MARITIME SAFETY IN INDONESIA: MAPPING THE CHALLENGES AND OPPORTUNITIES

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The issue of maritime safety is part of Indonesia’s national interests. Domestically, it is related to the importance of maritime transportation and connectivity to the growth and development of the country. Overseas, maritime safety is an issue related to the norms and rules in the region. For Indonesia, being an active participant in rule-making processes is a key foreign policy focus, as the promotion of a stable and rule-based order in the region is a crucial national interest.

As a maritime nation with a wide-spread maritime territory, Indonesia has the direct interest in raising maritime safety standards. In addition, to fulfill its potential and become a developed nation, Indonesia needs to have the capacity to be able to utilize all of her resources. The capacity in question is related to Indonesia’s ability to mobilize and integrate all its resources that are separated on its islands. This crucial capacity is connectivity.

The issue of maritime safety is also related to Indonesia's self-assigned mission to play a role in rule-making activities in the region. At present, maritime safety issues are gaining attention and momentum in the region. Indonesia has an interest in norms- and rule-making activities in maritime safety standards as part of Indonesia's contribution in promoting and maintaining rules-based order in the region. Maintaining rules in the maritime domain is part of Indonesia’s interests, because Indonesia herself is a country whose territorial existence is allowed and legitimized on the basis of international law, namely UNCLOS 1982.

This report, written by Center for Strategic and International Studies (CSIS) researchers, is part of our efforts as a think tank to contribute to the development of narratives related to maritime safety in Indonesia and contribute to Indonesia's role in the formation of rules and regulations abroad. The report, more specifically, discusses the results of a CSIS study on how maritime transportation is carried out in Indonesia.

Jakarta, January 2020

Philips J. Vermonte
Executive Director, Center for Strategic and International Studies
EXECUTIVE SUMMARY

This is a report of a study conducted by Centre for Strategic and International Studies (CSIS) Indonesia to map the various aspects surrounding the conduct of maritime safety in Indonesia, including its key stakeholders, institutional and regulatory frameworks, and the main challenges regularly faced in providing and managing maritime safety. There are several significant findings.

Firstly, there are overlapping responsibilities and similarity of tasks in practical operations among agencies/authorities that oversee maritime safety. This has made it difficult to distribute functions between them and coordinate efficiently. Agencies tend to stick rigidly and refer only to the national law/constitution sanctioning their own establishment, authority, and legitimacy to operate. Secondly, and accordingly, this study found that the relationship between stakeholders of maritime safety is, in fact, a critical factor to ensure maritime safety. Thirdly, although Indonesia has a comprehensive set of national regulatory frameworks to converge maritime safety practices in Indonesia with global standards, in practice the geographic nature of Indonesia as an archipelagic country engenders complexity in standardizing the nationwide of maritime safety practices. Fourthly, the human factor is still the main factor causing maritime accidents in Indonesia.

This study identified and categorized these challenges to three interconnected levels — political level, strategic level, and societal level. It is only through a complete overhaul of all the challenges faced within these three levels could a rigorous implementation of maritime safety be carried out in Indonesia.
INTRODUCTION

As the world’s largest archipelagic state, maritime transportation is vital to Indonesia. Many types of maritime transportation operate in Indonesian waters carrying people and cargo between its many islands. At least since 2014, the government had boosted the development of maritime infrastructure in Indonesia to be along with the pace of the country’s other major infrastructure projects. This had consequently led to an increase in transport activities. The downside of an increase in the number of transport activities is, unfortunately, an increase in the number of incidents and accidents. Noting the importance of maritime transport for Indonesia, marine activities should be safe and secure, not only from external threats such as piracy and terrorism but also from potential accidents. This means that the various activities surrounding maritime transport needed to be conducted safely, with cooperative arrangements to prevent maritime accidents, as well as to deal with them when they do occur.

The advancement of technology, the increase in global trade activities, and geopolitical dynamics all account for the need for improvement in maritime safety globally, including in Indonesia. A report from Research and Markets estimates that the global maritime safety industry will grow from US$16.71 billion in 2016 to US$23.67 billion by 2021 through factors such as compliance to regulatory standards and guidelines, increasing maritime awareness and the rising number of incidents of piracy and terrorism.1

This is a report of a study conducted by CSIS Indonesia to map various aspects of maritime safety in Indonesia, including the key stakeholders, the institutional and regulatory frameworks, and the main challenges regularly faced in providing and managing maritime safety. The data of marine accidents in Indonesia, as shown in Chapter 4 of this report, has increased; thus actions must be taken to improve the existing condition. This study also looked at successful models of maritime safety in other parts of the world, with the objective to list some valuable lessons learned in these models.

This study was conducted from March to December 2019. The research team carried out interviews with relevant stakeholders in four cities with the largest ports in Indonesia, i.e Jakarta, Surabaya, Medan, and Makassar. Among the interviewees are port operators, harbormasters, representatives from the shipping industry, and government officials. The research team also made a one-week study trip to South Korea to meet with government institutions and research institutions working on maritime safety.

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CHAPTER 1
UNDERSTANDING MARITIME SAFETY

Maritime safety by nature is a cross-sectoral issue that involves a large number of stakeholders. Different types of actors have different approaches to maritime safety. The public sector generally takes maritime safety as a part of its responsibility to present the overarching governance, while the private sector sees the issue more as a part of its business calculation. On top of these complexities between the public and the private, the users of services are also important stakeholders. They usually perceive maritime safety as an expected component of service in maritime-related activities. To understand these dynamics, the term maritime safety needs to be scrutinized further. We depart from recognizing that the term maritime safety can be interpreted both as a concept as well as a practice.

This section dissects existing academic literature on maritime safety to elaborate on the use of the maritime safety terminology and to seek a potential common definition for maritime safety. This section also discusses how maritime safety is derived from a variety of perspectives at a practical level.

Maritime Safety: The History

Seminal works related to the law of the sea can be traced back to the 1600s. Mare Liberum by Hugo Grotius in 1609 is one of the earliest academic writings on the issue. The book deployed the term of ‘safety’ and ‘safe’ several times in explaining an imagined situation at sea. First, Grotius highlighted how the King of Spain told his Councilor and Viceroy of India to organize a suitable fleet for a certain mission in a certain part of the sea, as well as to pick the right command and chief for it.² In this historic article, suitability is a factor related to safety. Grotius also further outlined that the maritime commerce between Spain and India was critical for the safety of the former and therefore could not be maintained without arms.³ Grotius’ thoughts led the discussion in works by other international maritime law seminal works such as William Welwood with his work, “De Dominio Maris,” in 1615 and John Selden with “Mare Clausum Seu de Dominio Maris” in 1635. Overall, these publications suggested that some of the important factors related to maritime safety in the 17th century consist of at least


³ Ibid., 77.
two sets of factors: the technical elements (type of ship) and the human elements (capacity of the crews). These works also showed that maritime safety was an integral part of the strategic thinking of countries, as they compete and try to win wars by ensuring the safety of sea lanes.

Maritime safety was implicitly discussed in The Influence of Sea Power upon History 1660-1783, published in 1890 by Alfred Thayer Mahan. Amidst the overwhelming prescription on how a country could be a leading maritime nation, the book highlighted the necessity of maritime safety in the attainment of such vision. Interestingly, Mahan differentiated the concept between controllable aspects of maritime safety (such as safety of the sea traffic, safety of the port, points of safety across international waters to ensure shipping operations, efficiency of the navy, and safety of the property on board) and the uncontrollable aspects (such as natural landscape of the ports and coasts, as well as potential occurrence of monsoon). Mahan’s work was one of the leading pieces in a period when the social science perspective was dominant in the discussion on safety at sea.

The way maritime safety was studied changed following tremendous technological advancements at the beginning of the 20th century. The unprecedented sinking of the large-scale passenger vessel RMS Titanic in the North Atlantic Sea in 1912 triggered more scientific analyses. The main cause of the Titanic accident was the dynamics of pressures at the sea level, which had brought the icebergs unto Titanic’s sail route, accompanied by the absence of regulation on shipbuilding technology. The initial international response then was the formulation of the first Safety of Life at Sea (SOLAS) Convention in the following two years. More than half of the provisions in the 1914 SOLAS were about technical components of shipbuilding, including but not limited to construction, radiotelegraphy, life-saving appliances and fire protection. This mark the beginning of a science-led paradigm on maritime safety, which was further emphasized by the establishment of the Maritime Safety Committee by the International Maritime Consultative Organization (IMCO, now IMO) in 1959. During its first Assembly, the committee was mandated to cover four thematic areas, Safety of Life at Sea, International Code of Signals, Tonnage Measurement, and the Prevention of Pollution by Oil.

IMO started to expand its coverage beyond technical elements in 2012, when its Secretary-General proposed the Sub-Committee on Standards of Training and Watchkeeping to use a holistic approach and recognize the importance of adding the “human factor” in the chain of responsibility to maritime safety. Two years after that, in recognition of the need to also deal with the human element in the ensuring safety, the name of the sub-

committee was amended to the Sub-Committee on Human Element, Training, and Watchkeeping (HTW). Since then, the range of literature on maritime safety utilizing the more technical perspective on safety has become significantly denser, adding to the already existing literature from the perspective of social sciences.

**Defining the Concept**

Looking for an explicit definition of maritime safety from the available academic literature can be a challenge. One difficulty is the fact that maritime safety in many cases and studies had become a factor taken for granted, as something that has already been commonly understood. A lot of the literatures deem the concept of maritime safety to be self-explanatory and suggest further effort to elaborate on the concept is unnecessary. But in providing a conceptual foundation, several works are noteworthy: Spiro and Parfitt discuss the application of cost-benefit analysis on marine safety measures; Hetherington, Flin, and Mears highlight the human element in the shipping safety; Panayides notes the importance of maritime policy and research for maritime safety; and Fenstad, Dahl, and Kongsvik scrutinize how shipboard safety is influenced by external actors — shipowners and regulatory authorities.

Other literatures used different concepts and frameworks to provide clarities on how they understand and imagine maritime safety. These authors used social sciences as the basis for their studies, particularly approaches more familiar to the field of international relations. We highlighted works by authors like Bateman, Tretmans and van de Laar, Kraska and Pedrozo, and Abuelenin to name a few. All of them agreed that it is difficult to singularly define maritime safety, apart from it being an indispensable part of maritime security. This means that these literatures view maritime safety as closely related to maritime security. Such thought is backed by three arguments: 1) legal regimes governing both maritime safety and maritime security are similar to one another, particularly with commonalities in objectives; 2) the role of decision-makers on each field would relatively be held by the same actors/ agencies; 3) the end goals of both are ultimately slightly similar: to make relevant maritime stakeholders be well-informed about its

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surrounding through the collection, aggregation, and interpretation of information.\textsuperscript{20} If there is one aspect setting maritime safety apart, it would be that maritime safety involves the combination of concerns over unpredictable factors (such as weather and natural disaster) and internal factors (technical and human).

In defining maritime safety, existing literature can be categorized into three, based on how they frame the concept: 1) maritime safety as a regulation; 2) maritime safety as a situation; and 3) maritime safety as an action. The first category frames maritime safety as a set of policies to cope with safety risks and mitigate unpredictable occurrences so that incidents could be prevented. Works by Kaplan and Kite-Powell,\textsuperscript{21} Li and Wonham,\textsuperscript{22} Psaraftis,\textsuperscript{23} and Cho\textsuperscript{24} are among those in this category. The second category of scholars sees maritime safety more as an ideal situation, where lives, property, and environment are free from potential harm when engaged in maritime-related activities, and therefore may function as they should. Some articles under this category are Kopacz, Morgas and Urbanski,\textsuperscript{25} Kim,\textsuperscript{26} Roe,\textsuperscript{27} Kuronen and Tapaninen,\textsuperscript{28} Praetorius and Lutzhoft,\textsuperscript{29} and Haapasaari et al.\textsuperscript{30} The last category interprets maritime safety as practical endeavors by stakeholders to avoid marine accidents as well as addressing economic and social consequences emerging from such incidents. Works authored by Goulielmos,\textsuperscript{31} Shama,\textsuperscript{32} Knapp and Franses\textsuperscript{33} are those in this category. Looking at these varieties, it is apparent that by definition maritime safety is a multi-interpretative concept.

**The Scope of Maritime Safety**

Being a multi-interpretative concept, maritime safety is discussed through a variety of perspectives — political economy, technical, human resources, governance and legal measures, environmental, as well as scientific research and technology. This study found that, from twenty maritime safety literature that was randomly selected, governance is the most discussed theme,
followed by the economic aspect and then human element.

**Political Economy.** Maritime safety tends to be heavily driven by economic calculations. Although it can be considered as public good, maritime safety is also a commodity with a price. The price of maritime safety has become a lot more expensive as the world is more interconnected and globalization implies tighter competition. Experts have raised several notable concerns, including on how to ensure efficient costs in maritime activities while maintaining the responsibility to implement and ensure safety, what the measures to be carried out by the maritime industry to find a proportional balance between seeking profit and providing safety while staying competitive, how insufficient funds on preventive actions from the government could lead to more accidents, and how a country could generate revenue from an open registration system without conducting serious monitoring process to ensure its safety component. Such cost-and-benefit analyses call for policies that benefit more innovations on safety and discourage old market practices that de-prioritize maritime safety.

**Technical Aspects.** In discussing the technical aspects of maritime safety, studies generally depart from highlighting the international safety provisions stipulated by the IMO. Key aspects discussed include the functionality of necessary safety equipment in vessels (such as its navigation system, radio communication, life-saving appliance, and fire protection equipment), the structural construction of the ships, and the connection between such technical elements with the human and other non-technical elements. Discussions about the technical aspects of safety are generally took the form of quantitative analyses and are very specific in their prescriptions.

**Human Resources of Maritime Safety.** Human errors are commonly found as the main root cause of maritime accidents. Literature related to human resources of maritime safety could be categorized into two different foci. The first is the focus on quantitative factors, such as the size of ship crew, and their consequences to maritime safety. The second is the focus on the qualitative features of the safety, such as ineptness, the personal capacity of

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34 Roe, “Safety,” 265. Roe discussed in his article about shipping policy being strongly influenced by economics.
36 Cho, “The Effects,” 735; See also Panayides, “Maritime,” 95. Panayides discussed how the maritime industry developed strategies to be cost-efficient, while at the same time adhered related provisions on maritime safety; Kaplan and Kite-Powell, “Safety,” 493-497. Kaplan and Kite-Powell discussed the difficulties in convincing the fishing industry to take safety as a serious issue.
37 Goulielmos, “Maritime,” 283; Kim, “A Study,” 164. Kim discussed how the financial commitment from the government to carry out Port State Control (PSC) inspection could reduce the possibility of maritime accidents.
38 Li and Wonham, “Maritime,” 232; See also Knapp and Franses, “Comprehensive,” 241-270. Knapp and Franses highlighted how flag states leave their responsibility as maritime administration and revert to the tendency of only thinking about earning money from the system.
40 Shama, “Basic,” 312; See also Goulielmos, “Maritime,” who outlined misperceptions in maritime safety from its technical aspect, including the construction of hardware of the ships and the heavy reliance on double hull.
43 Kuronen and Tapaninen, “Evaluation,” 54; See also Psaraftis, “Maritime,” 13. Psaraftis discussed the mismatch between the main causes of major accidents and its aftermath policies; Goulielmos, “Maritime,” 278, also highlighted the negligence to the human element in the history of maritime safety.
seafarers, and the communication capacity between the crew onboard a vessel with the relevant actors/authorities outside of it (such as those in ports or in patrol ships). When focusing on human resources, these studies generally argue that an ideal working place situation for seafarers is an important prerequisite for maritime safety.

Governance and Legal Measures. Governance and legal measures are the common theme of most literature on maritime safety. The common line of argument is that maritime safety is all about picking the right governance and giving the right dose of commitment to ensure safety in maritime-related activities. To manage maritime safety, there are a number of prerequisites.

First, maritime safety requires pro-active policies based on inherent and potential risks so that maritime accidents could be mitigated early on. The practices in most countries, though, are in contrast to this. Maritime policies tend to only be created or revised following an incident (reactive).

Second, maritime safety requires all stakeholders to be committed in carrying its respective responsibilities, be it at the policy-making process or during the implementation. Some experts argue that politicians have critical roles regarding maritime safety, which is to avoid political transactions that overpower safety considerations and to monitor the implementation of maritime safety legislation. Indeed, maritime safety is also dependent on the degree of commitment given by political actors to adhere to international safety legislation and to develop national measures as its follow-up act.

Third, maritime safety governance must be context-sensitive, transparent, inclusive, binding, and enforced. These requirement principles are indeed ideal and might be difficult to put in practice, but they have strong reasons to be adopted respectively. Context-sensitive governance addresses the issue of different historical maritime backgrounds and safety culture, as well as the loophole in international legislations. Transparent and inclusive governance enable innovative solutions to address maritime safety challenges while at the same time also ensure interests from all parties are represented. Strong binding enforcements prevent wrongdoing and gives no room for stakeholders to de-prioritize maritime safety.

Environmental Aspects. Another crucial scope of maritime safety is regarding marine environments, specifically on how the environment can be maintained to be conducive for human activities at sea. Studies on the environmental aspect of maritime safety cover two issues: 1) preventable factors, such as contamination and pollution from offshore oil and gas platforms, fishing routines, and shipping activities; and 2) unavoidable

50 Abuelenin, “The Impact,” 2.
factors, such as the change in weather and disaster.\textsuperscript{55}

\textit{Scientific Research and Technology.} Scientific research and technology are the least discussed scope among the literature explored. As the focus on the scientific and technological aspect of maritime safety is very much related to the capacity to predict potential risk of incidents, the lack of interest among scholars to put attention to it could be one explanation as to why there are less proactive, future-oriented, maritime policies. Experts who discuss this scope largely centralize their elaboration on the necessity of regulating new technology such as the automation of navigation system.\textsuperscript{56} They relatively agree that research in maritime policy could assist both the industry and the government to overcome safety challenges in the future.


Maritime safety in Indonesia is multidimensional. Actors involved in conducting and ensuring maritime safety must deal with the fact that safety does not only involve technical aspects, but also elements of governance and political-economic aspects. To implement maritime safety effectively, harmonization between these different dimensions is an important requirement.

Along with being multidimensional, it is also multi-stakeholder in nature. The fulfilment of the standard of safety and the consistency of maritime safety implementation in Indonesia involves the interests and commitments of many, beyond simply between government agencies and importantly include private actors, to even the wider society.

This multi-stakeholder nature make the effort to secure maritime safety to be quite susceptible to the development of public policy issues and ideas. New public ideas, movements, and initiatives will likely also change the dynamics of maritime safety, particularly the relationship between its stakeholders. For instance, as Indonesia shifts to be more oriented towards privatization and decentralization, the authority in maritime safety also faced changes. Take for example the authority and responsibility at ports, which has been shared to private entity. Public policy developments and initiatives, like good governance, or the rising popularity of the public-private partnership model, to even perhaps later the changes brought by e-governance, will likely affect the conduct of maritime safety.
Relationship between Stakeholders

The maritime safety domain involves various governmental agencies with their respective responsibilities and regulation they adhere to. The main responsibility for ensuring maritime safety through policy and regulation is held by the Ministry of Transportation (MoT). The authority on regulating maritime safety is further separated based on maritime domains, the sea domain and the inland water domain (rivers and lakes). The former falls into the responsibility of the Directorate General of Sea Transportation (Hubla/Perhubungan Laut) while the latter is under the Directorate General of Land Transportation (Hubdar/Perhubungan Darat). These directorates have each their own technical units and provincial offices throughout the country, who deals daily onsite. The Harbormaster (Syahbandar) and the KPLP (Kesatuan Penjagaan Laut dan Pantai Indonesia/ Indonesia Sea and Coast Guard) are such units under Hubla, while the Land Transportation Management Center (BPTD) is one example of technical office/unit under Hubdar.

Aside from the government, private entities, such as state-owned enterprises, were often tasked to operate public facilities. The government and these state-owned enterprises must also gain the support of the Indonesia National Shipowners’ Association (INSA) in their operation. Understanding the combination of different types of stakeholders is crucial to see the bigger picture of maritime safety governance in Indonesia.

One of the interesting aspects we notice of the relationship between key stakeholders of maritime safety in Indonesia is the fact that the chemistry between public-private partnerships plays a significant role. In ports — where the fate of the entire voyage, apart from onboard the ship itself is determined — responsibilities are shared between government agencies under the Ministry of Transportation, the Harbormaster (Kantor Kesyahbandaran), the Port Authority (Otoritas Pelabuhan), and the District Navigation Office (Distrik Navigasi), with the state-owned enterprise, Pelindo.

In bigger ports such as those in Surabaya or Makassar, Pelindo acts as the port operator, dealing with services in guiding ships safely to dock, loading and de-loading of cargoes, to the management of port facilities. It holds regular check-ups
over wharf facilities to maintain and refurbish according to the international standards of safety (International Ship and Port Facility Security Code/ISPS Code). To maintain technical facilities like the depth of a wharf, Pelindo cooperates and communicates with the District Navigation Office (Distrik Navigasi), whose role is to maintain supporting facilities related to navigation (such as light buoys and beacons) and ensuring there is no barrier in the way to sail.\(^{57}\) The Port Authority (Otoritas Pelabuhan) is the regulator inside ports. It controls and observes adherence to regulations regarding commercial activities in ports, from ensuring the standard of services operated, to ensuring an efficient and orderly flow and management of goods and people. The Harbormaster is the highest authority in ports, especially to the portion of activities where ships dock and set sail. Its main role is to observe the seaworthiness of ships and anticipate change in weather to ensure safety in shipping. Its main instrument is certification, through the Letter of Approval for Sailing (Surat Persetujuan Berlayar). The Harbormaster also overlooks coordination between technical agencies from the Ministry of Transportation in its area of jurisdiction.

The logic and decision that comes from Pelindo, following a business model in running their operations, are different from that of the government, whose logic is to implement the regulation. When there is a need to improve safety standards, the absence of hierarchy or line of commands between these actors could create barriers to achieving the ideal outcome for safety. From the government side, it can be difficult to persuade a company to improve or conduct measures unrecognized as immediate profit-making interests. On the contrary, from the business perspective, efforts to improve the quality standard of facilities, done for instance to attract more ships -- especially foreign ones -- to come and dock at the port, could be hampered when the port operator is not allowed to increase tariffs charged to users due to government regulations. Such a scenario is possible due to the interesting role of INSA, which has a significant say in the passing of regulations. Moreover, the capacity for the provision of safety facilities is usually higher in companies than in government agencies. Such clash of interest between public and private institutions are not uncommon, thus implies that maritime safety in Indonesia is still being managed as a “governance” affair (of managing who gets to take care of what and by how much), and not yet a “security” issue (where the utmost importance is in guaranteeing every effort towards safety is done optimally).

The figure below shows the pattern of day-to-day operations and interactions between relevant agencies based on their responsibilities in ensuring maritime safety in Indonesia. Typically in the sites of sails in big cities, Harbormasters work together with the Port Authority and Pelindo. Off these sites, the actors that directly check safety standards — the District Navigation Office — supports them with the installation of safety utilities and infrastructures.

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In inland ports for river crossings, the BPTD (the Land Transportation Management Center) is the authority that supervises the implementation of safety regulations of port operations and maintains port facilities. In terms of maintaining and operating inland port facilities, responsibilities are shared with the state-owned enterprise ASDP (PT Angkutan Sungai, Danau, dan Penyeberangan “Indonesia Ferry”) and the Regional/Provincial Government. The BPTD has the authority to deny ferries from sailing, and to penalize ASDP should it fail to maintain safety aspects it is responsible for, such as to preserve the ideal condition of wharves. The Harbormaster offices for inland ports are merged with Port Authority offices, making the KSOP (Kantor Syahbandar dan Otoritas Pelabuhan/The Harbormaster and Port Authority Office). Both the BPTD and KSOP are manned by officials from Hubdar. This makes them bureaucratically different than the authorities at seaports.

Safety regulations are further enforced at sea by the KPLP, the BAKAMLA (also known as the Indonesian Maritime Security Board/the Indonesia Coast Guard), and the POLAIR (the Marine Police Corps), who conducts regular patrols and inspect ships for required documents and safety equipment. The coast guard role dualism between the KPLP and the BAKAMLA is an often-cited concern that this study came across in the interviews. This study found that officials tend resort into the idea that the task of covering and patrolling the breadth of Indonesia’s territory cannot fall into one single agency, and that different agencies should help one another to coordinate in law enforcement and accident prevention. By such logic, at least for now, the responsibility towards safety then falls into “the authority closest to site.”

The regulators in the MoT, Hubla and Hubdar, are supported by the Indonesian Classification Bureau (Biro Klasifikasi Indonesia/BKI), who gives them regular reports on advice to ensure ships sailing in Indonesia meet the requirements of international law. BKI is mandated to classify both foreign and Indonesian commercial ships regularly operating in Indonesian waters. BKI classifies ships based on their technical characteristics, like its hull, machinery, and electricity.
installation, direct and regular surveys, and statutory certifications according to the national and international regulations (such as the Load Line Convention, the ISM Code, and the ISPS Code Certifications). Some regulations also require the approval and support from INSA (the Indonesia National Shipowners’ Association).

**Figure 3: Key Actors in Times of Accidents**

In times of accidents at sea, the Harbormaster and the National Search and Rescue Agency (Badan Nasional Pencarian dan Pertolongan/BASARNAS) will be the first to come on-site. The National Transportation Safety Committee (Komite Nasional Keselamatan Transportasi/KNKT) acts as the main actor to investigate the incident and help regulators and operators to improve with accident reports. BKI assists in providing countermeasures through event analysis and giving policy advice on rules and standards of safety.

To prevent accidents, some agencies also engage in raising the public awareness of maritime safety through socialization. The POLAIR (Marine Police) pride themselves in being in close contact with local communities and prioritize their programs related to public counselling and community policing activities. Pelindo, the Port Authority, and the Harbormaster also carry out socialization programs.

This study found that there are still plenty of cases of overlapping responsibilities and similarity of tasks in practical operations, thus making it difficult to distribute functions and coordinate efficiently. This happens between different agencies from different ministries, to even agencies from within the same ministries. Agencies tend to simply stick rigidly and refer only to the national law/constitution that sanctions the establishment, authority, and legitimacy of their own institutions to operate. It can be hard to evaluate maritime safety standards, incidents, and responsibilities when operators have their own understanding of their duties along with their own definition of what maritime safety is.

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This study also found that agencies tend to have their own perception of the role and significance of their institutions to maritime safety and in relation to other related institutions. What we found on the field, for example, gave hint that the actor associated most with safety and usually being held responsible for maritime safety by other related agencies is the Harbormaster (*Syahbandar*). This leaves room for improvement in the relationship between regulators of safety, operators of safety, enforcers of safety regulations, and users. Therefore, as will be discussed further in the next section, maritime safety awareness may not be an issue exclusively plaguing layperson, but could also be in fact still an issue between government agencies.

Overlapping responsibilities seem to be more apparent in inland water areas. The sinking of KM Sinar Bangun in June 2018 is one example of issues related to maritime safety governance in inland waters. The investigation report to the case provided by the National Transportation Safety Committee (KNKT) suggested that one of the issues in Lake Toba was that there was no clear division of authority between the central and local governments in supervising safety standards of the river and lake transportation.\(^{59}\) At the time of the sinking of KM Sinar Bangun, the central government has not assigned Lake Toba with a Harbormaster of its own. Which means, the central government, as the main actor in securing safety standards, has not been present in Lake Toba. Because of this administrative vacuum in safety supervision, the local government took up the role of supervising the safety standards in the area.\(^{60}\)

One critical factor in ensuring maritime safety in Indonesia comes from the relationship between safety stakeholders. Understanding the dynamics inside one agency and beyond tells us a lot about what to improve in the future.

<table>
<thead>
<tr>
<th>Ministry/Agency</th>
<th>Responsibilities in Maritime Safety</th>
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| Ministry of Transportation (MoT)\(^{61}\) | - MoT formulates, implements, guides, and evaluates the maritime transportation norms, standards, procedures and criteria.  
- MoT also oversees its technical units. |
| Harbormaster (*Syahbandar*)\(^{62}\) | - The Harbormaster has the highest authority to carry out and supervise the fulfilment of all regulations ensuring the safety and security of shipping, especially in the port area, in both sea and inland ports. |


\(^{60}\) Ibid.

\(^{61}\) Presidential Regulation of the Republic of Indonesia Number 40 of 2015 on the Ministry of Transportation, Chapter I, Article 3.

\(^{62}\) Law of the Republic of Indonesia Number 17 of 2008 on Shipping Law, Chapter XI, Article 207.
| **The Harbormaster and Port Authority Office (KSOP)** | • The Harbormaster coordinates all government activities, including to check ship documents, permits, and manifests, issue port clearance, and conduct safety inspections. |
| **Port Authority (Otoritas Pelabuhan)** | • The Port Authority controls and supervises commercial port activities. |
| | • Its role includes to provide and maintain facilities at ports and in relation to sail and navigation activities, oversee and ensure safety at ports, ensures the flow of goods, and advises on the cost of port services. |
| **Pelindo (State-Owned Enterprise)** | • Pelindo takes up the role of the port operator, who runs the port services. Services include providing infrastructure and mechanical equipment in port and performing all business activities associated with the port ship service, freight services and passenger services. |
| **Land Transportation Management Center (BPTD)** | • BPTD has the responsibility to carry out the implementation and supervision of safety regulations at inland ports. |
| | • BPTD conducts safety inspection, maritime traffic, and safety of shipping lane. |
| | • BPTD consists of the River and Lake Inspectors, traffic and transportation controller, and inland port coordinators. |
| **The District Navigation Office (Distrik Navigasi)** | • The District Navigation Office maintains supporting facilities related to navigation, such as light buoys and beacons, and ensuring there is no barrier in the way to sail. |
| **Indonesia Sea and Coast Guard (KPLP)** | • KPLP safeguards and carries out law enforcement functions at sea and coast in terms of safety inspection, maritime traffic, and safety of shipping lane. |
| | • KPLP is also tasked to prevent and respond to maritime pollution. |

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63 Law of the Republic of Indonesia Number 17 of 2008 on Shipping Law, Chapter VII, Article 83.
65 Ministerial Regulation of the Minister of Transportation Number 56 of 2017 on the Organization Structure of the Directorate General of Land Transportation, Appendix II, Chapter B, Number 1.
67 Law of the Republic of Indonesia Number 17 of 2008 on Shipping Law, Chapter XVII, Article 277.
<table>
<thead>
<tr>
<th>Organization</th>
<th>Functions/Activities</th>
</tr>
</thead>
</table>
| The Indonesian Maritime Security Board/ The Indonesia Coast Guard (BAKAML| ▪ KPLP supervises non-shipping maritime activity (underwater construction, exploration, etc.).  
  ▪ It also supports (Search and Rescue) SAR operations at sea. |
| A) 68                                                                        | ▪ BAKAMLA carries out and organizes joint safety patrols.  
  ▪ It organizes safety early warning systems.  
  ▪ It also has the crucial role to integrate safety information systems. |
| The Marine Police (POLAIR) 69                                                | ▪ POLAIR prosecutes all violations of maritime safety laws.  
  ▪ POLAIR maintains safety in Indonesian waters through various activities such as law enforcement, patrol, and criminal investigation. |
| National Search and Rescue Agency (BASARNAS) 70                             | ▪ BASARNAS formulates and determines norms, standards, procedures, criteria, and licensing requirements, along with procedures and/or recommendations for conducting search and rescue operations.  
  ▪ Based on these bases, BASARNAS then conducts, evaluates, and organizes SAR operations. |
| National Transportation Safety Committee (KNKT) 71                          | ▪ KNKT conducts transportation accident investigations and provides advice and recommendation, based on the results of the investigation, to related stakeholders. |
| Indonesian Classification Bureau (BKI) 72                                   | ▪ BKI is tasked with ships classification, registration, consultation and supervision related to international and national ship safety standards. |
| The Indonesian National Shipowners’ Association (INSA) 73                   | ▪ INSA is the only organizing body of sailing companies recognized by the Government.  
  ▪ It is a platform for shipping companies to voice out their concerns and interests, especially concerning regulations. |

68 Presidential Regulation of the Republic of Indonesia Number 178 of 2014 on Maritime Security Agency, Chapter I, Article 3.
69 Regulation of the Chief of the Indonesian National Police Number 6 of 2017 on the Organization Structure of the Indonesian National Police, Appendix VII, Chapter 1, Number 3, Point C.
70 Presidential Regulation of the Republic of Indonesia Number 83 of 2016 on National Search and Rescue Agency, Chapter I, Article 2.
71 Presidential Regulation of the Republic of Indonesia Number 2 of 2012 on the National Transportation Safety Committee, Chapter II, Article 4.
72 BKI, “Company Profile.”
73 INSA, “About Us,” Indonesian National Shipowners’ Association, 2019, insa.or.id/about-us/.
CHAPTER 3
MAPPING THE CURRENT STATE OF MARITIME SAFETY IN INDONESIA: THE REGULATORY FRAMEWORK

Maritime safety has long been regulated through a set of rules, norms, principles and procedures. International regimes converge various international maritime safety practices, standardize global expectations, and predictably arranges them. However, in practice, the adoption of these norms does not automatically mean convergence – in the sense that every maritime safety arrangement has the same direction. Nonetheless, all countries are expected to ensure that their national shipping industry is in line with international standards.

Adoption of International Norms and Standards

For Indonesia, the need to improve connectivity, i.e. to make the Indonesian archipelago connected by the seas as a territorial and economic unit, has accelerated the adoption of international norms through various arrangements issued by executive bodies. Table 2 shows that Indonesia has ratified 26 international instruments, including the main instruments: SOLAS Convention 1974, Load Lines Convention 1966, International Convention on Standards of Training, Certification, and Watch-keeping for Seafarers (STCW) 1978, and Convention on the International Regulations for Preventing Collisions at Sea 1972 (COLREGs). Since 2014, in line with government’s vision on Global Maritime Fulcrum, more instruments were ratified, including Convention for the Control and Management of Ships’ Ballast Water and Sediments (BWM), and SOLAS Protocol 1988, which improves standards to harmonize validity duration of certificate as well as ship checking procedures, and Protocol 1998 on Load-lines which improves standards on ship safety, prevents overloaded ship and ship stability.

Indonesia also recently implement ISPS Code and International Convention on Load Lines, in line with efforts to integrate the national market and plug-in deeper into global connectivity. Therefore, there has been a significant effort to make practices of maritime safety in Indonesia converge to global standards. However, the making of authority to ensure effective implementation of maritime safety is
another story. This is due to the fragmented nature of authority that involved various agencies in Indonesia, from the public to private sectors.

### Table 2: Adoption of International Norms

<table>
<thead>
<tr>
<th>Categories</th>
<th>International Norms</th>
<th>Status in Indonesia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Carriage of Cargoes and Containers (CCC):</strong></td>
<td>SOLAS Convention 1974</td>
<td>Ratified (Presidential Decree Number 65 of 1980)</td>
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<td></td>
<td>STP Agreement 1971</td>
<td>Ratified (Presidential Decree Number 72 of 1972)</td>
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<td></td>
<td>Space STP Protocol 1973</td>
<td>Ratified (Presidential Decree Number 43 of 1989)</td>
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<td></td>
<td>Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material 1971</td>
<td>Not ratified</td>
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<tr>
<td><strong>Ship Design and Construction:</strong></td>
<td>Protocol SOLAS 1988</td>
<td>Ratified (Presidential Regulation Number 43 of 2017)</td>
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<tr>
<td></td>
<td>Convention on Load Lines 1966 (LL),</td>
<td>Ratified (Presidential Decree Number 7 of 1976)</td>
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<td></td>
<td>Torremolinos Protocol for the Safety of Fishing Vessel 1993 (SFV)</td>
<td>Not ratified</td>
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<td></td>
<td>Cape Town Agreement 2012 on the Implementation of SFV Protocol</td>
<td>Not ratified</td>
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<tr>
<td><strong>Implementation of IMO Instruments:</strong></td>
<td>SOLAS Convention 1974</td>
<td>Ratified (Presidential Decree Number 65 of 1980)</td>
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<tr>
<td></td>
<td>COLREGs 1972</td>
<td>Ratified (Presidential Decree Number 50 of 1979)</td>
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<td></td>
<td>Convention for the Suppression of Unlawful Acts Against the</td>
<td>Not ratified</td>
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<tr>
<td>• Ships Route</td>
<td>Convention on the International Regulations for Preventing Collisions at Sea 1972 (COLREGs)</td>
<td>Ratified (Presidential Decree Number 50 of 1979)</td>
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<tr>
<td>• Ships Reporting System</td>
<td>Convention on Facilitation of International Maritime Traffic (FAL/FACILITATION) 1965</td>
<td>Ratified (Presidential Decree Number 51 of 2002)</td>
</tr>
<tr>
<td>• Carriage Requirement</td>
<td>International Convention on Maritime Search and Rescue (SAR) 1979,</td>
<td>Ratified (Presidential Regulation Number 30 of 2012)</td>
</tr>
<tr>
<td>• Long-range identification and tracking (LRIT)</td>
<td>Athens Convention to the Carriage of Passengers and their Luggage at Sea (PAL) 1974</td>
<td>Not ratified</td>
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<td>• E-navigation</td>
<td>PAL Convention 1976</td>
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<tr>
<td>Category</td>
<td>Protocol/Convention</td>
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<tr>
<td>Human Element, Training and Watchkeeping (HTW)</td>
<td>PAL Protocol 2002</td>
<td>Not ratified</td>
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<tr>
<td></td>
<td>International Convention on Standards of Training,</td>
<td>Ratified (Presidential Decree Number 60 of 1986)</td>
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<td></td>
<td>Certification, and Watchkeeping for Seafarers (STCW) 1978,</td>
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<td></td>
<td>STCW for Fishing Vessel Personnel (STCW-F) 1995</td>
<td>Not ratified (in the process)</td>
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<tr>
<td>Ship Systems and Equipment (SSE)</td>
<td>SOLAS Convention 1974</td>
<td>Ratified (Presidential Decree Number 65 of 1980)</td>
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<td>MARPOL Protocol 1997, Annex I – Regulations for the</td>
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<td>prevention of Pollution by Oil, Annex II – Regulations</td>
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<td>for the Control of Pollution by Noxious Liquid Substances</td>
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<td></td>
<td>in Bulk, Annex III – Prevention of Pollution by</td>
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<td></td>
<td>Harmful Substances Carried by Sea in Packaged Form,</td>
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<td></td>
<td>Annex IV – Prevention of Pollution by Sewage from</td>
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<td></td>
<td>Ships, Annex V – Prevention of Pollution by</td>
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<td></td>
<td>Garbage from ships, Annex VI – Prevention of</td>
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<td></td>
<td>Air Pollution from Ships</td>
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<td></td>
<td>International Convention Relating to Intervention on the</td>
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<td></td>
<td>High Seas in Cases of Oil Pollution Casualties (INTERVENTION) 1969</td>
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<td></td>
<td>London Convention on the Prevention of Marine Pollution</td>
<td>Not ratified</td>
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<td></td>
<td>1972,</td>
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<td></td>
<td>London Protocol of 1996</td>
<td>Not ratified</td>
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<tr>
<td></td>
<td>International Convention on Oil Pollution Preparedness,</td>
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<td></td>
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<tr>
<td>International Environmental Law</td>
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<td>Additional Information</td>
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<tr>
<td>Response and Cooperation (OPRC) 1990</td>
<td>Not ratified</td>
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<tr>
<td>OPRC-HNS Protocol 2000</td>
<td>Ratified</td>
<td>(Presidential Regulation Number 66 of 2014)</td>
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<tr>
<td>Convention on the Control of Harmful Anti-Fouling Systems on Ships (AFS) 2001</td>
<td>Ratified</td>
<td>(Presidential Regulation Number 132 of 2015)</td>
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<tr>
<td>Convention for the Control and Management of Ships’ Ballast Water and Sediments (BWM)</td>
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<tr>
<td>Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships 2009</td>
<td>Not ratified</td>
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<td>FUND Protocol 1992</td>
<td>Not ratified</td>
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<tr>
<td>FUND Protocol 2003</td>
<td>Not ratified</td>
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<tr>
<td>Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS) 1996</td>
<td>Not ratified</td>
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<td>Protocol of HNS 2010</td>
<td>Not ratified</td>
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<tr>
<td>Convention on Civil Liability for Bunker 2001</td>
<td>Ratified</td>
<td>(Presidential Regulation Number 65 of 2014)</td>
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<tr>
<td>Nairobi Convention on the Removal of Wreck 2007</td>
<td>Ratified</td>
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<td>Convention on Salvage 1989</td>
<td>Ratified</td>
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*Source: Author’s review from open sources.*
At the regional level, Indonesia together with other Southeast Asian states are formulating a regional standard through the Association of Southeast Asian States (ASEAN) Transportation Ministerial Meeting to improve safety standards and ship inspection for Non-Convention Ships (NCS) in the ASEAN region.\textsuperscript{74} In 2018, an MOU was signed on the NCS as well as the adoption of the Guidelines for Safety Standards for Non-Convention Ships. Both the MOU and the Guidelines serve as a reference for cooperation among ASEAN Member States in improving the safety and inspection of NCS.

Although Indonesia has a comprehensive set of national regulatory frameworks to converge maritime safety practices in Indonesia with global standards, in practice the geographical nature of Indonesia as an archipelagic country engenders complexity in standardizing the nationwide of maritime safety practices. Port and sailing activities do not only occur in well-developed facilities and big ships. The use of small and traditional ports, with small ships used by small scale fisheries, traders, as well as local traditional transports, are very common in Indonesia. Small ships and ports generally call for a different set of standards. This is discussed further in the next section on challenges.

**Compliance to Norms and Standards**

The operational and regulatory functions of port governance in Indonesia is unique, as the practice is different from the common security practices where line of command, resources mobilization, and compliance are imposed in top-down manners. This study found that in Indonesia, instead of top-down authority, the fulfilment of certain standards in shipping determine when and under what condition as well as circumstances a ship can sail from one port to another port across Indonesia. The conducts and operational logics of various agencies all determine maritime safety. In cases where there are areas yet to be governed, each agency will rely on their own usual conduct, since they are bound to their own organizational code. In emergency situations where improvisation and resource mobilization are needed, maritime safety will rely on how effective synchronization among various agency and network of actors at an operational level would be.

In Indonesia, regulation on maritime safety falls under the authority of Harbormaster, whose tasks are stipulated by Law Number 17 of 2008, and further operationalized by Ministerial Regulation of the Ministry of Transportation Number 34 of 2012. Before the Law was enacted, harbormasters used to be also responsible in conducting port operation daily, whose function resembles those of maintaining port as a business activity. Law Number 17 of 2008 separates the “operator” function from “regulator” function, and mandates Pelindo to deal with all business – means operating through cost and benefit as well as profit-making ventures – activities. The separation of the two functions of port governance establishes harbormasters as the main authority for maritime safety in Indonesia.

There are several standards observed by harbormasters at the operational level, as set by Ministerial Regulation of the Ministry of Transportation Number 34 of

\textsuperscript{74} Joint Ministerial Statement of the 24\textsuperscript{th} ASEAN Transport Ministers (ATM) Meeting), 8 November 2018, Bangkok, Thailand.
2012. These standards include ship appropriateness and load, manning, and weather. Whether a ship is good to sail is certified by a letter or certificate issued by both harbormaster and directorate of shipping in the Ministry of Transportation, which contains information regarding the ship’s age, design, and license. To issue this letter, there are three levels of checking: checking by marine inspectors, checking in the shipyard, and trial checking routinely performed by the harbormaster. The checking includes: confirming the data (age, design, and licence) is correct; evaluating whether the ship can maintain stability when in sailing, and; evaluating whether the ship is equipped with proper safety equipment. Standardization of the ship is also sanctioned by BKI, who determines the ship qualification for insurance, where the insurance itself will become one of the requirements demanded by the harbormasters.

Harbormasters also evaluate shipload to ensure it adheres to the standard. They inspect whether the ship is skewed or not on the water to ensure that a ship is not overload. They also inspect inside the ship whether goods are laced properly and whether the loading contains any dangerous or hazardous material. Manning also matters. The captain should possess a proper certificate and can only sail if the type of the ship matches his certificate. Besides ship design, loading, and manning, the harbormasters will also evaluate if the weather is good enough for sailing. With regards to this standard, the harbormasters pretty much depend on data provided by the Indonesian Meteorological, Climatological, and Geophysical Agency.

In major ports in Indonesia – Belawan, Tanjung Priok, Tanjung Perak, and Makassar – the harbormasters must work in synergy with other agencies: PT Pelindo as the operator, and the port authority. PT Pelindo is the only business entity, while the harbormasters and port authority are considered as public entities, fully sanctioned by the Indonesian government operating under the realm of the Ministry of Transportation. In smaller ports, the harbormasters and port authority are usually a single agency. Separation of function between them in major ports is due to the overwhelming scope of authority in four busiest ports in Indonesia. In these ports, the harbormasters will mainly deal with issues of safety and security, while port authority will perform tasks to ensure that business and operational in the port are conducted according to the proper standards, making them work closely with PT Pelindo.

To apply good standards of maritime safety, harbormasters refer to SOLAS and the ISPS Code when issuing standard operating procedures of ship and sailing. To ensure compliance with these standards, the harbormasters administer several law enforcement apparatuses to perform the duty of investigators. However, in cases of smaller ports in Indonesia, standards set both by SOLAS and ISPS Code are considered too high. Some of these smaller ports are below standards, and their users, i.e. shipping industry including small and medium-sized fishermen/fishing fleets, consider these standards too costly for their business.

Straits and lakes are a different story. Under the logic of operation of the Ministry of Transportation, activities on straits and lake are not considered as “maritime.” As they are categorized into “land” transportation, the Directorate General of Land Transportation has the authority to ensure that ferries sailing on lakes and straits adhere to proper
standards. The Ministry of Transportation delegates such authority by establishing the Land Transportation Management Agency in 2017. The decision was enacted by the Ministerial Regulation of the Ministry of Transportation Number 154 of 2016 on Organization and Work Conduct of Land Transportation Agency, effectively implemented per 5 January 2017, which puts the authority over transportation in lakes and straits back to the central government, after previously placed under the authority of local government. The establishment of the agency has thus created a major impetus for Land Transportation governmental agency to conduct major procurements, for example, to acquire ships and other relevant equipment to perform a maritime function that falls under their realm of authority.
CHAPTER 4
THE CHALLENGES IN MANAGING MARITIME SAFETY IN INDONESIA

Safe, reliable and efficient maritime transport, and protection of the marine environment, is vital to all activities in the Indonesian waters. Nonetheless, cases of maritime accidents continue to exist. This section discusses the cases of maritime accidents and the challenges that Indonesian continues to face in maritime safety.

Maritime Accidents

Maritime accidents can be caused by unpredictable factors (such as weather and natural disaster) and internal factors (technical and human). The geographic nature of Indonesia as an archipelagic country as well as the extensive usage of maritime transportations across the islands are accidents are difficult to be completely prevented. Various types of maritime accidents frequently occurred ranging from fire, sinking, and collision. According to KNKT\(^5\) (as summarized in the graphic below), 2017 had the highest number of maritime accidents in Indonesia, occurring at least once in a month. From the total 78 cases recorded between 2014-2018, fire incidents were the most common with more than 35% of the total numbers, closely followed by ship sinking and grounding with 33%. Interestingly, the majority of these accidents did not take place in the seas, but happened instead in straits, lakes, rivers, or other enclosed bodies of water.

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Despite experiencing a slight decrease in 2018, when compared to other countries, Indonesia has not improved its maritime safety. Baird Maritime, a notable website on maritime safety issues, still puts Indonesia as the world’s worst record during that year based on fatal accidents in Indonesia by itself alone contributed to more than 35% of the 2018 global total. Furthermore, the website strongly deplored the lack of eagerness from Indonesia to improve its maritime safety condition compared to Bangladesh and the Philippines which in the earlier decades achieved worse than the country.

Among the most fatal incidents in Indonesia are: the MV Senopati Nusantara (2006) with 46 people died and 347 others not found — caused by a combination of bad weather human error from the ship captain in addressing the situation; MV Sinar Bangun (2018) with more than 165 people died and lost and; MV Arista (2018) with more than 10 people died. With two fatal accidents in 2018, the number of victims that year was high.

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Three Levels of Maritime Safety Challenges in Indonesia

This study identified and categorized these challenges to three interconnected levels—political level, strategic level, and societal level.

**Political level.** Political level refers to how policymakers help shape the perspective of maritime safety in Indonesia. This study observed, based on our interviews with various government institutions, that all officials emphasize on the importance prioritizing maritime safety, and that maritime safety dictates the need for priorities and clear policies, especially since compliance and economic factor are the main factors of recusancy towards the established rules and regulations on maritime safety. Nevertheless, there are a number of challenges related to existing conditions at the political level.

Firstly, there is no holistic, concise set of policies that encompasses all aspects of maritime safety. One government agency highlighted the fact that maritime safety regulations tend to overlap one another, hence there is no single law that encapsulates the aspect of maritime safety. Moreover, regional decentralization \(^{80}\) has added to the problem managing maritime safety, as it created confusion as to which authority, either the central government or the regional government, is responsible in maritime incidents at sea and in inland waterways such as rivers and lakes.

Secondly, existing laws and regulations tend to be very technical and rigid to the existing methods and perspectives. Examples of this were informed by a national agency concerning several ministerial regulations, such as Ministerial Regulation Number 30 and Number 115 of 2016 regarding the technical aspects of carrying vehicles onboard a ship. It is found that both orders have duplication, and also certain overlapping of articles. Moreover, criticism was also aired on ministerial regulations that are not thoroughly followed, such as Ministerial Regulation Number 129 of 2016 regarding the technical aspects of navigating sea lanes with physical structures, due to the rigidity of the regulation. Thus, stakeholders find it difficult to incorporate contemporary perspectives of maritime safety when necessary.

Thirdly, the regulators are unable to effectively ensure that the existing regulations are properly executed according to standard. Concerns were raised within the private sector that certain regulations have not been socialized properly by the regulators. As an example, this study found that there is a concern that Ministerial Regulation Number 122 of 2018 on the bureaucratic structure of the Ministry of Transportation were not socialized with the relevant stakeholders. In addition, there still exists illegal levies enacted upon vessel operators and owners to receive their license. The ineffectiveness of regulatory oversight was understood to come from the lack of experts within ministries and national agencies. During the interviews of this study, some respondents mentioned that only within the 3rd echelon of the bureaucracy could we find experts on maritime safety — the higher echelons are provinces. See more in Anwar Nasution, “Government Decentralization in Indonesia,” Asian Development Bank, 2016, [https://www.adb.org/publications/government-decentralization-program-indonesia](https://www.adb.org/publications/government-decentralization-program-indonesia).

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\(^{80}\) In 2000, Indonesia replaced the previous system of centralized government and development planning with a wide range of decentralization programs, which gave greater authority, political power, and financial resources directly to regencies and municipalities, bypassing the
usually bureaucrats assigned from other ministries with various backgrounds. Our respondents expressed concern that the higher echelons are not well versed with the existing regulations implemented on the ground.

**Strategic level.** At the strategic level, the first and main challenge is that there is a lack of synergy between various public agencies, and also between these agencies and private stakeholders. Several agencies interviewed in this study mentioned that the challenge to implementing a more streamlined inter-agency cooperation lies in the duality of role that exist between government agencies. An example that they put forward include overlap in law enforcement, as each agency works under its own set of rules, which allows them a degree of mandate to enforce the law. This is pertinent, for example, to the issue of fishing boats, where despite having its certificate of safety from the Ministry of Transportation, it still requires another certificate of operation from the Ministry of Seas and Fisheries. This allows each ministry to enforce their own rules upon their specific certificates, instead of having the certificates produced under one roof. Another example is the uncertainty upon enforcement, as overlapping regulations on maritime law enforcement have led to various government agencies to claim their role as the primary enforcement agent. This caused difficulty from one agency to another to seek clarification and to demand responsibility for any incidents that may arise out of their enforcement action upon maritime users.

Secondly, there is a lack of relevant channels for communication that enables reporting of irregularities found on the field to the proper authority, and through which the report should be responded as well. As discussed in Chapter 2 on the key stakeholders, the difficulty to coordinate relevant agencies in many ports across Indonesia came from a change in the national law that split the mandate of Port Authority and Operator in 2008. Under the current system, Port Operator is not allowed to plan expansions of the port, or to establish/amend trade routes. Port Operator should simply follow what the authority, in this case, the government, has entrusted them to do, even though it might be inefficient or unprofitable.

Complex governance that involves various agency and domain in Indonesia is the result of multiple agencies and domain in public policy. Maritime safety depends much on the organizational conduct of culture or coordination and collaboration between different governmental agency. This study found that, in cases of emergency, these agencies have to muster various resources using the existing network of communication at the operational level. Such coordinating mechanism is sometimes done by creating, for example, WhatsApp groups among authorities at port level.

An example of informal communication is the practice to circulate weather information from the meteorological agency, the harbourmaster, and then to ship captains through instant messaging services. This study found that such practice is perceived as simpler and more discernible for everyone in receiving the information. However, informal channels could only contain so much before it becomes too protracted to read. Imagine receiving a weather forecast for a one-week voyage through an instant messaging service. One would have to keep on scrolling, passing through some casual and formal conversations in between messages. This is a pressing issue of concern because there has been repeated
case of accidents caused by weather factors. In September 2019 a tugboat at the Port of Belawan in North Sumatera capsized due to an unforeseen worsening of weather in the vicinity. Four crew members were injured, and the captain of the boat was found dead, as he was trapped within the boat. In August 2018, a passenger ship from Ketapang Harbour in East Java travelling to Gilimanuk Harbour in Bali capsized just 300 metres off Gilimanuk Harbour due to strong waves.

Societal level. Here, compliance is the main issue. This study found that there is generally a weak culture of safety that resides in the various maritime stakeholders across the country. As mentioned in the previous part, in cases of smaller ports in Indonesia, safety standards are considered too costly. The political economy reality in the maritime industry tends to be seen as more important than the culture of prioritizing safety. Some shipowners view safety more as a cost than an investment that would help to sustain their business activity.

In smaller ports, overloading of ships is prevalent, as control over these small ports is loose and inspections seldom happen. This has led to numerous accidents at sea and inland waters over the years. Moreover, there are still cases of illicit documents circulated among shipowners, ship captains, and their crews. Crews often forge these documents to be recruited or bought real documents from legitimate (or illegitimate) institutions without passing through the proper procedures.

The human factor is still the main factor in accidents. Even though Indonesia pushes to improve the quality of its sailors and its maritime academic institutions, key stakeholders still perceived that the level of education that Indonesian sailors possess is still limited. This is also related to the maintenance of vessels by ship operators. This study found an interesting fact that regular auditing, or even MRO (Maintenance, Repair, and Overhaul) of ships are not regularly conducted by all shipowners throughout the country. It claimed that it is difficult to ascertain that certain categories of ships, such as ferries, high-speed boats, Ro-Ro vessels, and even Non-Convention Vessel Standard, would meet the standard set for maintenance.

The issue with subpar vessels within the country does not necessarily have to do with old age, but there is also the common practice not to regularly maintain ships due to uncertainties that came with the government’s technical regulations. This study found that only a certain number of Indonesian ships that sail internationally are obliged to follow the international standards, leaving most of those who voyage domestically to have the option to completely opt-out.
CHAPTER 5
MODELS OF MARITIME SAFETY

No country is immune to maritime safety accidents in its history, but many countries succeeded to improve its state of nature usually after one critical juncture. Some literature highlight how European countries gradually moved towards pro-active approaches in a sense preventing potential risks manifest into imminent danger. The longstanding history of European countries as maritime nations and its economic performances has enabled them to progress thoughts on quality over quantity.

Kopacz, Morgas, and Urbanski pinpointed the tragedy of Titanic in 1912 as the impetus that triggered the creation and implementation of SOLAS in 1914, which considered that human lives at sea must be seen to be more essential than just mere properties of the ship. It is perceived that these events marked the ‘birth’ of a maritime safety system. This was then followed by a multitude of maritime safety conventions that supplement the system, including COLREG ’72, STCW ’78/95, SAR Convention ’79, and Load Lines Convention ’66.

The birth of several standards from SOLAS, COLREG, STCW, SAR Convention as well as Load Lines Convention has shaped maritime safety practices as more about regulation. Compared to aviation, shipping is a much older technology. Its conducts and practices have long preceded its regulation. As Indonesian case may have revealed, the main challenges for imposing regulation have more to do with compliance and law enforcement. Since safety is not security that engenders single line of command and control, the challenges will eventually touch into questions about how to make sure that conducts and practices of different but interrelated actors – both public and private – converge under agreed standards.

As the case of the creation of SOLAS already presented, major shock, such as the Titanic case, may prompt a birth of new regulation. However, in many cases, despite changes in technology and increases in trade and people movement, practices endure and hardly change. After SOLAS, additional conventions of maritime safety are regarded by Psaraftis to be ‘reactive’ policies implemented as stopgap

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83 Ibid., 203.
measures in safety regulations, due to a lack of enforcement, or uniformity of such rules. Several major maritime disasters that triggered new policies include the 1987 Herald of Free Enterprise, the 1989 Grounding of Exxon Valdez, the 1990 Scandinavian Star Fire, the sinking of Estonia in 1994, and the 1999 sinking of MV Estonia. Therefore, learning is by far the prominent model of maritime safety improvement as adopted by many countries.

One example of a reactive policy that Indonesia could learn from was South Korea. Similar to Indonesia, South Korea also much depends on maritime transport activities in inland waters. South Korea underwent a transformation after their experience with maritime disasters, the latest being the incident with MV Sewol in 2014. South Korea is no stranger to maritime disasters. This is also why maritime safety in South Korea has received enormous public interest nationally. Aside from the MV Sewol disaster in 2014, there were at least three passenger transport vessel disasters that have been recorded within the country, with numerous lives lost recorded. The three disasters, in the order of event, are 1953 Sinking of the Changyeong (229 lives lost), 1970 Sinking of the Namyoung (326 lives lost), and the 1993 Sinking of the Seohae (292 lives lost). The most important lesson from South Korea is the major change that a crisis could bring into the entire regulation and public policy structure relevant to maritime safety.

The 1995 MV Sea Prince Accident marked the turning point for the South Korean government to revamp its maritime safety policy. The accident highlighted the absence of a National Contingency Plan (NCP) and a Regional Contingency Plan to mitigate such accidents. Learning from the South Korean experience, this study found that measures to improve, or even rebuild, the institution -- including restructuring bureaucracies and relevant government agencies -- that oversee maritime safety is vital.

After the Sewol Ferry Disaster, the Ministry of Oceans and Fisheries and the Korea Coast Guard took over more roles in maritime safety. Previously, maritime safety was, for the most part, the responsibility of the Korean Ministry of Land, Infrastructure, and Transportation. This change has allowed more focus given to maritime safety, from being institutionally framed in relation to commercial activity, to being framed within the lens of strategic and enforcement. Further revamp also saw the Korean Ship Safety Technology Authority (now called the Korea Maritime Transportation Safety Authority/KOMSA) being given the right to take over the safety operations for passenger ships in 2017, with it previously only having the role of inspection with the majority of the objects being that of fishing vessels. Through such changes, South Korea gradually responds to the challenge of overlapping governance as a cross-sectoral discussion becomes the prerequisite for dealing with maritime safety issues.

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84 Psaraftis, “Maritime,” 3-16.
South Korea has also amended the regulations related to maritime safety, particularly in terms of strictly following the IMO conventions and the ISO standards. The new Shipping Act (effective of July 2019) regulates more responsibility from the side of the users, which includes reducing the maximum age for passenger ships in South Korea 30 to 25 years. The Act also stipulates that shipowners are liable to the failure to prevent disasters, and sanctions increased fines for those found to violate safety relations and standards.88

South Korea has also initiated novel business practices after the 2014 accident. Four of them are worth mentioning as examples. The first is the Maritime Safety Management Ship, which is a ship designed to serve multi-purposes ranging from technical—such as maritime traffic, inspection and check, or assistance—to educational ones. The second is the establishment of the Smart Maritime Transportation Safety Center, which is an integrated center with technological support to improve maritime safety activities such as demonstration of safety technology for small/medium-sized vessels or fishing vessels. 3D Scanner-based inspection is also another advanced feature of this center. The third is the establishment of a dedicated Maritime Transportation Safety Broadcasting, which is a broadcasting system designed for mainstreaming maritime safety awareness, marine meteorological information, marine traffic information, or disaster alerts, to all ships crossing within and through the country. The last project is the Maritime Traffic Environment Simulator, which is a simulator that enables safety diagnosis or safety analyses in vulnerable areas.

These efforts suggest that South Korea also carried on with the more proactive policies as follow ups to their reactive ones. Overall, although the number of maritime accidents in South Korea steadily increased, the rate of such increase has fallen in the past five years, as shown by the table below.

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87 This study conducted a series of interviews and meetings with representatives from Korea Maritime Institute (KMI), Korea Maritime Safety Transportation Authority (KOMSA), Korea Institute for Maritime Strategy (KIMS), Korea National Diplomatic Academy (KNDA), and Korea Maritime Dangerous Goods Inspection and Research Institute (KOMDI) in South Korea from 26 to 29 August 2019.

88 Interview by author, Korea Institute for Maritime Strategy, Seoul, South Korea, 28 August 2019.
<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of maritime accidents</td>
<td>1,330</td>
<td>2,101</td>
<td>2,307</td>
<td>2,582</td>
<td>2,671</td>
</tr>
<tr>
<td>Increase rate</td>
<td>-</td>
<td>58.0%</td>
<td>9.8%</td>
<td>11.9%</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

Source: Data compiled during author’s interviews in South Korea.\(^{89}\)

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\(^{89}\) This study conducted a series of interviews and meetings with representatives from Korea Maritime Institute (KMI), Korea Maritime Safety Transportation Authority (KOMSA), Korea Institute for Maritime Strategy (KIMS), Korea National Diplomatic Academy (KNDA), and Korea Maritime Dangerous Goods Inspection and Research Institute (KOMDI) in South Korea from 26 to 29 August 2019.
CHAPTER 6
POLICY RECOMMENDATIONS

In Chapter 4 we discussed the three levels of maritime safety challenges in Indonesia — political, strategic, and societal. It is only through a complete overhaul of all the challenges faced within these three levels could a rigorous implementation of maritime safety be carried out in Indonesia.

This study compiled a list of policy recommendations to respond to these challenges. Most of these recommendations are not new — they have been proposed by various stakeholders, some repeatedly, but as of yet they have not been met. This shows the serious difficulty in improving the condition for maritime safety in Indonesia — although the prescription is there, the way to get there is complex. The list of recommendations is listed here following the categorization of the challenges.

Political level. There needs to be a codification of rules and standards to provide simplified references. The main challenge at this level is the lack of holistic policies that encompass all aspects of maritime safety. As discussed in Chapter 3, the conducts and operational logics of various agencies all determine maritime safety — each agency will rely on their own usual conduct since they are bound to their own organizational code. Simplified references to rules and standards should resolve confusions created overlaps of maritime safety regulations.

Simplified bureaucracy should also be part of the vital measures to improve, or even rebuild, the institution — including restructuring bureaucracies and relevant government agencies -- that oversee maritime safety. This report has discussed the difficulty in distributing functions and coordinate efficiently among agencies due to the overlaps of their responsibilities and tasks. The current complexities in the relationship between stakeholders should be managed by simplified bureaucracy, in particular, so that operators do not have their own understanding of their duties along with their own definition of what maritime safety is.

Strategic level. As the main challenge at this level is the lack of synergy between stakeholders, in particular between the public agencies and the private sectors, there needs to be a streamlining of the interests. Public agencies (Harbourmasters and the Port Authorities) and private actors (ship owners and shipping industry) need to coordinate better.
The ongoing operation within the port has so far been able to be handled through informal communication between key stakeholders. However, should Indonesia seek to expand its shipping operation, and its maritime economy activities, or to establish a robust mechanism in an attempt to prevent any incidents or accidents, then it is important to enhance the communication system between the three key main stakeholders to a more regular and mandatory stage.

Moreover, data integration is vital. Indonesia has begun carrying out efforts to implement e-government since the start of the millennium, with the Presidential Instruction Number 6 of 2001. If this could be fully implemented in maritime safety governance, in particular for data integration, then the synergy between authorities/agencies would be highly improved. E-government involves automatization and computerization of data, which in turn would establish new patterns for governance, channels of communication, and mechanisms for transaction and information sharing.

Societal level. It is not easy to change the weak culture of safety that resides in Indonesia. Compliance is a serious problem, as safety is often put in lower in the priority of the maritime industry than the economic calculation. The human factor is indeed still a major factor in accidents. Even though Indonesia pushes to improve the quality of its sailors and its maritime academic institutions, key stakeholders still perceived that the level of education that Indonesian sailors possess is still limited. However, it must be noted that the culture of a society is not stagnant — it can change under certain situations. Under the right circumstances, cultures can change. Cultural change can occur from within through new philosophical ideas or technological advancement. Overcoming this challenge would require an overarching agenda that sets out the target that needs to be achieved, not only by the government, but also through maritime academic institutions, and ship operators in developing the most suitable curriculum on maritime safety for Indonesian sailors. With a more refined human resource, comes an increasing concern in fulfilling aspect of maritime safety.

Another method to ensure compliance is by creating clear sanctions for cases of non-compliance. This study has found various cases of non-compliance due to the inability of the regulators to effectively ensure that the existing regulations are properly executed according to standard. The ineffectiveness of regulatory oversight to create the circumstance for the improvement of maritime safety culture. This is related to the recommendations at the political level regarding the codification of rules to create simplified references.

International cooperation. In addition to responding to the challenges laid out in Chapter 4, another aspect to be highlighted as policy recommendation is the importance and opportunity of international cooperation. This study suggests that there is an opportunity for closer cooperation with external partners to improve maritime safety in Indonesia. Between Indonesia and South Korea, for example, maritime cooperation between them has existed for decades, in particular in sectors related to handling marine and plastic waste, protecting marine resources, overseas rescue operation, exchange programs between academic institution, and the most recent one is establishing a Marine Technology Research and Cooperation Center, including several joint
research projects on marine science and technology. There are further areas and sectors that have not been covered in the existing cooperation, in particular related to the improvement of human resources, i.e. training and education.

Cooperation at the regional level should be encouraged to continue. The current efforts through ASEAN to formulate a regional standard is urgently needed. Such international efforts should give a boomerang effect to non-convention ships practices in Indonesia, where traditional and smaller ship business operator are pushed to invest more in improving standards so they can maintain their business connection at international – or regional – level.


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This is a report of a study conducted by Centre for Strategic and International Studies (CSIS) Indonesia to map the various aspects surrounding the conduct of maritime safety in Indonesia, including its key stakeholders, institutional and regulatory frameworks, and the main challenges regularly faced in providing and managing maritime safety. There are several significant findings, including the overlapping responsibilities and similarity of tasks in practical operations among authorities of maritime safety, the importance of the relationship between stakeholders in ensuring maritime safety is well implemented, the complexity of standardizing maritime safety practices in the wide geographic span of Indonesian archipelago, and how the human factor is still the main factor in causing maritime accidents in Indonesia.

This study identified and categorized these challenges to three interconnected levels — political level, strategic level, and societal level. It is only through a complete overhaul of all the challenges faced within these three levels could a rigorous implementation of maritime safety be carried out in Indonesia.