

Safety of Life at Sea: Current Status of Sri Lanka

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Abstract— Asia is rising as the global economic power. Consequently, seaborne activities including flow of maritime trade container port activities, cruise industry as well as the fishery activities are increasing in the Indian Ocean. It hosts the most critical Sea Lanes of Communication (SLOCs) in the globe. Therefore, maintaining of security and safety of the Indian Ocean is a prime concern of littoral states as well as other major maritime users. Considering the location of Sri Lanka in the Indian Ocean and as a signatory to the United Nations Convention on the Law of the Sea (UNCLOS), 1974 Safety of Life at Sea (SOLAS) convention and 1979 Search and Rescue (SAR) convention, the government is obliged to ensure the maritime safety within her SAR region. Therefore, this paper aims to examine the current status of maritime safety in the Sri Lanka Search and Rescue Region. The paper concludes with some practical policy recommendations.

Keywords: *Search and Rescue, Maritime Safety, SAR Region*

Introduction

Sri Lanka being a littoral state and located strategically in the Indian Ocean perceives a long-held ambition to become a maritime hub in the region. The world busiest East-West main shipping lane is located at just six to ten nautical miles from her southern tip through which approximately 2000 ships ply in a day. Also, the deep draught hub port at Colombo attracts a substantial merchant traffic into the region. The Island also hosts a fishing fleet of more than 5000 ocean going multi day trawlers and nearly 32700 minor vessels operating in coastal waters. With the booming tourism industry, recreational vessels and growing sea borne

activities in Sri Lankan waters complicate the situation further. Therefore maritime transport in and around the country has become a vital concern for Sri Lanka which invariably calls for a sound maritime safety system in place due to the increasing risks at sea caused by greater number, size and faster speed of the vessels engaged in trade.

Sri Lanka is a signatory to UNCLOS, 1974 SOLAS convention and 1979 SAR Convention. In pursuant to the requirements of these conventions, the government of Sri Lanka is responsible to ensure the safety of life at sea within her Search and Rescue (SAR) region. Also, Sri Lanka considers strengthening of safety and sustainability of activities as a prerequisite to guaranteeing the freedom of navigation and overflight, unimpeded commerce and the freedom of digital connectivity in the Indian Ocean.

Assessment of the current status of maritime safety is therefore considered vital in the present context. Though the responsibility of maritime safety lies with the Merchant Shipping Secretariat, there are various organizations including, Sri Lanka Navy(SLN), Sri Lanka Coastal Guard(SLCG), Sri Lanka Air Force(SLAF) and Department of Fishery and Aquatic Resources (DFAR) are acting in different capacities to ensure the safety of life at sea around Sri Lanka. This paper aims to uncover policy level issues in the current maritime safety mechanism in the country. The paper concludes with some practical policy recommendations.

Methodology

This study is based on a literature review and survey research. The research was carried out considering the Sri Lankan Search and Rescue region. As part of implementing the methodology

for the study, a survey was launched to identify maritime accident types and assess existing regulations, risk management and, rule and standards compliance in the region.

Especially, the focus of the survey is on many issues across wide spectrum of technical areas such as the design, operation and maintenance of vessels and port infrastructure, definition of and compliance with policies and regulations, law enforcement, recruitment and training of officers and crew, organization and management of rescue services, risk assessment and safety audit.

Maritime safety

Maritime safety is defined as the safety of life, health and property against environmental and operational risks associated with navigation. Because it is a broad concept and its formulation depends on the context and the individual approach, universal definitions of maritime safety can include the following;

freedom from danger

no risk, the level of which cannot be accepted, other lack of harm to human health (freedom from unacceptable risk or personal harm)

no financial losses.

Maritime safety is sometimes defined also as

“such desirable conditions of human activity at sea that do not endanger human life and property and are not harmful to the marine environment”. It is composed of four components namely technological and operational ships’ safety, safety of navigation, safety of person in distress, and prevention of pollution of environment from ships as shown in Figure 1.

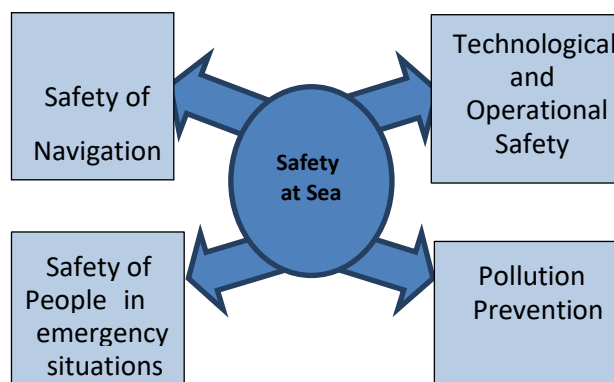


Figure 1. Major components of safety at sea Source: Annual of Navigation No.4/2002

Legal Framework

Given the global character of maritime transport and identifying the need for increased level of safety at sea, a number of international organizations have been formed with the aim to create regulatory framework for maritime transport. The International Maritime Organization is the most important of all the organizations regulating the safety at sea.

International Convention for the Safety of Life at Sea (SOLAS), 1974

The main objective of the SOLAS Convention is to specify minimum standards for the construction, equipment and operation of ships, compatible with their safety. Flag States are responsible for ensuring that ships under their flag comply with its requirements, and a number of certificates are prescribed in the Convention as proof that this has been done. The SOLAS Convention, also contains the general obligation to provide maritime SAR services. State parties to the SOLAS Convention undertake to take all necessary arrangements for coastal surveillance and for the rescue of persons in distress at sea around their coasts. These arrangements must include the establishment, operation and maintenance of such search and rescue facilities as are deemed practicable and necessary, having regard to the density of the seagoing traffic and the navigational dangers.

International Convention on Maritime Search and Rescue (SAR)

The Convention aims at developing an international SAR plan, so that, no matter where an accident occurs, the rescue of persons in distress at sea will be co-ordinated by a SAR organization and, when necessary, by co-operation between neighbouring SAR organizations.

Parties to the Convention are required to ensure that arrangements are made for the provision of adequate SAR services in their coastal waters, to establish preparatory measures which should be taken, including the establishment of rescue co-ordination centres and sub centres. Following the adoption of the 1979 SAR Convention, IMO's Maritime Safety Committee divided the world's oceans into 13 search and rescue areas, in each of which the countries concerned have delimited search and rescue regions for which they are responsible.

C. Overview of Maritime Safety Legislative Framework in Sri Lanka

Under the Merchant Shipping Act No.52 of 1971(MSA), the Merchant shipping secretariat is the responsible authority for maritime safety in Sri Lanka. However, considering the available facilities and professionalism, the authority has been delegated to SLN for the conduct of SAR operations in Sri Lanka's SAR region. Maritime Rescue Co-ordination Centre (MRCC) Colombo is manned at Naval Head Quarters under the Director Naval Operations (DNO) to assist vessels in distress by all possible means. At the process of coordinating maritime disaster incidents, Air Rescue Co-ordination Centre (ARCC), DFAR, Colombo Radio and adjacent Rescue Co-ordination Centres (RCC) acting as alerting posts whilst the SLN, SLAF and SLCG perform as major SAR facility providers. SLN and SLCG provide the service of maritime SAR facilities whilst SLAF provide aeronautical SAR facilities.

Overview of Distress Incidents in the Region

Analysis of incidents reported to the MRCC Colombo for the period of 2017 to 2019 revealed the annual average number of vessels involved in distress incidents in Sri

Lanka's surrounding sea areas was 268. This included 85% of Sri Lankan fishing vessels, 10% merchant vessels and rest were foreign fishing vessels, naval vessels and pleasure craft.

Table 1. Types of platforms reported distress incidents

Source: MRCC Colombo Annual report

Types of platform	2017	2018	2019	
Merchant Vessels	14	23	25	
Sri Lankan Fishing Vessels	148	221	229	
Other Vessels	3	31	9	
Total	267	275	263	

Reported incidents were analysed based on the type of distress incident, Nature of Assistance Provided to distressed units and the location of the incident occurred during the period of 2017 to 2019. Results of the analysis show that a vast

majority of the incidents are due to technical failures of the vessels where MRCC Colombo provided assistance to those vessels. Capsizing of vessels and vessels ran aground in 2019 marked alarming inclination of 366.6% and 500% compared to year 2018 and all such incidents were related to the Sri Lankan fishing vessels. With respect to the type of assistance provided, majority of the assistance were provided for medical evacuation. Further, Southern sea of the island was identified as the most disaster prone area. MRCC activities resulted saving of 103 lives in 2019, which is a reduction by 77.9% comparing with 2018. Cost sustained by the SLN for assisting the distressed at sea in 2019 have reduced by Rs. 213,249,482.84 compared to 2018.

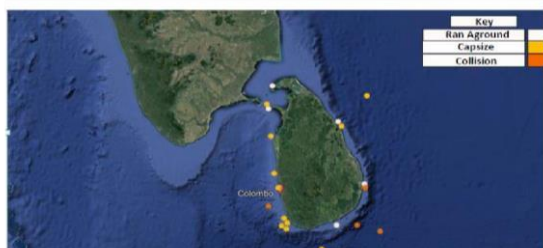
Table 2. Type of Distress Incidents

Type of Incident	2017	2018	2019
Drifting due to technical Breakdown	87	121	122
Patients onboard and required medical assistance	31	45	48
Fishing vessels ceased communication or overdue	30	32	31
Alerts Generated by Distress Beacons	-	-	20
Man Over Board	09	02	12
Grounding, Collision and Capsizing	06	18	15
Death of a crew member	01	10	03
Fire on board	01	02	01
Other incidents	-	-	06
Total	267	275	263

Figure 2. Major components of safety at sea Source: MRCC Colombo Annual report

Sources: MRCC Colombo Annual report

Status of Maritime Safety in Sri Lanka SAR Region



A survey was carried out to assess the current status of the maritime safety in Sri Lanka search and rescue region (SRR). The purpose of the survey was to assess the policies of administrative organization, safety management system and safety management facilities in the country. Following key issues were considered to assess the maritime safety in the country;

National maritime safety policy National maritime safety policy is a statement of principles and objectives to guide decisions in the maritime safety sector with a view to achieve the maritime

vision of a country and ensuring that the sector is governed in an efficient, sustainable, safe and environmentally sound manner. A sound national safety policy could be a good guideline in setting goals of maritime safety and policy priorities, securing budgets and resource. However, Sri Lanka does not have a master plan for maritime safety.

Maritime safety organization

There are two categories of organizations dealing with maritime safety administrations in a country. One is an organization charged in a country's safety administration which is positioned as an independent body apart from the central government, and the other is an organization set up as a department within central government.

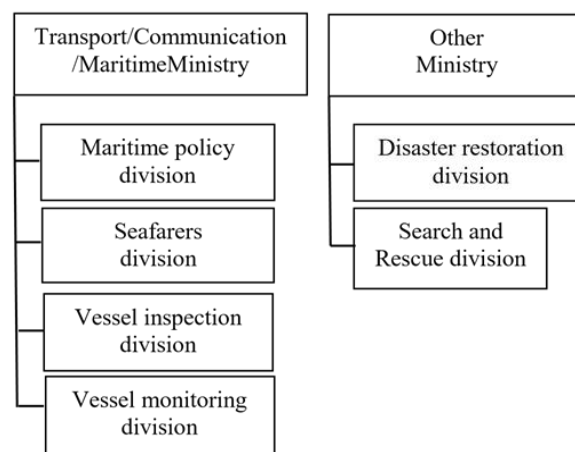


Figure 3. Separated type of maritime administration

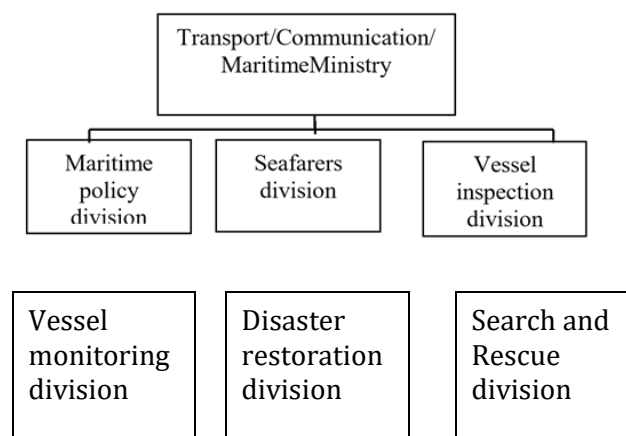


Figure 4. Integrated type of maritime administration

The maritime safety organization in Sri Lanka is a separated type of organization. As the shipping administration arm of the country, the merchant shipping secretariat comes under the ministry of ports and shipping. Presently the national search and rescue authority is Sri Lanka navy operates the MRCC Colombo. Apart from the SLN, Sri Lanka Coast Guard also play a vital role in search and rescue operations while DFAR is responsible for the safety of Sri Lankan fishing vessels. Therefore, the maritime safety organization of Sri Lanka is considered as a widely separated organization under three ministries namely ministry of ports and shipping, ministry of defence and ministry of fisheries and aquatic resources.

Vessel Traffic Service

Vessel Traffic Service (VTS) is very important function for a maritime regulatory body to monitor safe navigation of passenger ships. VTS deals with management of ship traffic on maritime routes, suggesting best routes for a ship and ensuring no two ships run into each other on congested routes. The numbers of VTS sites and VTS officers (VTSO) show current monitoring capability of selected countries. Capability and professionalism of officers working for VTS is important to enhance safety level of maritime transport in the field. Comparing with the number of VTS sites, the average number of officers (VTSO) does not look enough to conduct VTS. Understanding nature and working of vessel traffic system would be of importance to officers.

Safety management systems

The International Safety Management (ISM) Code provides an international standard for the safe management and operation of ships at sea. The Code establishes safety management objectives and requires a safety management system (SMS) to be applied by "the Company", which is defined as the ship-owner or any person, such as the manager or bareboat charterer, who has assumed responsibility for operating the ship. Since the International Convention for the Safety of Life at Sea adopted the ISM code in 1994, the Code has

been applied to oceangoing vessels. Sri Lanka applies the SMS to only domestic cargo ships.

Ship Inspection

Ship inspection is the backbone of maritime safety programme and is instructive for all safety, security and environmental protection activities. To estimate the seaworthiness of passenger ships, relevant authorized national organizations conduct inspection on passenger ships. In Sri Lanka the merchant shipping secretariat and DFAR regional officers conducts the ship inspections on domestic shipping and fishing vessels respectively.

Ships crew

It cannot be overemphasized that quality of a crew is one of the important factors to prevent accidents. International Convention on Standards of Training, Certification and Watch-keeping for Sea fares (STCW) was adopted in 1978 by IMO's Maritime Safety Committee to promote safety of life and property at sea and the protection of the marine environment. It is very important to provide appropriate sufficient training programmes for ship officers. In accordance with the requirements under the STCW convention, the IMO training model requires a 2 day-long basic training course and a 3 day-long advanced training course for passenger ship officers.

Also, since the majority of the accidents are attributed to fishing boats, it is an essential requirement to make the fisher folks/ fishers and boat owners aware of the ways and means and instructions to be followed in distress at sea. The DFAR conducts such training and awareness programs.

Investigation of maritime accidents

According to the Casualty Investigation Code adopted in IMO and entered into force from 2010, it has been recommended to conduct objective marine safety investigations for the benefit of flag States, coastal States, the Organization and the shipping industry in general. However, Sri Lanka

has not ratified the IMO casualty investigation code.

Search and Rescue

Search and Rescue (SAR) organizations play a critical role in the stage of “Response” in the disaster management cycle. Mostly, a coastguard or a navy organization conducts the role of SAR in a country. The number of SAR operation personnel, vessels and aircrafts show the capability of a SAR organization for search and rescue. It means that prompt actions for the search and rescue could be affected depending on the possession of vehicles in a country. Also, availability of aircraft that could be useful for swift rescue activity in case of a disaster is a major concern in the SAR capacity of a country. In Sri Lanka SLN, SLCG and SLAF carry out SAR operations in SRR. However, unavailability of aircraft onboard ships is a major problem in providing carrying out SAR operations in the deep sea.

Conclusion and Recommendations

The sea around Sri Lanka is one of the busiest in the world due to its dynamic maritime environment which includes world busiest SLOCs, increasing port facilities, booming tourism industry and fishery activities. The safety of life and property at sea is considered vital in its obligation as a signatory to the UNCLOS and in pursuance of Sri Lanka’s maritime interests. The purpose of this study is to uncover policy level issues in the current maritime safety mechanism in the country and make practical policy recommendations.

The study was based on data obtained from primary sources, previous surveys carried out by recognized organizations, literature, expert views through individual interviews. Study revealed that a considerable number of maritime accidents and distress incidents are taking place in the Sri Lankan SAR region which includes both loss of life and property at sea. Around 80% of incidents are

attributed to fishing vessels and merchant vessels represent the majority of the rest. The conclusion drawn from the study and recommendations are summarized as follows;

A clearly stated national maritime safety policy is vital to guide different agencies and personnel to assure a safe maritime environment in the country. Therefore it is recommended to draft a national maritime safety policy for the country.

The maritime safety organization of the country is widely separated into different ministries and departments. This can lead to several administrative difficulties, and delay in distress response. Recommended to strengthen the cooperative relationship among different organizations dealing with maritime safety.

Presently Vessel traffic monitoring is done by port control station in Colombo port by using VTMS. However, considering the length of the coastline and extent of SRR it is recommended to increase the VTMS sites in most disaster-prone areas. Further recommended to increase the number of qualified VTMS officers with the training and education system required by the IALA.

Ship inspection is the backbone of maritime safety programme and is instructive for all safety, security and environmental protection activities. To estimate the seaworthiness of domestic ships and fishing vessels, a suitable mechanism could be initiated.

Currently, the International safety management (ISM) code is required to apply to international voyaging ships under the international convention. It is necessary for government to adopt safety management system for coastal ships, which could lead to significant human casualty in case of accident, as a priority.

The number of SAR personnel, vessels and aircrafts show a country's capability for search and rescue operation. It is necessary that SAR capacity should be expanded in proportion to the length of the country's coastline. It is also recommended to equip suitable SLN ships with SAR aircrafts.

To maintain a vessel's seaworthiness, vessel inspection must be thoroughly carried out to suppress substandard vessels. When the government assigns vessel inspection to a Recognized Organization (RO), the government needs to monitor and supervise thoroughly to check if the RO has appropriate organization and manpower to provide quality inspections. It is also necessary to continuously monitor navigation of vessels, establish routes of passenger ships, by establishing the VTS or an e-Navigation System. In case of bad weather, departure of passenger ships must be controlled. If a vessel does not comply with the order, strong disciplinary measures need to be taken.

Qualified crew can ensure safe navigation of a vessel and provide effective responses in emergency. Therefore, country need to enhance qualified seafarers training schools and to provide training and education continuously to maintain highly qualified crew members. Besides maintaining qualified crew members, it is necessary to increase and enhance qualification of maritime safety-related government officials (staffs, VTSO and Coastguard officer, etc.) and vessel inspectors and surveyors. Since most of the ocean accidents are caused by human errors, the training and education of seafarers is of the utmost importance.

Maritime safety cannot be achieved by a country in isolation. Therefore, international cooperation needs to be enhanced through regional workshops, seminars and researches.

In order to enhance maritime safety in the country additional financing is needed for shipbuilding,

support for the maritime shipping industry, establishment of seafarer training centres, dredging of waterways, development of aids to navigation, expansion of VTS, and enhancement of SAR facilities. However, Sri Lanka has trouble in making sufficient investment in these areas due to lack of budget. Overseas aids and financing may help to make more investment for enhancement of domestic maritime safety. It is necessary to discuss how to raise funds to make improvements in these areas.

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