

MARITIME SECURITY EDUCATION AND TRAINING: ESTABLISHING A LEARNING COMMUNITY AND FRAMEWORK FOR PROGRAM GOALS AND OUTCOMES

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ABSTRACT

In the years since the attacks of September 11, 2001, the international maritime community has embraced the need to introduce and adopt security measures to protect vital shipping, facility and port assets from terrorist attacks. These measures have been embodied in the International Ship and Port Facility Security Code (ISPS) of 2002. However, the upcoming review of the Standards of Training, Certification and Watchkeeping (STCW) 78, with its emphasis on maritime safety has led some to suggest this may present a unique opportunity to enfold the ISPS security standards into STCW as well. At the same time, subsequent maritime natural disasters – specifically the 2004 Asian Tsunami and Hurricane Katrina – have led others to suggest that our conceptualization of maritime security should be expanded beyond the prevention and deterrence of maritime terrorist attacks. For these and other reasons, a review of how we define and conceptualize maritime security may be a useful exercise. At the same time, as maritime security – in any and all of its conceptions – will become more and more embedded in the training and education of the IAMU member institutions, beginning a discussion of the common elements of maritime security training and education may be of benefit as well.

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I. INTRODUCTION

The upcoming review of STCW 78 presents a unique opportunity for the international maritime community – through the IAMU member universities – to shape the next set of standards for the decades to come. It has been suggested that this may also present a unique opportunity to discuss the inclusion of security standards – as embodied in ISPS – into STCW as well.

This, however, presents an interesting set of questions. STCW was developed to ensure maritime *safety* by setting a minimum agreed upon set of standards, while ISPS was designed to enhance maritime *security*. This raises the first question – what, if any, is the difference between maritime safety and maritime security?

Second, even if we achieve a mutually agreed upon definition of security, how do we devise a security curriculum so that IAMU universities may begin to share best practices in their training, as they currently do for safety within STCW? While ISPS could be said to suggest learning objectives, no definitive list of outcomes has been established. Is maritime security achieved only by meeting the ISPS requirements? Or does it extend to include other objectives such as, for example, critical thinking and threat/risk identification and analysis?

The goal of this paper is, therefore, to present more clearly the two sets of questions:

- How should the international maritime education community define maritime security? How, specifically, does maritime security differ from maritime safety? What are the components of maritime security?
- What might be the minimum learning objectives maritime security training and education programs?

2. SAFETY AND SECURITY: CONCEPTUAL SIMILARITIES AND DIFFERENCES

There are many definitions of both safety and security, and distinguishing between the two concepts may, in the final analysis, be little more than an academic exercise. Some define safety and security somewhat synonymously, with each being a component of the other. For example, one dictionary defines safety as “protection from or nonexposure to the risk of harm or injury” and security as “the state or feeling of being safe and protected” (Encarta). Yet another source defines safety as “the condition of being safe from undergoing or causing hurt, injury, or loss” and security as the quality or state of being secure...freedom from danger... safety” (Merriam-Webster).

However, some see safety and security as more distinct (although not unrelated) concepts. Safety is a state of being protected against physical, social, political, damage

or any other kind of harm. To put it another way, safety is *doors open* to allow free access for escape or rescue in a dangerous or unsafe situation. Security, on the other hand, is *doors closed* to prevent access to those who might wish to do us harm. While security is related to safety, the difference between the two is the added emphasis security places on being protected from dangers that originate from the outside. Security takes into consideration the actions of malicious agents who attempt to cause deliberate destruction. In summary, security can be considered protection from active malicious agents. Safety, on the other hand, can be considered protection from accident, maritime casualties, inadvertent harm and destruction, and the like.

This latter conceptualization, allowing for some distinction between safety and security, is reflected in the global maritime realm. The International Convention for the Safety of Life at Sea (SOLAS), as its name implies, deals with safety. STCW is essentially also a safety convention, dealing with ship construction and human element standards, and is meant primarily to ensure the safe passage and operation of vessels, and to prevent accidents at sea. STCW can be thought of as the operationalization or guarantee that SOLAS objectives are met in the training and certification of officers and ratings. On the other hand, ISPS, despite the fact that it is an amendment to SOLAS, is meant to ensure maritime security.

In the final analysis, it may be useful to work with a conception that encompasses elements of both safety and security. Surely the goal of every vessel, port, facility and maritime asset is to be both safe and secure, and we can imagine many events that could challenge both safety and security. The value of being both safe and secure is especially important as we turn to the debate within the academic community and elsewhere over the proper conceptualization of security.

3. MARITIME SECURITY: A CONCEPTUAL FRAMEWORK

There is disagreement over how much our conceptualization of security should encompass: In the United States, for example, many define maritime security narrowly as protection against terrorist attack; others (even within the United States) adopt an “all hazards” approach, incorporating maritime piracy, stowaways, tsunamis, earthquakes and hurricanes under the security definition. It has been suggested that these differences of opinion can be grouped into at least three different perspectives: strict constructionalism, middle-of-the-road moderation, and radical reconstructionalism (Bellavita 2006). To this can be added a fourth category: humanitarianism.

3.1. STRICT CONSTRUCTIONALISM

Strict constructionalists would argue that maritime security should focus solely on preventing and responding to terrorist attacks, with the primary emphasis being on prevention. In this interpretation, the primary emphasis of the maritime industry should be on ISPS implementation, plus possibly involvement in other regional and multilateral initiatives such as the US Container Security Initiative, as appropriate. Prevention is the primary emphasis of the terrorism-only security advocates.

While the International Maritime Organization does not explicitly define security, a constructivist definition can be inferred from its website discussion of ISPS implementation (IMO):

Ship and port facility security is a risk management activity. As with all risk management efforts, the most effective course of action is to eliminate the source of the threat ..., which in this case is *those that would commit acts of terrorism or otherwise threaten the security of ships or of the port facilities ...* (my emphasis).

In the constructivist perspective, the role of the maritime industry is to ensure it has done everything possible to prevent a terrorist attack on, or using, key critical components of the maritime infrastructure, including individual ships and port facilities.

3.2. MIDDLE-OF-THE-ROAD MODERATION

Moderates agree that maritime security should include prevention of, and response to, terrorist attacks, but it should also include other – more frequent and widespread – threats to maritime security such as maritime piracy and, increasingly, natural disasters such as hurricanes, earthquakes, and tsunamis.

Moderates argue that the costs (human and economic) to the maritime industry from piracy and natural disasters are actually greater (or at least occur more frequently) than those that have been incurred from maritime terrorist attacks. The data bear this out: A recent study of terrorist attacks between 1999 and 2003 showed that maritime assets represented only one percent of all terrorist targets during this time (Aegis 2003).

3.2.1. MARITIME PIRACY

While maritime piracy is by no means a new phenomenon, by the early 1990s the number of pirate attacks had reached a point where the international maritime community decided action was required. In 1996 the International Maritime Organization (IMO) of the United Nations was charged with maintaining details of reported attacks and issuing official reports on a monthly, quarterly and annual basis. The IMO began producing annual reports in 1998, and monthly reports in mid-2000. Since then it has

documented over 4,200 attacks through 2006. In 2006 there were 240 recorded pirate attacks around the world, translating to one attack roughly every thirty six hours.

With many pirate attacks known to be unreported, calculating the amount of financial damage caused can be very difficult; however, the International Maritime Bureau estimates that maritime piracy costs transport vessels between \$13 and \$15 billion a year in losses in the waters between the Pacific and Indian Ocean alone (Ryan 2006). Earlier economic estimates had placed the annual global figure at approximately \$16 billion (Dillon 2000). Costs stem not only from stolen cargo and goods (and, in some cases, from the theft of the ship itself) but also from delays in port while the attack is reported and investigated, and from increased insurance rates as well.

The human costs of maritime piracy can be significant: In 2006, fifteen sailors were killed in pirate attacks, 188 were taken hostage, and 77 were kidnapped and held for ransom. Since 1995, over 350 sailors are reported to have lost their lives in pirate attacks worldwide (IMO); this has translated to roughly thirty sailors each year. While the 240 attacks reported in 2006 are the lowest number of attacks reported since 1998, and the fifteen deaths in 2006 represent the lowest level of casualties since 2002, seventeen sailors have lost their lives in pirate attacks in the first two months of 2007 alone (IMO).

3.2.2. NATURAL DISASTERS

Moderates would argue that natural disasters should be included within the scope of maritime security, and offer primarily two reasons. First, as maritime facilities have begun to plan for effective response to terrorist attacks, they have found that much of what would need to be done overlaps with response to natural disasters. Terrorist attacks and natural disasters can both damage infrastructure in similar ways; both can create social, psychological and economic disruptions to the flow of goods and services. Consequently, more and more facilities were working with disaster response teams and planners in the creation and testing of their mandatory security plans. Second, as serious as maritime terrorism is, the reality is that natural disasters have also caused significant damage and disruption to maritime assets, and far more economic costs than maritime terrorist attacks have done to date. A few examples follow:

The Loma Prieta Earthquake struck the San Francisco Bay region on October 17, 1989. The magnitude 7.1 earthquake left sixty-three dead and more than 13,000 injured. A section of the San Francisco-Oakland Bay Bridge collapsed, as did a portion of a major highway. Over 28,000 homes and businesses were either damaged or destroyed. All told, the estimated damage was reported at more than \$6.5 billion (Dames and Moore 1999). There was extensive damage at the Port of Oakland, the fourth busiest containerport in the United States and (along with two other containerports in California) responsible for approximately 50% of the total container volume in the

United States (Port of Oakland). Damage included deformed rail lines, tilted container cranes, and cracked wharf piles. Despite the reported damage, most of the port facilities were able to remain in operation immediately following the earthquake, although indirect losses from traffic delays and delays in the transportation of goods due to the collapse of the Bay Bridge and Nimitz freeway exceeded several billion dollars (Dames and Moore 1999).

The 1995 Hanshin earthquake, while by no means one of the largest recorded earthquakes in history, had some of the most far-reaching maritime impacts in modern times. It completely devastated the Japanese port of Kobe, which at the time handled 25% of all Asian trade going to Europe and North America, and accounted for 17.8% of Japan's exports and 14.5% of its imports. 30% of the maritime transportation network in Japan at the time was concentrated there. (Coulter 2002). The port complex itself, constructed on two artificial islands made of relatively loose fill, suffered widespread liquefaction and settlement, and was incapacitated for two months (Louie 1996).

The 2004 Indian Ocean earthquake and subsequent tsunami were among the worst natural disasters in recorded history. Over 225,000 people lost their lives and economic losses were put at approximately \$10 billion. In the maritime realm, preliminary estimates indicated that 66% of the fishing fleet and industrial infrastructure in the regions affected by the tsunami were destroyed by wave surges. Shipping was disrupted as well, particularly in the Strait of Malacca where the depth of the seabed was changed in numerous places. Navigational buoys and old shipwrecks were also disturbed, creating temporary hazards to navigation.

The 2005 hurricane season was one of the deadliest and most costly for the United States. Over 1,800 people lost their lives in Hurricane Katrina and the floods in the immediate aftermath, making it the second most deadly hurricane in US history. Economically, the storm caused over \$81 billion in damage, making it the costliest hurricane to strike the United States. Maritime losses were significant. Port Fourchon, Louisiana, a key energy hub took a direct hit, leading to the loss of half a billion dollars a day. Similarly, the Louisiana Offshore Oil Port, responsible for the import of 11% of all US oil consumption, was temporarily unavailable. Additionally, twenty offshore oil platforms were missing, sunk, or set adrift. A few weeks later, as Hurricane Rita struck an area responsible for 30% of the total refining capacity of the United States; fully half of the Gulf's oil production was shut down. The storm caused \$11.3 billion in damage and was directly responsible for seven deaths.

3.2.3. MIDDLE-OF-THE-ROAD MODERATION: SUMMARY REMARKS

Without emphasizing one set of threats over another, the logic of the moderate approach is that preparation for one set of threats prepares the maritime domain for other threats as well. Being prepared for a terrorist attack on a port facility in terms of

response, recovery, and continuation of operation is not significantly different, moderates would argue, from responding to a hurricane or earthquake. Moderates focus on response and recovery preparedness, possibly even more than prevention, since the more likely severe threats are due to non-predictable natural events. In addition to implementing procedures to prevent maritime terrorist attacks, the maritime industry should undertake plans, policies and procedures to assist in recovery from natural and human-induced disasters.

Moderates argue that it is important to keep an “all hazards” approach in mind at all times – critics argue that an overemphasis on terrorism can actually reduce overall readiness; they offer the inadequate US response to Hurricane Katrina as an example (Bellavita 2006), claiming that the US Department of Homeland Security was so focused on terrorism that it diverted too many resources from the Federal Emergency Management Agency (FEMA).

3.3. RADICAL RECONSTRUCTIONALISM

Radical reconstructionalists would argue that maritime security should be about more than preventing terrorist attacks or responding to natural disasters. Rather, they would pay more attention to the underlying social and economic conditions that might lead to actions that threaten maritime security. Radical reconstructionalists would focus their attention on the root causes of man-made disasters such as famine, war and civil unrest, severe social disruption, and the like; which may lead, for example, to increases in maritime piracy and attacks on maritime assets, human smuggling and stowaways.

Radical reconstructionalists would argue that we can increase maritime security by dealing with the *root causes* of maritime threats. If the causes of maritime threats are reduced or eliminated, then, they argue, the maritime realm would become more secure. This would include reducing more than just the obvious threats. For example, while all would acknowledge that the Asian tsunami had a significant maritime dimension, few would argue that we have any ability to reduce or eliminate tsunamis. This said, environmental evidence suggests that the impact of the tsunami may have been considerably lessened if the coral reefs had not been so severely degraded and had been able better to perform their natural barrier function. Indeed, areas with healthy coral reef structures suffered considerably less damage with fewer fatalities (Illegal Destruction 2005). Knowledge about these kinds of cause-and-effect relationships can improve security in the future. Looking at maritime piracy and terrorism, maritime security professionals should dedicate their efforts to understanding why these events occur, in addition to preventing these attacks.

3.4. HUMANITARIANISM

Humanitarians would argue that not only should the maritime industry take an all-hazards approach to direct threats to maritime assets, it should also focus on the role the maritime industry can play in security threats that do not necessarily directly (or only indirectly) affect the maritime realm:

Emphasis on Maritime Assets as Target/ Victim of Attack/Disaster	Emphasis on Maritime Assets as Support/ Assistance in Attack/Disaster
Strict Constructionalism Middle-of-the-Road Moderation Radical Reconstructionalism	Humanitarianism

Humanitarians focus on the important role the maritime industry plays in famine response, evacuations from natural disasters or conflict arenas, and relief efforts in general for natural and human-induced disasters. Should a terrorist attack occur where the maritime industry could play a useful response role in evacuations or deliveries of necessary goods and services, humanitarians would argue that maritime assets should be offered for response and recovery. Indeed, after the 9/11 attack on the World Trade Center, up to one million people were evacuated from Lower Manhattan by water in a spontaneous response of privately and publicly owned watercraft (Greeley 2002).

Looking at the natural events discussed in the section detailing the middle-of-the-road moderation approach to maritime security, humanitarians would argue that the maritime industry has a role to play in these events (and indeed has played a role), even when there has been no significant impact on, or destruction of, maritime assets. For example, immediately following the Loma Prieta earthquake, ferry service between San Francisco and Oakland, which had ended decades before, was restored. Crowley Maritime (a private corporation), largely acting alone, provided the ferry capability as an emergency response service within three hours of the event, due to the collapse of a section of the San Francisco-Oakland Bay Bridge. The service was offered free of charge for a day and a half, with substantially reduced, state-subsidized fares implemented after that (Hansen and Weinstein 1991).

More generally, while response immediately following any natural disaster is usually provided by the fastest means possible – typically air – longer-term sustained relief efforts are conducted almost entirely by sea. This has led to new fields of endeavor: specifically humanitarian logistics and relief chain management. In each, a great deal of emphasis is placed on the role of the global maritime community as a vital component in any sustained emergency response.

3.5. CONCEPTUALIZING MARITIME SECURITY: SUMMARY

The goal is not necessarily to provide an either/or discussion of maritime security, or to suggest that one conceptualization is somehow superior to another, or that maritime educators and professionals must lock themselves into a single notion of maritime security. Rather, the goal is to provide a sense of the richness of the ways in which maritime security can be conceptualized so as to provide a basis for discussion among maritime education and training professionals. Depending on the nature of the security threat, different countries (and different ports, regions and states within countries) may well find they need to define security differently. Not all countries face – or feel they face – threats from terrorism; not all countries experience hurricanes or earthquakes; nor are all countries afflicted with widespread humanitarian disasters requiring external relief.

4. TEACHING SECURITY: A SUGGESTED FRAMEWORK

A March 2007 conference on undergraduate curriculum development sponsored by the US Homeland Security and Defense Education Consortium reached a consensus on ten curricular outcomes for security professionals (“Undergraduate Homeland Security” 2007). Since, according to ISPS, ensuring maritime security – no matter how it is defined – can be viewed essentially as a *risk function*, it is useful to group these learning outcomes into their risk constituents. As has been noted in prior research, risk may be viewed as comprising two parts: risk assessment and risk management (Nincic 2006). While many of the goals and objectives listed below can be viewed as components of *both* risk assessment and risk management, they are grouped by their primary emphasis (it should be noted that the conference outcomes have been slightly modified, where appropriate, for the maritime security environment).

4.1. RISK ASSESSMENT

Risk assessment is essentially the determination of risk prior to an event occurring. Students, therefore, should learn how to anticipate and prepare for a wide range of threats before they happen. Key skills that should be learned include:

4.1.1. THE ABILITY TO IDENTIFY, ASSESS, AND PRIORITIZE THREATS, RISKS, AND VULNERABILITIES

Students should be able to determine what threats exist to their ship, port, region, and the like, understanding that threats will vary from ship to ship, port to port, and region to region. Some may find that natural disasters are the most critical threat they face; others

will find that terrorism is more likely. Most will find that they face multiple threats; in these cases, the ability to prioritize the threats – rank them from most to least likely – is vital.

4.1.2. THE ABILITY TO DEVELOP, INTERPRET, AND ASSESS MARITIME SECURITY PLANS

Once threats have been determined, students should be able to develop, assess and work with viable security plans prepared for each threat, or range of threats. While there may be some overlap (or even considerable overlap) in responding to an earthquake versus, say, a large-scale detonation of a bomb within a port facility, it is important to remember “one size fits all” security plans are unlikely to be of great utility in an actual crisis situation.

4.1.3. THE ABILITY TO ASSESS COMMUNITY NEEDS AND RESOURCES IN THE CONTEXT OF MARITIME THREATS, RISKS AND VULNERABILITIES

Maritime threats are rarely limited to a specific maritime asset. It is important to remember that ports are often parts of greater communities; a threat to a port, should it occur, is highly likely to affect the surrounding community as well. This is as true of a terrorist attack as it is of a natural disaster. Therefore, successful disaster planning and preparation must effectively engage the local population as well.

4.1.4. AN UNDERSTANDING OF PUBLIC, PRIVATE, AND NON-PROFIT INSTITUTIONAL ROLES AND RESPONSIBILITIES OF MARITIME SECURITY

Following from the point above, the “community” is generally made up of public, private and non-profit (or NGO) entities (it should be noted that many of the latter may be international organizations as well). Each will have different priorities in disaster/threat response, and each will have different value and organizational structures. While an understanding of the points of difference and dissent is important, what is even more important is the ability to turn these differences into strengths in a crisis situation. Because these are often entities that do not normally work closely together on a routine basis, the planning process is essential in bringing these stakeholders together prior to a crisis event.

4.1.5. THE ABILITY TO IDENTIFY AND COORDINATE RESOURCES TO COMBAT THREATS, MINIMIZE RISKS, AND REDUCE VULNERABILITIES

Once community needs have been determined within the context of maritime threat/disaster planning, the community should be viewed as a resource and partner in the planning process. The community is a source of valuable resources and is very

often the first responder, should a crisis occur. Students should learn how to work with the local population in planning and coordination, burden-sharing and training.

4.2. RISK MANAGEMENT

Should a maritime security event/disaster occur, students should be prepared to manage the event successfully. Successful management involves the minimization of human casualties and the mitigation of psychological, social and economic disruption at all levels. This will involve, at a minimum:

4.2.1. THE ABILITY TO COMMUNICATE WITHIN GOVERNMENT, ACROSS GOVERNMENT LEVELS, AND TO ALL SECTORS

As has been seen from the US responses to 9/11 and to Hurricane Katrina, one of the most common and deadly errors made in disaster response is the lack of effective communications. Communication networks are often found to be incompatible; chains of command are not effectively determined; decision-making authority is not appropriately delegated; cell phones do not work. Minimizing and eliminating problems of communication is vital in any disaster response.

4.2.2. ABILITY TO UNDERSTAND PRINCIPLES OF MANAGING PEOPLE, FINANCIAL OBLIGATIONS, AND PROJECTS

Disaster response and security preparedness often becomes yet one more competing item in maritime facility budgets. Ports cannot count on having unlimited funds made available to them should a crisis occur and should plan accordingly. This will be especially true after the immediate response is complete and the immediate crisis has passed. Responders will eventually become accountable for the funds they have spent; the ability to minimize financial dissipation, while obviously not the immediate concern while lives are at risk, will eventually become a matter of consequence. Similarly, in a crisis situation, multiple stakeholders will be present; the ability to manage people who are not part of one's day-to-day work environment is an essential skill.

4.2.3. ABILITY TO UNDERSTAND AND WORK WITHIN THE ENVIRONMENT OF SOCIAL, ECONOMIC, LEGAL, ETHICAL, TECHNOLOGICAL, AND POLITICAL INTERDEPENDENCIES OF MARITIME SECURITY

While many of these considerations may not (as above) be of immediate importance in disaster response while lives are still at stake, they will – as many events have shown – become important soon afterwards. While effective planning can help miti-

gate some of the pitfalls in this regard, a more general framework of understanding is essential. In crisis situations, decision makers must respond without significant time for reflection; the more embedded these interdependencies are, the less likely it is that fundamental errors of judgment will be made.

4.2.4. ABILITY TO WORK EFFECTIVELY WITHIN, AND UNDERSTAND THE DILEMMAS OF, COLLABORATIVE NETWORKS

Collaborative networks are formed by disparate entities (maritime firms, facilities, ports, emergency responders, NGOs, etc) in response to common problems. While an understanding of these networks is essential to the crisis planning process, knowing how to work with them in a crisis situation can make the difference between an effectively managed – and mismanaged – response. Routine practice, planning and training can minimize likely errors, but students should be educated and trained to understand that the vital learning outcome is how these various stakeholders work together *while the crisis is occurring*. Learning how to anticipate problems and manage dilemmas before they become acute is a critical security management skill.

4.2.5. ABILITY TO COLLECT AND ANALYZE DATA AND INFORMATION

While this would seem to be – and is – also a key component of the planning process, learning how to acquire essential information in a crisis situation is of the utmost importance. Students should learn what information they will need as a crisis unfolds, how to ask for that information, and how to assess its reliability. There will be much “fog” and confusion in a terrorist attack, or natural disaster, or response to a humanitarian crisis, and much incorrect information. Successful response to these situations requires an awareness of the information and data pitfalls that can occur.

5. CONCLUSION: THE UTILITY OF COMMUNITIES OF LEARNING/COMMUNITIES OF PRACTICE

The goal of this paper has not been to provide the “correct” answers to the questions it has posed regarding the definition of maritime security, its constituent components, or its relationship to safety or STCW. Nor has it been to arrive at a definitive list of curricular goals and outcomes for maritime security students and practitioners. Rather, the goal has been only to provide one possible framework for addressing these questions by presenting various possible definitions and conceptions of security, and by suggesting one possible set of goals and outcomes, based on existing best practices. It is hoped that this paper may be a starting point for discussion within the IAMU so that

member institutions can begin to work together to: 1) devise a mutually agreed upon understanding of the range of components of maritime security, 2) establish goals and outcomes for our respective educational and training programs, and 3) share our best practices towards meeting these ends.

Cooperation of this nature can be achieved through what are increasingly known as *communities of learning* or *communities of practice*, “groups of people who share a concern, a set of problems, or passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Brazier 2006). Different from formal organizations with official meetings only a few times each year, members in learning/practice communities work together frequently and informally, interacting with one another through *personal networks* – “smaller, frequently overlapping groups comprising people who know, have worked with, and trust each other” (Brazier 2006). The interaction can be either in person or, more often, online through e-mail, chats, “webinars,” moderated electronic forums and the like, to discuss issues of mutual concern

These communities exist not out of mandates but out of voluntary cooperation among interested individuals with a mutual desire to seek, share and create both a deeper understanding of our common problems, and cooperative solutions to these problems. The IAMU already provides an excellent forum for the global community of maritime educators to discuss and share best practices in many important fields and endeavors. IAMU members with an interest in maritime security research, education and training are already the natural leaders in these fields, and should strive to deepen their cooperation through multiple avenues to set the agenda for the maritime security field in the years to come.

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