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Capsizing Of Vessel MSc Elsa-3 In Kerala Coastline: Assessment of Legal Issues

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Abstract

The dawn of May 25, 2025 came with a sad news that the Heavy Cargo Container Vessel MSC-Elsa3 has sunk of the Arabian Sea close to the Kerala Coastline. The frequent ship accident incidents across the Kerala Coastal area brought to the forefront concerns of the public regarding the marine pollution and related casualties in terms of employment and health issues. Supply chain by using shipping containers or vessels to mishaps on sea causes significant losses of fishing, and critical infrastructure. The public of Kerala demands a proper probe into frequent ship accidents in Arabian sea and find out the root causes of such incidents. It is reported by experts that international shipping regulations and rules were not properly implemented since ship owners' keen interest is to grab maximum profits on the shipping business for which they may force to use substandard unseaworthy vessels for shipments. It is hard enough to assess and quantify the economic impacts these regulations because of the reason are that the shipping companies will not share their data that frustrates to quantify the real costs. The authors made their earnest efforts by examine on how the shipping firms engaged in waterborne container trade through Indian coasts, particularly Kerala coastal area reluctant to respond to the new maritime container security initiatives. Most of the port officials (MMD) Chief Executives of the shipping business of container transportations, port authorities, terminal security officers, Post State Control Officers have been playing a key role in this regard. Therefore, in conclusion the biggest advantage of the new security requirements is that they will have to fostered a healthy cooperative security relation between shipping industry, local fishermen community and the coastal state governments.

Keywords: - Coastal Security – Mishaps of Vessel – Frequent container vessel accidents on Kerala Coastline- causes and consequences- Security initiatives as per IMO regulations and SOLAS-74.

Introduction

The present world due to the rising demand for cargo transportation that resulted considerable increase in the container cargo ships. This growth of container ships caused much new problems like increasing of ship accidents and thereby causing adverse impact on ecological balance of sea water, marine diversity and coastal zone. The ship capsizing consists of sinking, stranding, collision, roll over, fire, explosion, engine damage and other faults of ship master and crews. By this ship accidents and pollution of sea water and marine diversity affect the fishing community of Kerala and other general public at large by losing of their food and jobs in fishing sector. In addition to this, these types of accidents have significant impact on the shipping industry and rising questions related to the lack of security measures which are to scrupulously followed in accordance with various laws, regulations, international conventions etc. The marine life and ecology in the Arabian Sea, particularly the Kerala Coast faces serious threat due to the frequent mishaps of container vessels that may contains hazardous chemicals, explosives and acids. The shipping business particularly using huge container cargo vessels have been increased in geometrical ratio giving the Kerala maritime belt become busy always and that may create happening of frequent marine casualties at any point of time.

On the afternoon of May 24, MSC Elsa 3, a container vessel carrying more than 640 containers, started tilting off the coast of Kochi, apparently due to an operational problem. The nearly three-decade-old Liberian Flag ship was said to be structurally safe as per reports. The crew abandoned the ship after unsuccessfully trying to right her. Now, Elsa 3 is lying at the bottom of the seabed 50 meters below.

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It is pertinent to note the fact that the capsizing ship MSC ELSA-3 in Kerala Coastline on May 24, 2025 has raised some urgent questions about maritime safety, health and environmental risks. The Kerala public as whole sparked serious environmental concerns about the accident particularly potential oil spills and spreading of hazardous chemicals across the Kerala Coastal area resulting many related problems. A marine accident is definitely not a simple matter, it may be a single event or a sequence of events, that may be finally resulted normal operation of marine vessels, death of mariners, fish resources, flora and fauna, loss of vessels, loss of cargoes, marine pollution, unemployment of fishermen or abatement of a ship as well.

As per the cargo manifest, officials say the ship had 13 containers with hazardous goods. Twelve had calcium carbide, a reactive compound, and one had "rubber solution". Some 50 containers, many empty, were floating and getting tossed around by monsoon weather. Officials say the rubber solution has reacted with the seawater and accounts for the plastic pellets being found on the Kerala coast. Five containers with calcium carbide, another pollution hazard, are lying on the seabed and need to be safely disposed of before they cause damage. Some oil pollution has also been reported. There is as yet no clarity on how to safely dispose of the plastic pellets. The under-water salvage operations of the container ship MSC Elas-3 has begun on June 09, 2025, according to the Directorate General of Shipping (DGS), Kochi.

The Ship-owner firm viz. Mediterranean Shipping Company (MSC) has roped in the Singapore based T & T Salvage for the task. The salvage team has mobilized diving support vessel SEA MEC-III and 12 divers will carry out air diving operations, all these activities are not up to the mark or even successfully undertaking their endeavour assigned.

The Protection & Indemnity (P& I) club, insurer of the sinking vessel, appointed MERC (Maritime Emergency Response Services) for removal of containers and for other shoreline cleaning activities. More than 45 out of 61 containers that fell off the ship and subsequently washed ashore have been recovered and delivered to the port as what the MMD people says and another 10 more containers are under active salvage operations. It is claimed by the Govt. officials that none of the containers washed ashore had hazardous substances in them.

The Govt. of Kerala, one of the key stakeholders stated that it has issued a standard operating procedure to ensure the systematic deployment of trained volunteers from various NGOs and Civil defence, and there have been no reports of oil pollution. The National Oil Spill Disaster Contingency Plan (NOS-DCP) names the Coast Guard as the nodal agency for such responses.

In Kerala, however, there has been enough time to rig up an effective response. With ambitious plans for economic growth that will inevitably lead to a surge in ship traffic, the government has also planned to draw more national and global trans-shipment traffic into India's waters. India is already set to see a great

number and variety of ships of varying cargoes on its coast in future. The Kerala response will show how well-prepared India is to handle a major maritime disaster.

Ship accidents in the water off the Kerala Coast has put in focus the crucial role played by the Coastal community in emergency recovery of containers, harmonizing the expertise of local fishermen of Kerala to salvage containers from the rough sea. It is worthwhile to note the fact that involvement of local fishermen who have extensive knowledge about the deep and rocky coastline will definitely be helpful in salvage the containers.

Jurisdiction of Fort Cochin Coastal Police Station.

The Home Department of the Govt. of Kerala had earlier issued orders with regard to the jurisdiction of the Fort Cochin Coastal Police Station fixing jurisdiction up to 12 nautical miles from the baselines. Subsequently the Ministry of Home Affairs of the Govt. of India declared that the jurisdiction of Coastal Police Station of Fort Cochin has been extended to Exclusive Economic Zone of India. Fort Cochin Coastal Police Station in Kerala is the only police station having jurisdiction to conduct investigation of crimes occurred up to 200 Nautical Miles in sea from the baseline.

Further to this notification, the Ministry of Home Affairs, Govt. of India, in its S.O. No. 671E dated 27-08-1981 declared that the Fort Cochin, Coastal Police Station shall be a police station for the purpose of the jurisdiction of the offences committed by any person under any provisions of any Act has been extended to the Exclusive Economic Zone of India, (200 Nautical Miles) under sub-section (7) of Sec. 7 of the Territorial Waters, Continental Shelf, EEZ Act, 1976.

By virtue of this notification, the Fort Cochin Coastal Police can register FIR and investigate the offences committed by any person under any of the provisions of any Act within the Exclusive Economic Zone of India, i.e., 200 nautical miles from the baselines of Kerala State. Yellow Gate Police Station was the sole police station in all of Western India that looks into incidents of offshore crime that happen from Gujarat to Kanyakumari. Currently EEZ is governed by the Indian Coast Guard, Indian Navy and Customs. This enables the Kerala Coastal Police to register FIR and investigate any offences involving foreign vessels up to 200 nautical miles from the baseline of Kerala State.

It is learned that a proposal for two 19-meter length boats with 30 tonnes of payload for deep sea patrolling had also been sent to the Central Govt. by the Kerala Police Department. But a suitable boat/vessel is not made available so far with the Fort Cochin Coastal Police, for the purpose of conducting investigation throughout the EEZ. The vessel supplied presently to these coastal police station is only seaworthy for using up to 5 nautical miles. Beyond that it is unsafe to proceed further, particularly in rough or bad weather conditions. This is a great draw back to the coastal police station. So also, in Fort Cochin area, the Kerala Police Department has been already allotted and occupied about 40 cents of landed property for the

sole purpose of construction of a boat jetty having large enough to accommodate larger types of patrolling boats for the Coastal Police. But it is learned that it remained in paper only, no fruitful action has been taken from the side of both Central and State Governments for this date.

Expressing deep concern of frequent ship accidents in Kerala Coastal area, the public demanded prompt registration of criminal cases and adequate compensations to fishermen and other coastal residents for the consequences and hardships at the instance of the ship accidents. It includes: --

- (a) Loss of livelihood of the fishermen.
- (b) Marine pollution which ultimately affect the marine economy.
- (c) Both Central and State Governments should release scientific data regarding the extend to marine pollution caused at the instance of ship accident.
- (d) A full-fledged probe is to be conducted in to the incident of vessel sinking.

The authors have found some procedural irregularities from the part of the authorities in handling the incidents as there are no proper guidelines given by the Central Government in this regard so far. Since shipping industry has flourished like anything because of the international trade, the movement of shipments will be growing or increasing day by day like anything which may ultimately experience frequent incidents of ship accidents. It is observed that there is serious laches on the part of the authorities and everyone showing an apathetic attitude towards taking initiatives and coordinates the task of rescue operations and prevention of casualties and marine pollutions. It is the shipping ministry, particularly the MMD (Mercantile Marine Department) is the right department to take initiatives and coordinate the entire operations as and when ship accidents have been reported.

As per the warning of INCOIS (Indian National Centre for Ocean Information Services), that the fallen containers may drift towards the Coastal Stretch of different destination. It is believed that there are chances for a BLEVE (Boiling Liquid Expanding Vapour Explosion) explosion at any time.

The accident of the ship MSC ELSA-3 is of course a scorching indictment of various types maritime risks. This accident now exposes gaps in pre-emptive tracking, real time monitoring of container vessels and properly and timely disclosure of hazardous cargo. Therefore, it is high time that India needs a vision based marine emergency protocol and international collaboration for transportation of hazardous cargo ships through the coastal waters of Indian continental. Finally, after several criticism from various experts, media, and public, the Officer-in-charge of the Coastal Police Station at Fort Kochi has registered an FIR on Wednesday the 11th of June, 2025, against the sinking cargo ship MSC Elas-3 alleging rash navigation based on a written complaint filed by one Mr. C Shamji of Neerkunnam Matsya Grammam in Alappuzha,c after a couple of weeks of this occurrence. It is alleged in the FIR that mishandling of the Cargo vessel by the Crew

and operators led to the sinking of the vessel, resulting in serious environmental consequences and economic losses for the local fishermen community.

An FIR has been registered citing various sections of the Bharatiya Nyaya Sanhita, 2023, including Section 282 (reckless operation of a vessel), Section 285 (creating danger or obstruction in navigable routes), Section 286 (careless handling of poisonous substances), Section 287 (negligent use of fire or flammable materials), and Section 288 (negligence nvolving explosive materials), along with Section 3(5)7 (joint liability for shared intent).

However, the Officer-in-Charge at the Coastal Police Station in Fort Kochi may have overlooked more stringent legal provisions available under other relevant statutes. These include the Environment (Protection) Act, 1986; the Hazardous Substances Management Regulations; the Merchant Shipping Act, 1958; the Water (Prevention and Control of Pollution) Act, 1974; the Coastal Regulation Zone (CRZ) Act, 1991; and international conventions like MARPOL. Instead, the officer has applied less severe,ailable, and compoundable sections of the Bhartiya Nyaya Sanhita, 2023—potentially allowing the case to be dismissed or downplayed. Sanhita, 2023, giving room for referring to the case.

The Environmental Fallout

As for the environmental fallout, the vessel has sunk in deep waters. It was carrying calcium carbide and calcium carbide has a reaction with water, but now that the vessel is sunk, so whatever reaction will be there will be deep, but it's likely that it generates some acetylene gas. So even if it does generate, it'll just bubble up over the surface. About six to eight containers have been washed ashore of which a few have landed on the coast and the 3 of them supposedly contain hazardous cargo. Now what is the nature of this hazardous cargo also has different grades. So, what the nature of this hazardous cargo is still not known.

Regarding liability and response, according to experts all of this will be handled by the Protection and Indemnity insurance (P&I insurance) provided by a P&I club. The hull and machinery are covered by the marine insurance company; cargo cover for cargo owners. The P&I club covers the open-ended risks which traditional insurers are loath to insure. This includes third-party damage to cargo—environmental damage caused by oil spills and pollution.

The nodal agency to coordinate this entire operation will be the Director General of Shipping. The DG Shipping has offices all over the coast and Cochin is the one which will be monitoring closely the entire operations post the incident. It is in India's Exclusive Economic Zone (EEZ). To that extent, the government of India has a role in monitoring and calling for an investigation to be conducted by the flag state, Liberia. The incident underscores the urgent need for stricter oversight and technological upgrades in global shipping to prevent similar disasters in the future.

Inspection and Rescue Framework Along India's Maritime Borders

Under Regulation 15, Chapter 5 of the International Convention for the Safety of Life at Sea (SOLAS), the Government of India is responsible for ensuring proper arrangements are in place to rescue individuals in distress at sea. In the event that a ship or aircraft encounters distress near the Indian coastline, assistance may be rendered not only by nearby vessels but also by the following authorities:

Coastal radio stations managed by the Department of Telecommunications and port radio stations run by respective port authorities actively monitor distress frequencies. When a distress signal is received, it is relayed to ships at sea and relevant agencies, such as the nearest naval command and the Indian Coast Guard, to initiate and coordinate search and rescue efforts.

Distress calls and related radio traffic take precedence over all other maritime communications. During such emergencies, no ship or coastal radio station is permitted to transmit messages that could interfere with ongoing search and rescue communications.

Immediate Actions:

- a) **Ensure Vessel Safety:** Close watertight doors and hatches, assess the extent of damage, and take steps to mitigate further damage.
- b) **Seek Assistance:** Contact emergency services, such as the Coast Guard or relevant maritime authority, to request assistance.
- c) **Prioritize Crew Safety:** If the ship is in danger of sinking, launch lifeboats and ensure the safety of the crew.
- d) **Attempt to Reach Port:** If feasible, make your way to the nearest safe port for repairs.
- e) **Document the Incident:** Gather information about the incident, including the names of witnesses, contact information, and the time and location of the incident.
- f) **Seek Medical Attention:** Ensure that any injured crew members receive prompt medical attention.
- g) **Legal and Insurance Actions:**
- h) **Report the Accident:**
- i) **Report the accident to the appropriate authorities,** such as the Coast Guard or relevant maritime authority, as required by law.
- j) **Contact Legal Counsel:**
- k) **Consult with an attorney who specializes in maritime accidents to understand your rights and options.**
- l) **Involve P&I Correspondents:**
- m) **If applicable, notify your P&I club and their correspondent about the incident.**
- n) **Document All Claims:**
- o) **Keep detailed records of all costs associated with the incident, including medical expenses, repairs, and legal fees.**
- p) **Follow Legal Processes:**
- q) **Understand and follow any legal procedures or deadlines related to filing claims or legal actions.**
- r) **Communicate with Insurance Providers:**
- s) **Work with your insurance providers to process any claims related to the incident.**

- t) **Emotional Toll of Boat Accidents & Legal Remedies**
- u) **Take Legal Steps Following a Boat Accident.**

Maritime Accidents

Maritime accidents may be defined as industrial, marine, or shipping accidents that occur at anywhere in ocean or inland waterways. These incidents can be caused by human behaviour or error, negligence, failure of equipment, natural phenomena, or piracy attacks.

The major maritime accidents reported goes to show that it can be attributed to unsafe practices by crew members, poor design of ships or its equipment, using substandard vessels for transportation etc. Most of the accidents result from risky navigation, stability issues of the vessels, bad weather conditions, ship collisions.

Maritime accidents include:

1. Disaster of ships due to the bad weather and harsh nature of the ocean
2. A collision between ships
3. Collision of cargo vessels with docks, harbour structures,
4. Groundings of ships on underwater objects
5. Accidents at sea due to employing of unqualified and competent seafarers
6. Oil spills and releasing or abandoning of hazardous cargo into ocean

How can we prevent maritime accidents?

The IMO reports shows that every year, thousands and thousands of people lose their lives and cargoes as a result of maritime accidents. The main cause of ship wreck is e found to be human error and negligence on the part of employees and crew members (crew errors). In addition to this, there are technical problems and bad weather conditions that increase the risk of such incidents.

To minimize the risk of maritime accidents, proactive safety measures must be implemented well in advance. These measures include:

1. Utilizing modern navigation tools and systems, such as gyrocompasses
2. Planning routes carefully to ensure alignment with international standards
3. Conducting routine equipment inspections and evaluating their operational status
4. Monitoring vessel movements and weather forecasts using satellite systems and other navigational aids
5. Responding promptly to technical malfunctions or equipment breakdowns
6. Providing comprehensive training to crew members to ensure they are competent in their roles
7. Verifying that all vessel-related documentation adheres to global regulatory requirements

Besides the above measures, it is important to analyse the involvement or role playing by the seafarers in accident prevention. This will significantly increase their sense of responsibility and attention during work on board. Lastly, the safety inspection process for ships must be strict and regularly repeated

to ensure that all safety measures are complying with current regulations.

Example of disaster prevention.

Maritime safety organizations recommend taking preventive action to minimize or prevent the risk of maritime accidents.

1. Proper training for seafarers and ensure that they have learned how to work with navigational equipment's etc.
2. Ensure that all ship navigators know the navigational rules and regulations as how to operate a vessel in hazardous area and protect sensitive area.
3. Give training to all employees in risk assessment and proper monitoring of the course of vessels.
4. Technological changes and updating regularly by the ship owners. Using of high-quality navigation system and ensure its periodical maintenance.

The most common of these is the Automatic Identification System (AIS). AIS sends and receives electronic signals throughout the waterway, notifying nearby vessels when they enter areas where there might be the risk of collision. Similar technology exists in GPS tracking which is also used to safely navigate marine vessels through congested waterways.

Additionally, weather forecasting systems have advanced tremendously with the advent of new technologies that provide real-time updates about global weather patterns. This knowledge can be applied directly to maritime navigation, allowing for safer travel in dangerous conditions such as fog or hurricanes. Wind sensors, thermometers, and barometric pressure gauges can be found on all marine vessels, enabling navigators to make rough weather predictions through a combination of visual, audio, and numerical data.

Other modern technologies that reduce or eliminate shipwrecks include radar, sonar detection, and even "black boxes" which record conversations on the ship's bridge as well as technical information about the vessel itself. GPS locator beacons have been attached to thousands of ships after being lost at sea, providing a much-needed means of tracking down vessels in emergency situations. In fact, seafaring technology has advanced so rapidly over the past few decades that it is now virtually impossible for a large commercial vessel to sink without assistance from manmade problems such as faulty navigation systems or environmental disasters such as tsunamis.

Limitations of Investigations noticed.

1. **Delay in registering of FIR.** The Coastal Police has registered FIR on the incidents after a lapse of fifteen days. The Coastal Police of Kerala is bound to register an FIR as and when the incident has been reported. It can be beneficial to all the stake holders to avail their claims of losses. It is a cognizable offence, if there is any loss of life or marine pollution caused to the Coastline. Once FIR is registered, the Coastal Police is to commence investigation and to collect evidence relating to the apparent cause of the incident and the real defaulters in this regard. It was a shocking

news that the Coastal Police of Kerala has not yet registered an FIR for the incident and the reasons stated by the Police as well as the Govt. that the misshaped shipping company has very good relationship with the Vizhinjam Port authorities and registering a case against them may frustrate the future business relations instead negotiating to settle the matter by way of compensation to be claimed from P&I Clubs where the vessel is having insurance contracts. Registering an FIR, will never disrupts the relations of the Port officials and the shipping company thereby losing business growth in Vizhinjam Port. Instead, for the sake port business, it is not fair and ethical to make a compromise to the defaulting shipping company.

2. **Infrastructure of the Coastal Police.** The authors upon visit of Fort Kochi Coastal Police Station, in the year 2016 & 2022 experienced that the Kerala Coastal Police do not have any modern infrastructure and appliances even for a single fit or seaworthy boats to do the surveillances and patrols throughout 200 Nautical Miles of their jurisdiction. Most of the police personnel posted in these stations are seldom have the skills of swimming and operating vessels in rough weather conditions too.
3. **The DGS officials failed to release so the details of cargo loaded in the sunk ships and other related data.** It is the Port State Control officers have to inspect the vessel in question once it was anchored in the port and to ascertain and to ensure that the vessel has complied the international requirements of safety and security norms in every respect. The ship inspection report of PSC Officers has also not published so far. The vessel MSC-Elas13 is registered in Flag of Convenient country and having more than 28 years old which its invites a doubt of its seaworthiness or cargo-worthiness, which ultimately the cause of the mishaps.
4. It is the local fishermen have the skill and talent of the rescue operations and knowledge of the ocean where the ship was sinking and they even know how to remove the containers from seabed areas to the port. Their talent, skills and coordination etc were purposely ignored by the DGS officials. These fishermen have proved their capabilities to the extent that they are better option than any trained persons from outside.
5. **Failure to use Human Intelligence:** The local fishermen have proved to be the most skilled and experienced for the purpose of ascertaining the weather conditions, accident prove area, status of shipping channel, and even could identify the persons usually engaged in various activities of marine related and also helpful for rescuing any type of vessels sunder distress or sunk or wrecked. Their service can be used for the purpose of collecting intelligence by the authorities concerned. But, these nearby, facilities are not even considered by the DGS officials as well as the Port Authorities in many vessels' misshaping

incidents. A proper coordination between the stakeholders and the local fishermen will facilitates the coastal zone accident free always.

Verdicts of High Court of Kerala

The Division Bench of the High Court of Kerala headed by the Chief Justice, while considering a PIL, seeking for a comprehensive compensation and rehabilitation package for fishermen and other stakeholders affected by sinking of cargo ship MSC *Elas-3*, directed to both State and Central Govts to take all possible measures under applicable maritime laws to address environmental and economic losses arising from the incident. The Court further directed that the State Govt. need not continue to incurring expenses from the public ex-chequer for the ship accident off the Kerala Coast and should instead, recover the amount from the shipping company concerned. In another movement by five exporters of Kerala, who had lost their consignment following ship wreck, filed a suit under admiralty jurisdiction in which Justice Mr. M.A. Abdul Hakhim issued order to arrest the vessel now anchored at Vizhinjam port and detain in custody till a total of Six Crore Rupees deposit in the High Court.

Conclusion

The authors tried to articulate and given to our readers some valuable insights with respect to major cause and consequences of the mishap of the vessel MSC *Elsa-3*, and deeply looking into how to ensure that maritime disaster prevention efforts are up-to-date. Embracing modern technologies such as Automatic Identification Systems (AIS) and GPS tracking plays a key role in reducing risks. Nonetheless, despite these technological advances, accidents can still occur due to equipment failure or human error. Therefore, it is equally important for maritime companies to implement additional safety measures—such as conducting routine inspections, educating crew members on onboard safety protocols, and ensuring that all vessel documentation meets international standards.

Inspections of PSC officers.

The checking and inspections being carried out by the Port State Control officers appears to be not effective. The inspection conducted on the MSC *Elas-3* by the PSC officers has not been published. PSC officers are bound to check the vessels as and when anchored in the port and non-compliance of international guidelines or directions noticed, if any, then the vessel must be detained till clearing of all these defects noticed.

Registering of Crime as when reporting of vessel accidents by Coastal Police.

The Coastal Police personnel is bound to register First Information Report as and when the SHO receives any information regarding a vessel's mishap and subsequent casualties and to collect evidence forthwith. The participation and assistance of the Coastal Police throughout the operations are to be ensured by the DGS and Coast Guard officials.

Coordination of Rescue and prevention of pollution activities.

It is the DGS and MMD, to coordinates the entire rescue measures and prevention of marine pollution caused by the incident. The role and active participation of the entire stake holders are highly necessary to tackle such situations and to reduce the casualties as far as possible.

In shipping, multi-trillion-dollar business may be involved and these assets may pass by without touching the port of any coastal States without adding to a dime to that country's economy. But the problems will be verse and critical when one of these sea going vessels met with an accident of any kind of maritime mishaps which ultimately creates problems on land and its sea shores. This kind of risk is built into the destiny of every coastal States abutting busy shipping lanes.

Most of the ships in the industry do not carry oil spill response equipment and marine insurance coverage under the situation where a ship sinking or wreck may just flash their third-party insurance cover to compensate only for the spill they cause. Tackling an oil spill issue or chemical hazardous issue will have to be looked into.

Intensive Training to be given to the Seafarers

Human error is a significant factor in shipping accidents, contributing to a large percentage of incidents, with estimates ranging from 75% to 96%. These errors can be caused by various factors, including fatigue, distractions, poor communication, and inadequate training, leading to collisions, groundings, and environmental spills.

In 2024, maritime accidents saw a 6% increase, with a total of 1,154 incidents on commercial vessels. Cargo ships accounted for 50% of these accidents, followed by fishing and passenger ships at 24% and 25%, respectively. While fatalities decreased by 50%, with five crew members losing their lives in 2024. Injuries are also a significant concern, with over 7,600 reported between 2019 and 2023.

The IMO, Resolution A849(20), stated that the safety of seafarers and passengers and the protection of the marine environment can be enhanced by timely and accurate reports identifying the circumstances and causes of marine casualties and incident. Both the Central and State Governments may be looked into this and ensure safe shipping operations in the Coastlines of India.

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References:

1. Assessment of ship collision risk based on the recorded accident cases: Structural damage and environmental recovery, authored by R.A. Rahman, E3S Web of Conferences 563, 03087 (2024)
<https://doi.org/10.1051/e3sconf/202456303087>
2. The Times of India, daily of Kochi Edition, dated 12-06-2025
3. The Hindu English daily of Kochi, dated 12-06-2025
4. The Malayala Manorama, Malayalam daily of Cochin Edition dated 25-05-2025
5. THE TIMES OF INDIA, English daily, Cochin Edition dated 13th June, 2025.
6. Bass, D: W, Wng, C., 1994, "Capsizing of the F.V. "Straits Pride II"; A study of the dynamics of Paravanes." Proceedings of the 5th International Conference on Stability of Ships and Ocean Vehicles.
7. Borlase, G.A. 2002, "Research Opportunities Identified During the Casualty Analysis of the Fishing Vessel Artic Rose." Proceedings of the 6th International Ship Stability Workshop.
8. France, W., Treakle, T., Moore, C., 2002, "Head-Sea Parametric Rolling and Its Influence on Container Lashing Systems." Proceedings of the 6th International Ship Stability Workshop
9. Li H, Ren X, Yang Z, Rel. Eng. Sys. Safe. 230, 108938 (2023)
10. Zhang Y, Sun X, Chen J and Cheng C, Rel. Eng. & Sys. Safe. 206, 107310 (2021)
11. Bye RJ, Aalberg AL, Rel. Eng. & Sys. Safe. 176, 174–186 (2018)
12. International Maritime Organization, Reports on Acts of Piracy and Armed Robbery Against Ships, London (2023)
13. Prabowo AR, Nubli H, Sohn JM Proc. Str. Int. 27, 171–178 (2020)
14. International Maritime Organization, Marine Pollution Regulations, London (2024)
15. Wang J, Zhou Y, Zhang S, Zhuang L, Shi L, Chen J, Hu D, Oce. Eng. 261, 112162 (2022)
16. Chen J, Zhan F, Yang C, Zhang C, Luo L, Int. Journ. Dis. Risk. Red. 24, 383–390 (2017)
17. Antão P, Sun S, Teixeira AP, Soares CG, Rel. Eng. Sys. Safe. 234, 109166 (2023)
18. Europa Maritime Safety Agency, Annual Overview of Marine Casualties and Incidents, EU (2019)
19. Talley WK, Jin D, Kite-Powell H, Tran. Res. Par. D. Tran. Env. 13, 86–94 (2008)
20. Talley WK, Mar. Pol. & Man. 29, 331–338 (2015)
21. Yip T L, Jin D, Talley WK, Acc. Ana. & Pre. 82, 112–117 (2015)
22. International Tanker Owners Pollution Federation, Oil Tanker Spill Statistics, London (2023)
23. Government of Gibraltar Maritime Administration Watergate House 2/8 Casemates Square Gibraltar, Report on
24. the investigation of the grounding of the MV FEDRA, UK (2008)
25. Transport Accident Investigation Commission, Container ship MV Rena grounding on Astrolabe Reef, New
26. National Transportation Safety Committee Republic of Indonesia, Pipeline Damage and Crude Oil Pollution in
27. Balikpapan Bay, Jakarta (2018)
28. Chen J, Zhang W, Li S, Zhang F, Zhu Y, Huang X, J. Clean Prod. 180, 1-10 (2018)
29. Fuadi AP, Muttaqie T, Nugroho ACPT, Kusuma YF, Mukti S, Kurniawan MA, Firmandha T, Ismail M,
30. Mekanika: J. Ilmiah Mekanika 23, 1-11 (2024)
31. Nugroho ACPT, Sasmito C, Fuadi AP, Hendrik D, Rahadi CWK, Permana RD, Fuadi NMR, Mekanika: J. Ilmiah
32. Mekanika 22, 68-75 (2023)
33. Prabowo AR, Ridwan R, Tuswan T, Smaradhana DF, Cao B, Baek SJ, Appl. Eng. Sci. 18, 100177 (2024)
34. Ridwan R, Sudarno S, Nubli H, Chasan A, Istanto I, Pratama PS, Mekanika: J. Ilmiah Mekanika 22, 115-125 (2023)
35. Carvalho H, Ridwan R, Sudarno S, Prabowo AR, Bae DM, Huda N, Mekanika: J. Ilmiah Mekanika 22, 30-39 (2023)
36. Hanif M I, Adiputra R, Prabowo AR, Yamada Y and Firdaus N, Ocean Eng. 286, 115522 (2023)
37. E3S Web of Conferences 563, 03087 (2024)
38. ICESTE 2024
39. Faqih I, Adiputra R, Prabowo AR, Muhyat N, Ehlers S, Braun M, Res. Eng. 18, 101076 (2023)