pos-collision that exactly consist the legal framework of Iran maritime law in connection with the collisions. UNCLOS as the constitution of the sea and ocean, in article 94, mentions the criteria for the prevention of collisions. These criteria include seaworthiness, determining the shipping routes, crew standards and Navigation aids. Undoubtedly, the domestic legislative system should pay attention to these criteria to prevent maritime collisions. Although Iran has not joined UNCLOS, in order to prevent maritime collisions, has followed these criteria, and therefore, maritime collisions in Iran's maritime areas have been reduced to a large extent. In addition to the pre-collision, it is necessary to consider the dimensions of the post-collision for the safety and order of the seas. According to law of the sea conventions, such as the

1958 Geneva Convention on the Territorial Sea/high seas and UNCLOS, these dimensions include the executive, civil and criminal jurisdiction of the coastal state. Iran's maritime law has paid attention to civil jurisdiction in particular and criminal jurisdiction. The following figure briefly shows the regular framework that Iran's maritime law has established in relation with the maritime collisions:

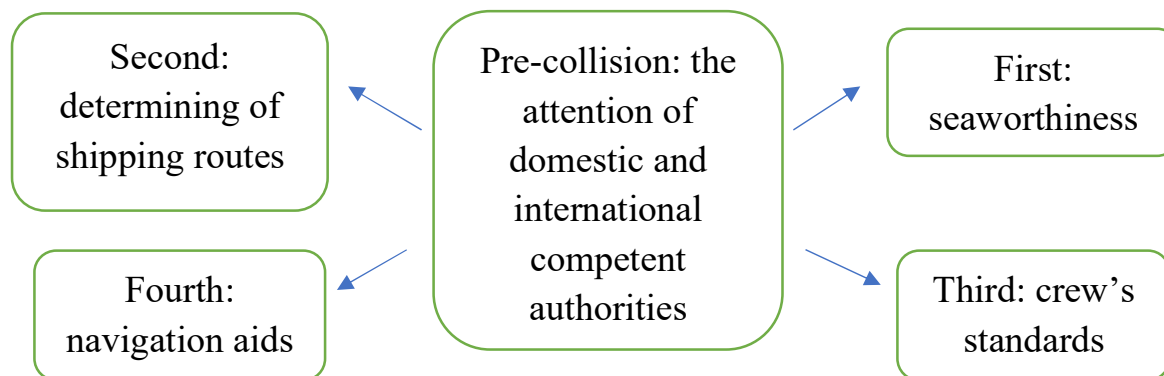


Figure 4: the Iran's legal framework in connection with marine collision (source: investigation of author)

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