

Maritime Safety and Security in the Bay of Bengal

Rear Admiral Md. Khurshed Alam¹ (retd)

Abstract

Maritime safety and security is a pre-requisite for stability and growth in the Bay of Bengal (BoB) region to protect the prosperity and security of the region. Maritime security and safety encompasses all the operations which are being carried out to ward off threats from the sea. This region depends on safe, secure and clean seas and oceans for prosperity and peace. Through adequate maritime security, the region can maintain the rule of law in areas beyond national jurisdiction and protect the strategic maritime interests. Issues involved in Maritime safety and security in BoB region includes a developing system, systematic cross check, maritime surveillance, Marine Casualty Information and natural disaster. The study based on content analysis aims to discuss these issues in details and propose the ways ahead.

Keywords: Maritime Safety and Security, Bay of Bengal.

Introduction

Maritime safety and security is a pre-requisite for stability and growth in the Bay of Bengal region. Protecting the prosperity and security of the BoB requires that the region play an active role in tackling challenges such as maritime crimes-terrorism, drug trafficking, acts of piracy, illegal transport of migrants, poverty, conflict and humanitarian disasters through actions to support development, reduce the risk of disasters and conflicts and their adverse impacts, as well as to improve capacities for preparedness and response. Maritime security and safety encompasses all the operations that are being carried out to ward off threats from the sea, defend sovereign rights at sea and control risks relating to maritime activities (fisheries patrol, accidents at sea, pollution, sea rescue/shipwreck and assistance, legacy munitions clearance, etc. This region depends on safe, secure and clean seas and oceans for prosperity and peace. It is through adequate maritime security that we can maintain the rule of law in areas beyond national jurisdiction and protect the strategic maritime interests which include:

- Overall security and peace
- Rule of law and freedom of navigation
- External maritime boundary control

¹Secretary, Maritime Affairs Unit, Ministry of Foreign Affairs

- Maritime infrastructures: ports and harbours, coastal protection, commercial facilities, underwater pipes and cables, offshore platforms and scientific equipment
- Common natural resources and environmental health
- Climate change preparedness.

Importance of Safety and Security at Sea

Almost 90% of the external freight trade is seaborne, and overall, maritime industries are an important source of employment and income for the economy. Millions of containers travel every year through the ports of the Indian Ocean, transporting the 90% of the world's cargo in maritime containers, but only 2% is physically inspected by customs authorities, opening the possibility for illicit activities. Detecting suspicious shipments from customs fraud (e.g. evasion of import or antidumping duties) or from a safety and security viewpoint are difficult tasks for all the coastal countries involved. There is a need to improve maritime safety and security by developing systems to improve maritime surveillance capabilities and to collect information about maritime accidents and ensure the safety of shipping through enforcement of duties laid under the port, flag and coastal States. The objectives of the coastal countries of the bay should be comprehensive but can be taken up in phases for implementation instead of fragmentary approaches.

Strategy Necessary for Improving Safety and Security

The strategies of the countries of the BoB should aim at supporting regional and global security and stability by enhancing prevention, preparedness and response capabilities to various threats of the coastal countries. The rim countries of the Bay of Bengal should strive for an overarching maritime safety and security strategy against all types of challenges from the global maritime domain that may affect people, activities or free trade. It should be developed upon closer cooperation within the region and at national levels with an ultimate objective to protect the maritime interests of all coastal and hinterland countries and increase maritime domain awareness among all stakeholders of the bay. All maritime security and safety stakeholders from among the rim countries either may be called upon to participate in a cooperative setting or under existing multilateral regional organisations. The issues which could be discussed must seek to ensure that the policy response remains fit for current and future challenges in line with political priorities in a rapidly changing safety and security environment and taking into considerations of the ongoing naval development, national policies and other initiatives.

Following issues could be considered by the countries of the rim of the BoB:

Developing a system that can support coastal countries in the task by improving their situation awareness capacity and providing them with additional risk indicators derived from the actual routes followed by the containers. Today, it is widely believed that the only viable way to control containerised cargo is through information-based risk analysis. In this way, it becomes possible to target high-risk shipments and proceed with physical checks, only where needed.

Capable States in the BoB may be tasked to carry out systematic cross-checks of the origin of goods inside import declarations to detect customs fraud. The second one is dealing with the

systematic analysis of pre-arrival data in near-real-time in combination with container traffic container trips data and aims at developing risk indicators for the safety and security of cargo entering the Indian Ocean Region.

The Automatic Identification System (AIS) is an efficient tool to exchange positioning data among participating naval units and land control centres. The fundamental requirement is maritime domain awareness via identification, tracking and monitoring of vessels within their waters and this is exactly what an AIS could bring. It focuses on how the AIS-derived information could be used for coastal security, maritime traffic management, vessel tracking and monitoring with the help of GIS technology.

Maritime surveillance is essential for creating maritime awareness ('knowing what is happening at the sea'). With its competencies in space technologies and data fusion, the countries can have an action plan strengthening the capabilities in maritime surveillance, by contributing to the development of the surveillance system and the information sharing for the maritime domain, and by investigating maritime surveillance solutions.

Establishing a marine casualty information centre where all marine accidents involving member States ships or occurring in the territorial waters of a country may be registered. Such a data base may allow for the storage, exchange and analysis of data on marine casualties and incidents. The shared use of those data may help to develop the accident investigation capabilities of the member States and contribute to improving maritime safety and the prevention of pollution by ships. Software should be developed for reporting and sharing accident and incident reports.

Every year natural disasters and crises worldwide especially in the Indian Ocean cause fatalities and considerable economic losses. In these situations, the region must aim to get help to those who need it as quickly as possible. Reinforcing the capacity to prevent, prepare and respond to disasters is, therefore, a key priority. Enhancing our resilience to crises as well as our capacity to prepare and respond to acute threats should be amongst the objectives of the region. These objectives call for technologies and approaches that help the member states and its dialogue partners to stay ahead of threats and hazards by improving prevention, preparedness, early warning and response in the domains of disasters and man-made crises. The region can strengthen the resilience to crises and disasters through its action plan in crisis management technologies, satellite image processing and analysis, disaster risk management and internet surveillance systems.

The BoB should be committed to improving its capacity to respond to disasters and supports international cooperation in assessing recovery needs and planning recovery measures in post-disaster situations. It should contribute to this process with the development of a guide to multi-stakeholder needs assessment recovery framework for decision-makers to use during the early phases of disaster recovery planning.

Cyber-attacks constitute one of the main threats to critical infrastructures. An increasing number of vital services depend on digital systems – commercial transactions, health, safety, security and others that contribute to our general well-being. Disruptions to these systems – through deliberate "cyber" attacks, natural disasters or technical failure – could cause major

economic and social damage. Moreover, the lack of users' trust regarding the security of online services and privacy protection jeopardies the exploitation of the full potential of information and communication technologies to foster innovation, economic growth and progress. Cyber-security exercises may be identified and should aim to raise the level of preparedness by confronting participants with artificial events and studying their reactions.

The BoB in due course of time can coordinate the network for critical infrastructure protection which aims at providing a framework for networking and co-operation between experimental installations experts and other stakeholders. Activities include sharing information on threats against critical infrastructures and their vulnerabilities, collaborating on appropriate measures to mitigate risk and boost resilience, carrying out critical infrastructure-related security experiments, agreeing on evaluation, qualification and quality assurance methods and proposing standards.

Document security is high among many coastal countries of the BoB. Security of travel documents as “crucial for establishing the identity of a person” and that we can adopt an action plan on document security to introduce and make identity documents, business travel cards and Emergency Travel Documents (ETD) more secure. For many years, travel documents have been subject to standards and security measures as defined in the ICAO Document 9303. Such security measures work on a double layer: traditional paper security features and electronic security features. Travel documents contain an electronic chip embedded which contains data about the document holder (including biometrics) which are protected using cryptographic measures based on the so-called public key cryptography.

The Chemical, Biological, Radiological and Nuclear (CBRN) risk mitigation centres of Excellence should be set up with an initiative to implement a coordinated strategy at the regional level to address the mitigation of and preparedness against risks, either of an intentional, accidental or natural origin, related to chemical, biological, radiological and nuclear (CBRN) materials or agents.

Monitoring the internet regularly is crucial for the regional security community to detect emerging threats, such as public health outbreaks and various types of instability. Internet surveillance systems are routinely used for early event detection, alerting and tracking of emerging public health threats. The medical information system helps to rapidly identify potential threats to public health. Currently, member States are responsible for different aspects of maritime surveillance such as traffic control, safety and security, fisheries control, customs, environment or defence. They collect data separately and often do not share them with each other. In order to provide these authorities with ways to exchange information and data, a common information sharing mechanism has already been proposed. Such a mechanism should ensure effective data exchange between maritime authorities across sectors and across borders by integrating existing surveillance systems and networks and give all concerned authorities access to the information they need for their missions at sea.

Based on the scientific expertise and competencies within the region as well as on the collaboration with the wider scientific community, we in the region should aim to ensure that the best scientific advice possible informs policy development and scientific rigour is applied

when analysing research conducted elsewhere.

With its competencies in space technologies and data fusion, BoB should help to develop a formulation of an integrated maritime policy, in particular, related to integrated maritime surveillance. Support is provided by responding to the needs of a wide range of maritime policies - irregular migration/border control, maritime security, fisheries control, anti-piracy, oil spill pollution, smuggling etc. Also, the global dimension of these policies is addressed, e.g. to help detecting unlawful activities in international waters. Maritime surveillance-authorities are responsible for maritime surveillance, such as border guards, coast guards, police, customs and navies, to share operational information and cooperate with the border security agency and with neighbouring third countries.

Studied technologies intended to build up maritime awareness for use by authorities in piracy affected regions are now available. A prototype software has been developed to track all the merchant ship traffic in wide ocean areas, for use in regional operations centres. The software has been piloted off East Africa and in the Gulf of Guinea. These activities may be replicated among some of the countries in the region.

Measuring and anticipating the effects of future natural hazards is important in order to implement measures to mitigate the effects of disasters. In all phases of crisis management, satellite-derived information plays an essential role as a synoptic, independent and objective source. We now should focus on the automatic analysis of satellite data to provide information products for more effective disaster risk reduction and conflict prevention, as well as evaluating the needs for post-disaster response, recovery and reconstruction planning.

Characterising and monitoring populations in disaster hot spots, early warning approaches must be accompanied by efforts to assess and ultimately reduce exposure and vulnerability of physical assets and population to disasters. Being able to detect where growing concentrations of population, especially the more vulnerable are located in urban disaster hot spots and being able to characterise physical exposure are fundamental inputs for disaster risk assessments. The BoB should address the gaps in the availability of appropriate and consistent physical exposure data region-wide through, which can detect, characterise and monitor human settlement related parameters in both urban and rural settings.

Piracy, maritime awareness and risk-system for Maritime Situational Awareness, (MSA) including piracy and armed robbery should be developed even if it is in a limited way. The real-time maritime situation in the entire, western Indian Ocean basin is provided to Regional Maritime Rescue Coordination Centre (RMRCC) in Mombasa (DCoC ISC) and IOC Anti-Piracy Unit (APU) in Seychelles. We need to familiarise our operators and decision makers with region-wide maritime surveillance capabilities being used in the western Indian Ocean. And then build capacities of our operators, analysts and IT staff to formulate requirements, getting user feedback - what is useful, what is missing and enable scoping of future operational systems and knowing real-time ship positions.

The BoB should be considering modelling, simulation and response capabilities that could be studied to enhance the security and resilience of physical infrastructures and prevent or respond to cybercrime.

Capacity building activities for customs authorities and research to address terrorist or criminal activity form part of the support to customs policy and fight against fraud through;

a. Ship Security Reporting System: The ship security reporting system is an alerting system, which helps in sending distress signals from the ship now directly to the maritime security centre located at Horn of Africa (MSCHOA) and UK Maritime Trade Operations (UKMTO). The BoB countries may recommend to align with those existing systems or set up new centres.

b. Global Maritime Distress Safety System (GMDSS): GMDSS system uses maritime safety information and a general communication channel to receive distress signals from ships in danger. GMDSS system takes help from various elements like INMARSAT, NAVEX, EPIRB etc. to send and receive signals. According to SOLAS, there are certain requirements for GMDSS which are compulsory for every ship to follow.

c. Long Range Tracking and Identification (LRIT) System: The LRIT system is an international ship tracking and identification system adopted by the International Maritime Organisation under the SOLAS convention to ensure a thorough tracking system for ships across the world.

d. Automated Manifest System (AMS): The AMS is a freight tracking system, which requires ships to enter the details of the cargo carried by them. This system was first adopted by the United States of America in 2004 to increase the security level at maritime ports.

e. Vessel Monitoring System (VMS): VMS or the Ship Tracking System is an important system in the shipping industry to find out the location of ships across the world. It is an essential tool for ship tracking and vessel monitoring system.

f. Automated Mutual Assistance Vessel Rescue System (AMVER): AMVER is a vessel safety system which can provide immediate assistance to vessels which are in the emergency situation. The system helps in finding out the location of the vessel and thus provides better crises management.

g. Vessel Management System: Vessel management system uses various tools to monitor and manage shipping traffic at the sea. With the assistance of the Global Positioning System (GPS), VMS not only helps in pinpointing the location of the ships but also helps in the transfer of important weather and environmental data.

Conclusion

It can be said that the regional approach also needs to find an answer on how to involve all concerned littoral countries. In this context, it is very important to understand the need to better and more widely spread the results and awareness of cooperation within the realm of Bay of Bengal rim countries. This would help support the need for maritime cooperation assisted by the bigger picture. When talking about the topic of maritime safety and security as a kind of 'umbrella', it might be seen as very relevant for the days to come. However, if it is understood as something everyone is affected by, hence responsible for, if the focus is

rather on the different elements of maritime safety and security like ‘response’, ‘resilience’ or ‘migration’, then it becomes a very relevant topic. And as maritime safety and security is something affecting everyone, successful cooperation in the field of maritime safety and security is a good way to show the added value of cooperation, to show that BoB actually can make a difference. Sadly enough, the interest in maritime safety and security always gets a boost once some major disaster happens and the added value of maritime cooperation is understood. But to prove the added value of maritime cooperation and how it complements other ways of cooperation as common objectives tell us that many challenges cannot be clearly separated between sea and land.

References

<https://www.sciencedirect.com/science/article/pii/S0308597X14003327>

UNCTAD. Review of Maritime Transport (2018).

European Union Maritime Security Strategy 2014 Action Plan (16/12/2014) - 17002/14 link and European Union Maritime Security Strategy (24/06/2014) - 11205/14 link

Risk analysis for container shipping: from a logistics perspective -Chia-Hsun Chang and JingjingXu Plymouth Graduate School of Management, Plymouth University, Plymouth, UK, and Dong-Ping Song School of Management, University of Liverpool, Liverpool, UK

"Regulations for carriage of AIS" Imo.org. Retrieved 16 February 2015 and JOINT STAFF WORKING DOCUMENT on the implementation of the EU Maritime Security Strategy Action Plan (24/06/2016) - 10625/16 link:<https://imo.libguides.com/c.php?g=659460&p=4655524>

<https://www.utu.fi/en/sites/hazard/publications/Documents/HAZARD%20Publication%203%20CYBERSECURITY%20IN%20PORTS.pdf> and JOINT STAFF WORKING DOCUMENT Second report on the implementation of the EU Maritime Security Strategy Action Plan (15/06/2017) - 10398/17 link

http://www.imo.org/en/OurWork/Security/Guide_to_Maritime_Security/Documents/ILOIMOCCodeOfPracticeEnglish.pdf and EU Global Strategy on the European Union's Foreign and Security Policy - 10715/16 link

https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/docs/publications/imp-progress-report_en.pdf and Council Conclusions on the Implementation of the Joint Declaration by the President of the European Council, the President of the European Commission and the Secretary General of the North Atlantic Treaty Organisation (6/12/2016) - 15283/16 link;

<http://documents.worldbank.org/curated/en/621711468175150317/pdf/344230PAPER0Na101official0use0only1.pdf> and United Nations Convention on the Law of the Sea link and Council conclusions on the Implementation of the Joint Declaration by the President of the European Council, the President of the European Commission and the Secretary General of the North Atlantic Treaty Organisation (5/12/2017) - 14802/17 link