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# IMPLEMENTATION OF SEAWORTHINESS STANDARDS FOR TRADITIONAL SHIPPING VESSELS BY THE HARBORMASTER AT SUNGAI GUNTUNG PORT: A COMPARATIVE STUDY OF REGULATIONS AND TRADITIONAL SAFETY PRACTICES

**Maruli Simon Lumban Gaol[1], Soerya Respationo[2], Erniyanti[3], Siti Nurkhotijah[4]**
[1,2,3,4]Universitas Batam, Indonesia.
Email: simon.gaol87@gmail.com, 1012095902@univbatam.ac.id, erniyanti@univbatam.ac.id, Sitinurkhotijah@univbatam.ac.id

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**Abstract**

This study examines the legal framework, implementation, obstacles, and solutions concerning the Harbormaster's enforcement of seaworthiness standards for traditional shipping vessels at Sungai Guntung Port. It compares formal regulations with traditional safety practices through normative-empirical legal research using statutory, conceptual, empirical, and comparative approaches. Data were obtained through library research, semi-structured interviews, limited field observation, and documentation, and were analyzed qualitatively through data reduction, presentation, and deductive-inductive interpretation. The findings show that supervision is grounded in shipping legislation and implemented through document verification, physical inspections, cargo supervision, safety guidance, and the issuance of Sailing Approval Letters. Implementation nevertheless remains incomplete because of limited inspection personnel and facilities, owners' financial constraints, delayed certification, inadequate safety equipment, and reliance on inherited operating practices. Local knowledge of weather, currents, and waterways contributes to practical caution but cannot replace technical inspection or mandatory safety requirements. The study proposes collaborative maritime safety through continuous guidance, risk-based inspection, institutional strengthening, assistance with safety equipment, and gradual standardization. These measures seek to align traditional practices with national requirements without reducing the protection of vessels, crews, passengers, cargo, and the maritime environment.

**Keywords: Harbormaster; Implementation; Maritime safety; Traditional shipping vessels; Vessel seaworthiness.**

## INTRODUCTION

Vessel seaworthiness is a fundamental element of maritime safety because sea and river transportation connect communities, support the movement of goods, and sustain local economic activity. In the Indonesian archipelagic context, the constitutional recognition of the country's maritime character places safe transportation within the state's responsibility to protect people and maintain territorial connectivity. Maritime safety is therefore not merely a technical concern. It also concerns legal protection, the exercise of public authority, and the practical delivery of services on which coastal communities depend (Asshiddiqie, 2020).

Traditional shipping occupies an important position within this system. Small vessels serve coastal settlements, islands, rivers, and narrow waterways that are not fully served by modern transportation. They carry basic necessities, fishery products, agricultural commodities, and passengers, often through individually managed or family-based enterprises. Their construction and operation differ from those of modern commercial vessels. Wooden hulls, simple technology, limited financial resources, and skills transmitted between generations create a distinct operational setting in which uniform technical requirements can be difficult to implement (Silalahi, 2019). The difficulty does not remove the need for seaworthiness. Rather, it raises the question of how mandatory requirements are implemented where owners and masters traditionally assess safety through experience, familiarity with local waters, and

customary operating procedures. Formal regulation relies on certification, technical inspection, competent crewing, equipment, and administrative documentation. Traditional practice relies more heavily on accumulated practical knowledge. Although both seek to protect vessels and their occupants, the methods by which they assess readiness to sail do not always coincide. This difference creates a gap between legal requirements and operational behavior.

The Class III Sungai Guntung Port Management Unit, or Unit Penyelenggara Pelabuhan (UPP), provides the institutional setting for this research. Traditional vessels remain important to the movement of people and commodities between the coastal areas of Indragiri Hilir, the Riau Islands, and surrounding waters. The Harbormaster must verify seaworthiness before departure while dealing with limited personnel, inspection facilities, extensive supervision areas, and varying levels of compliance. Vessel owners, meanwhile, face the cost of repairs, replacement equipment, certification, and continued operation. These conditions make the port a relevant location for examining how legal requirements function in everyday practice.

The legal framework examined in the study centers on Law Number 17 of 2008 concerning Shipping, as amended by Law Number 66 of 2024, together with its implementing provisions. Within that framework, the Harbormaster supervises compliance and determines whether a vessel may receive a Surat Persetujuan Berlayar (SPB), translated here as a Sailing Approval Letter. Administrative approval should express a substantive assessment of safety, rather than simply certify that documents have been submitted. The distinction matters because complete documentation does not necessarily establish that a vessel's equipment, construction, loading, and crew are ready for a safe voyage.

Previous research reviewed in this study addresses maritime law enforcement, legal culture, administrative supervision, and the regulation of traditional vessels. The present research brings these concerns together by focusing on the Harbormaster, comparing formal regulation with traditional safety practices, and locating the analysis within a specific river-port setting. Its contribution lies in examining the interaction between legal norms, institutional capacity, and local safety culture, rather than treating any one of these elements as sufficient to explain implementation.

Accordingly, the research addresses three questions: how seaworthiness standards for traditional vessels are legally regulated; how the Harbormaster implements them at the Class III Sungai Guntung UPP; and what obstacles and solutions arise in that implementation. The objectives are to analyze the legal framework, evaluate the relationship between prescribed procedures and observed practice, and identify improvements that retain relevant local knowledge without replacing mandatory safety requirements. The intended practical contribution is to strengthen supervision, guidance, and compliance while protecting the social and economic role of traditional shipping.

## LITERATURE REVIEW

### Rule-of-Law Theory as the Grand Theory

Rule-of-law theory provides the overarching basis for examining the state's responsibility for maritime safety. The Rechtsstaat concept places public power under law and associates government action with legality, legal certainty, the protection of rights, and accountability. The study draws on the discussion of legal government and substantive protection in Asshiddiqie (2022) and Ridwan HR (2021). Applied to shipping, this perspective requires more than the existence of written safety rules. It requires the state to implement those rules through institutions capable of protecting users of maritime transportation.

The Harbormaster's authority is relevant because it converts general legal obligations into decisions concerning actual vessel departures. Inspection, supervision, and the issuance or postponement of an SPB must be grounded in lawful authority and directed toward public protection. Local practices remain relevant to understanding how people operate vessels, but they cannot remove the obligation to meet safety standards. This theoretical perspective therefore guides the assessment of consistency between legal duties, administrative decisions, and the protection achieved in practice.

### Legal-System Theory as the Middle Theory

Friedman's legal-system theory explains implementation through the relationship between legal substance, legal structure, and legal culture. Legal substance comprises the rules and standards governing seaworthiness. Legal structure consists of the institutions, personnel, authority, and facilities through which those standards are administered. Legal culture concerns the attitudes, expectations, values, and habits that influence how owners, masters, crews, and officials respond to legal requirements (Friedman, 2020).

These elements connect the abstract duties of the rule of law with the practical conditions of supervision. Detailed regulations may have limited effect where inspectors lack resources or owners regard certification as an administrative burden. Likewise, an established port institution cannot ensure substantive compliance where equipment is unavailable or experience is considered a substitute for inspection. The framework enables the study to examine whether implementation problems arise from the design of standards, the capacity of the supervising institution, the practices of vessel operators, or the interaction among these factors.

**Administrative-Supervision Theory as the Applied Theory**

Administrative-supervision theory provides the operational framework for evaluating the Harbormaster's work. Drawing on Indroharto (2020) and Ridwan HR (2022), the study treats supervision as both preventive and corrective. Its purpose is not limited to identifying violations after they occur. It also includes examining compliance before authorization, providing guidance, correcting deficiencies, and ensuring that administrative discretion remains consistent with law and the public interest.

A distinction is therefore made between procedural and substantive supervision. Procedural supervision includes checking certificates, crew documents, and departure applications. Substantive supervision concerns the vessel's actual condition, functioning equipment, cargo distribution, and operational readiness. The general principles of good administration, or Asas-Asas Umum Pemerintahan yang Baik (AUPB), supply the criteria of legal certainty, care, professionalism, accountability, and public benefit. These principles are used to assess whether the departure-approval process protects safety or remains primarily a documentary exercise.

**Previous Research and the Research Gap**

The five studies summarized in Table 1 establish the position of the present research within the literature. They concern ineffective enforcement, the influence of local culture, formalistic supervision, economic constraints, and the Harbormaster's general role. Their reported findings provide the basis for investigating these issues together at Sungai Guntung. Together, these studies establish the relevance of examining institutional supervision alongside the safety practices of traditional shipping communities.

**Table 1. Previous research and the position of the present study**

| No. | Author | Year | Title | Research Findings |
|---|---|---|---|---|
| 1. | Dedi Prasetyo, Universitas Indonesia | 2023 | The Effectiveness of Maritime Safety Law Enforcement for Traditional Vessels at Small Ports | This study concludes that maritime safety law enforcement at small ports has not been effective because of weak interagency coordination and limited technical supervision. Regulations have not been implemented consistently in the field. Difference from the Present Study: Dedi Prasetyo's research does not specifically address the seaworthiness of traditional shipping vessels, does not focus primarily on the Harbormaster's role, and does not employ a comparative study of regulations and traditional safety practices. |
| 2. | Siti Nurhaliza, Universitas Maritim Raja Ali Haji | 2022 | Traditional Shipping Safety from the Perspective of Coastal Communities' Legal Culture | This study shows that traditional shipping safety practices are strongly influenced by local culture and traditional knowledge. Coastal communities tend to rely on experience and inherited customs rather than compliance with formal regulations. Difference from the Present Study: Siti Nurhaliza's research emphasizes sociological aspects and legal culture, whereas the present study integrates normative, institutional (Harbormaster), and comparative analyses of regulations and traditional safety practices. |

| No. | Author | Year | Title | Research Findings |
|---|---|---|---|---|
| 3. | Muhammad Faisal, Universitas Airlangga | 2021 | The Harbormaster's Administrative Supervision of Traditional Shipping Vessels in Ensuring Maritime Safety | This study concludes that administrative supervision by the Harbormaster tends to be formalistic and administrative and therefore does not fully ensure substantive safety in traditional shipping. Stronger field supervision and continuous guidance for shipping operators are required. Difference from the Present Study: Muhammad Faisal's research does not examine legal culture or traditional safety practices and does not use a comparison between legal norms and social practices as its principal analytical focus. |
| 4. | Rina Oktaviani, Universitas Diponegoro | 2020 | Implementation of Traditional Vessel Seaworthiness Provisions from a Shipping Law Perspective | This study finds that the regulation of traditional vessel seaworthiness is normatively relatively comprehensive, but implementation remains suboptimal because of economic factors and operators' limited legal understanding. Regulations tend to be uniform and do not fully consider the characteristics of traditional vessels. Difference from the Present Study: Rina Oktaviani's research emphasizes normative analysis and general implementation, whereas the present study specifically examines implementation by the Harbormaster and compares regulations with traditional safety practices at a particular research location. |
| 5. | Andi Saputra, Universitas Hasanuddin | 2019 | The Harbormaster's Role in Ensuring Maritime Safety at Traditional Shipping Ports | This study concludes that the Harbormaster plays a strategic role in ensuring maritime safety through administrative and technical vessel inspections before a Sailing Approval Letter (SPB) is issued. However, the effectiveness of supervision remains constrained by limited resources and low compliance with safety requirements among traditional shipping operators. Difference from the Present Study: Andi Saputra's research examines the Harbormaster's role generally, without systematically comparing regulations and traditional safety practices or situating the study within a specific river-port context. |

Source: Literature review compiled by the authors.

The research gap concerns the combined analysis of seaworthiness regulation, implementation by the Harbormaster, and traditional safety practices within one local setting. The study does not separate maritime safety from the economic and cultural conditions in which vessels operate. Instead, it examines how those conditions affect compliance and how supervision can respond while maintaining the requirements intended to protect life, cargo, and the maritime environment.

## Conceptual Framework and Research Assumptions

Implementation is understood as the translation of legal requirements into concrete administrative and operational action. Seaworthiness standards encompass technical, administrative, and operational requirements, including vessel condition, safety equipment, crewing, and documentation. Traditional shipping vessels are understood in this study as small or traditionally constructed vessels used by local communities for passenger or cargo transport, commonly managed by individuals or small groups and operating on local, river, or inter-island routes (Saliman, 2021).

The Harbormaster is the public official responsible for supervision and enforcement in maritime safety and security. Traditional safety practices comprise unwritten methods based on experience, inherited knowledge, and local understandings of weather and water conditions. Comparative analysis is used to identify similarities and differences between those methods and formal standards. The initial assumptions are that regulation provides a normative basis but faces structural and cultural constraints; that implementation is affected by limited resources and local operating conditions; and that technical, social, cultural, and economic factors shape the gap between regulation and practice. These assumptions guide inquiry rather than constitute independently established findings.

## METHOD

### Research Design and Approaches

The study employs normative-empirical legal research, also described as a juridical-sociological approach. The normative component examines law as written rules, or law in books, while the empirical component examines law as implemented through institutional behavior and the practices of traditional shipping operators, or law in action. The design is descriptive-analytical: it describes the implementation of seaworthiness standards and analyzes the relationship between legal requirements and actual supervision. A comparative component examines the points of correspondence and difference between formal standards and traditional safety practices (Soekanto, 2019).

Four complementary approaches are used. The statutory approach examines shipping legislation, the structure of safety obligations, and the Harbormaster's powers. The conceptual approach examines seaworthiness, administrative supervision, maritime safety, and legal culture. The case and empirical approach investigates inspection practices and the experiences of officials and vessel operators. The comparative approach brings the normative and empirical materials together to identify implementation gaps and the factors associated with them. These approaches support interpretation of legal implementation rather than numerical testing of causal relationships (Marzuki, 2021).

### Research Location and Data Sources

The research was conducted at the Office of the Class III Sungai Guntung Port Management Unit. The site was selected because traditional shipping is important to local sea and river transportation and because the port provides a setting in which formal inspection requirements interact directly with traditional operating practices. The institutional focus is the Harbormaster's supervision, while owners, masters, and crews provide perspectives on compliance and customary safety procedures.

Primary data were obtained from interviews with the head of the UPP or a representative, the Harbormaster, vessel safety inspection personnel, traditional vessel owners, masters, and other relevant parties. Observation of inspections and safety supervision supplied additional primary material. Secondary data consisted of legislation, legal scholarship, books, journal articles, and previous research. Tertiary materials, including legal dictionaries and other explanatory references, supported the interpretation of concepts and terminology. These sources provide the legal, conceptual, and empirical materials required for the analysis (Amiruddin & Asikin, 2020).

### Data Collection and Analysis

Library research established the normative and theoretical basis of the study. Semi-structured, in-depth interviews explored how inspections were conducted, how owners understood their obligations, and why traditional practices continued to influence decisions about vessel readiness. Limited, focused, non-participant observation examined operational conditions, the inspection process, and interaction between supervisors and operators. Documentation included official records, activity reports, photographs, and archives relating to seaworthiness supervision and departure authorization. Observation and documentation were used to support and compare the accounts obtained through interviews (Syamsudin, 2020; Sutopo, 2020).

The data were analyzed qualitatively in three stages. First, data reduction selected and organized material relevant to the research questions. Second, narrative presentation and comparison brought regulatory requirements into relation with observed practices and interview accounts. Third, deductive and inductive interpretation connected general legal obligations with specific field findings and developed conclusions from the patterns identified. The analysis focused on implementation processes, recurring constraints, and the relationship between regulation and local practice (Salim HS & Nurbani, 2021).

The findings are presented as qualitative observations from the research setting. The analysis describes implementation processes and associated constraints rather than numerical compliance rates or quantified estimates of accident reduction. Its conclusions are therefore specific to the observed institutional and operational setting and should not be read as statistical estimates for all traditional shipping operations.

## RESULTS AND DISCUSSION

### 1. Legal Framework for Traditional Vessel Seaworthiness

The study identifies a legal basis for the Harbormaster's supervision in Law Number 17 of 2008 concerning Shipping, as amended by Law Number 66 of 2024. It discusses Article 117 in relation to seaworthiness and navigation requirements and Article 207 in relation to the Harbormaster's safety-supervision role. Seaworthiness is

treated as a condition of lawful departure and not merely a matter of whether a vessel can physically move through the water. The requirements examined include vessel safety, pollution prevention, crewing, load lines, loading, crew welfare, passenger health, legal status, safety management, and security.

Government Regulation Number 31 of 2021 concerning the Administration of the Shipping Sector forms part of the implementing framework examined in the research. The legal review also includes Minister of Transportation Regulations PM 61 of 2019 and PM 39 of 2021 in its discussion of seaworthiness and traditional shipping. These provisions are discussed as the operational basis for inspection, certification, the obligations of owners, and supervision by the Harbormaster. The relevant legal materials establish the standards against which practice at Sungai Guntung is compared.

Institutional and administrative arrangements are also addressed. The study discusses Minister of Transportation Regulation PM 71 of 2021 in connection with the organization and functions of Harbormaster and Port Authority Offices, or KSOP. It identifies powers to inspect vessels, verify safety certificates and crew documentation, supervise cargo and stability, and issue, postpone, or refuse sailing approval within the applicable authority. The research location is the Class III Sungai Guntung UPP; the discussion of KSOP forms part of the wider institutional framework considered in the legal review.

Electronic services are examined through Minister of Transportation Regulation PM 8 of 2022 and Minister of Transportation Decision KM 37 of 2023 concerning vessel services through Inaportnet. In the study's account, these instruments govern electronic administrative services, document verification, and coordination. Their relevance is that electronic processing does not eliminate the need to assess actual seaworthiness. A departure application processed digitally must still be considered alongside the vessel's condition, equipment, crew readiness, and other safety requirements. Electronic administration and technical inspection are therefore considered related but distinct components of the safety-control framework.

**Water Transportation, Port Functions, Safety and Security, and Environmental Protection**

The findings are organized around water transportation, port functions, safety and security, and maritime environmental protection. In water transportation, traditional vessels support passenger and cargo movement between islands and coastal settlements. Supervision therefore extends to documentation, vessel condition, equipment, and crew requirements before voyages begin. The findings show that this function has been performed, but experience-based operation and incomplete fulfillment of formal standards continue to create differences between regulatory expectations and practice.

Port functions support this process through vessel services, document examination, inspection, and supervision before departure. At Sungai Guntung, the availability of personnel and facilities influences how fully these functions can be carried out. The port is not only the place where documents are processed; it is also the location at which deficiencies should be identified before vessels enter the waterway. Limited inspection capacity consequently affects the substantive protection provided by the departure-approval process.

Safety supervision includes the physical condition of vessels, safety certificates, lifesaving equipment, and crew competence. The field account reports that most vessels fulfilled basic safety requirements, while also recording vessels with incomplete equipment, aging components, or deficiencies requiring correction. Security supervision involves vessel documents, crew identity, cargo, and compliance with departure procedures. The study describes this supervision as functioning, but still constrained by limited personnel, supporting facilities, and operators' unfamiliarity with modern administrative procedures. These are qualitative findings and are not accompanied by a vessel-level count.

Environmental supervision includes education concerning the disposal of oil, waste, and garbage. The Harbormaster has provided guidance on protecting the waters used by traditional vessels. Implementation remains constrained by limited port waste-management facilities, uneven environmental awareness, and customary disposal practices. The findings therefore identify a need to strengthen both supervision and practical facilities rather than treating environmental protection solely as a documentary obligation.

**Seaworthiness and Navigation as Related Safety Requirements**

The study separately emphasizes the relationship between seaworthiness and navigation under Article 117. Seaworthiness examination includes vessel condition, safety equipment, fire extinguishers, communication equipment, first-aid supplies, passenger protection, and crew readiness. Where deficiencies that could affect safety are identified, owners or masters are instructed to complete or repair the relevant requirements before proceeding

with departure. This demonstrates the preventive purpose of inspection, although resource constraints affect the consistency and depth of its implementation.

Navigation concerns the shipping channel, signs and navigation aids, information about water conditions, and the master's ability to use available equipment. The waters around Sungai Guntung require attention to channels, currents, weather, tides, and local hazards. Masters' experience contributes practical knowledge of these conditions, but the research does not treat it as a replacement for navigation standards. Adequate facilities, maintenance of navigation aids, and crew competence remain necessary alongside familiarity with the waterway.

The legal analysis consequently distinguishes the existence of broad safety obligations from the need for more operationally specific arrangements for traditional vessels. The study describes the general normative foundation as available, while its legal-novelty discussion identifies insufficiently specific arrangements for risk-based classification, continuing guidance, gradual compliance, and coordination. The research does not argue that safety regulation is absent, but it proposes a more explicit implementation approach for the characteristics of traditional shipping.

## 2. Implementation by the Harbormaster at Sungai Guntung

### Administrative Verification and Departure Approval

The implementation process begins with verification of vessel documentation. The documents examined include evidence of nationality or registration, measurement documents, safety certificates, load-line certificates where required, crewing documentation, crew lists, and cargo records. Most vessels were reported to possess their principal documents. Nevertheless, the research found delayed certificate renewal and applications submitted with incomplete or nearly expired documents. These deficiencies indicate that some operators continue to regard documentation as a formal requirement rather than part of the safety-control process.

The Harbormaster's response includes warnings, directions to complete documents, and opportunities to correct deficiencies. The study also records postponement of SPB issuance where requirements have not been fulfilled. Guidance and correction are therefore important elements of administrative practice. At the same time, the research stresses that flexibility in assisting owners should not be understood as permission to depart without meeting the conditions intended to protect safety.

The SPB represents the administrative outcome of the assessment rather than a substitute for it. The intended sequence connects document verification with technical checks, examination of equipment, crew readiness, and cargo supervision. The field findings demonstrate that this sequence exists institutionally, while also showing that its application is uneven. The central implementation issue is therefore the extent to which formal approval is consistently supported by adequate substantive verification.

### Physical Inspection and Safety Equipment

Physical inspections cover the hull, engine room, steering system, electrical system, navigation and communication equipment, bilge pumps, fire extinguishers, life jackets, lifebuoys, and other emergency equipment. Officers also examine the apparent condition of the vessel before departure. These checks seek to identify defects that may endanger the vessel, its occupants, or its cargo. Traditional wooden construction requires particular attention because its characteristics differ from those of modern steel vessels.

The findings show that comprehensive inspection is constrained by a limited number of qualified inspectors, intensive vessel activity, and inadequate supporting equipment. Some examination consequently relies on visual checks and concentrates on components considered important to immediate safety. The research does not equate this concentration with a fully developed risk-based inspection system. Rather, it identifies a need to strengthen systematic assessment so that limited capacity does not reduce inspection to an administrative or superficial exercise.

The field account records vessels operating without enough safety equipment, equipment that was no longer suitable for use, and cases in which administrative requirements were fulfilled without complete technical compliance. Deficiencies included lifesaving devices, portable fire extinguishers, communication equipment, navigation lights, and other emergency supplies. The existence of inspection procedures therefore did not establish that every vessel in operation met all requirements. This gap is central to the study's conclusion that implementation had occurred but was not yet fully effective.

Owners' financial limitations help explain delayed maintenance and equipment replacement. Traditional shipping enterprises often prioritize immediate operating costs and the continuation of transport services. Interviews described the postponement of repairs and purchases because funds were limited. The study treats this as an implementation constraint, not a justification for ignoring mandatory equipment. It therefore links the improvement of inspection to assistance, guidance, and measures that enable owners to meet requirements.

### Cargo Supervision and Continuing Guidance

Cargo supervision addresses the type and weight of goods, their distribution on board, and vessel balance. The purpose is to prevent overloading and inappropriate loading arrangements. The research records overcapacity loading, particularly during agricultural harvest periods and before major holidays. In such cases, officers instructed operators to reduce cargo before an SPB was issued. This practice illustrates a preventive intervention directed at an identifiable operational deficiency.

The Harbormaster also provides guidance on equipment use, reporting vessel damage, regular maintenance, document obligations, and attention to weather information. Guidance is delivered persuasively because many operators are family businesses with limited formal maritime education and financial capacity. These activities demonstrate that supervision includes education as well as inspection. However, the reported frequency and coverage of guidance remain insufficient to establish consistent understanding across all owners and crews.

The combination of administrative verification, physical inspection, cargo supervision, and continuing guidance forms the operational pattern identified at Sungai Guntung. The findings do not support reducing the Harbormaster's role to document issuance. They also do not support treating the existence of these activities as proof of complete compliance. Implementation must be assessed through the quality, reach, and consistency of the activities, together with the responses of vessel owners and crews.

### Comparison with Traditional Safety Practices

Interviews with masters show continued reliance on wind direction, currents, tides, wave conditions, and other natural signs when deciding whether and when to depart. Knowledge of particular channels and seasonal conditions is transmitted through experience and local practice. Owners and crews also undertake simple checks of hulls, engines, and mooring lines before sailing. These practices express caution and familiarity with the vessel and its operating environment.

The main similarity between formal regulation and traditional practice is their stated objective: protecting vessels, crews, passengers, and cargo. The principal difference concerns how safety is assessed and demonstrated. Regulation requires inspectable technical conditions, valid documentation, specified equipment, and competent personnel. Traditional practice gives greater weight to the master's judgment, experience, and inherited routines. The difference becomes problematic when practical familiarity is considered sufficient despite incomplete certificates, missing equipment, or the absence of adequate technical inspection.

Simple visual or experience-based checks cannot be treated as equivalent to comprehensive inspection of structural and technical defects. The research therefore places traditional knowledge in a supporting role. Familiarity with local weather and waterways can complement formal navigation information and technical assessment, but it cannot establish compliance by itself. Similarly, a history of successful voyages does not remove the need to renew certificates, maintain lifesaving equipment, or comply with loading requirements.

The comparative findings identify the need for integration rather than the elimination of all local practices. Guidance can recognize useful knowledge of the waterway while explaining why standardized equipment and technical checks remain necessary. The proposed relationship is complementary: local experience informs practical operation, while mandatory requirements remain the standard for determining legal seaworthiness. This formulation preserves the value of relevant maritime knowledge without allowing tradition to replace the protection required by regulation.

### Interpretation through the Three Theoretical Perspectives

Rule-of-law theory directs attention to the relationship between lawful authority and actual protection. The study finds an established legal basis for inspection and departure approval, but continued differences between das sollen, the prescribed standard, and das sein, observed practice. The legal basis is therefore necessary but does not, by itself, demonstrate effective protection. The Harbormaster's authority must be exercised consistently through decisions that are supported by adequate examination and corrective action (Asshiddiqie, 2022).

Friedman's framework explains the same findings through the interaction of substance, structure, and culture. Legal substance provides the requirements. Legal structure is present in the UPP and the Harbormaster's inspection and approval functions, but its capacity is limited by personnel, equipment, geography, and vessel activity. Legal culture is reflected in operators' confidence in experience and their varying understanding of certification and safety equipment. The analysis identifies this cultural dimension as especially influential in compliance, alongside institutional and economic constraints (Friedman, 2020).

Administrative-supervision theory focuses on whether procedures achieve their preventive purpose. Document checks and the SPB process demonstrate formal implementation, while equipment deficiencies and incomplete technical compliance demonstrate the limits of documentary control. Care, professionalism, accountability, and legal certainty require attention to the vessel's actual condition. The research consequently supports strengthening both corrective measures and continuing guidance so that supervision protects safety rather than merely completes an administrative sequence (Indroharto, 2020; Ridwan HR, 2022).

## 3. Obstacles, Solutions, and the Proposed Implementation Model

### Main Obstacles

The first obstacle is incomplete administrative and certification compliance. Some owners apply for departure approval without renewing documents or fully understanding the role of certificates in safety control. This limits the reliability of the documentation process and creates additional corrective work for inspectors. The issue is connected to awareness and financial constraints rather than being described solely as an absence of rules.

The second obstacle is reliance on traditional assessments that are not fully aligned with formal standards. Masters may place greater trust in experience, knowledge of weather, and inherited routines than in technical inspections or required equipment. The concern is not the continued existence of local knowledge. It is the use of that knowledge as a substitute for requirements that address hazards beyond what ordinary observation can establish.

The third obstacle is limited supervision personnel. The number of inspection officials and technical staff is not proportionate to the vessel activity and the area that must be covered. During periods of high activity, comprehensive examination requires time and competence that are not always available. The result is uneven inspection intensity and a tendency to concentrate on documents or immediately visible conditions.

The fourth obstacle concerns inspection facilities. The study records limited technical inspection instruments, docking facilities, and engine-testing resources. Visual inspection consequently carries more of the assessment burden than would be desirable for identifying structural or technical problems. The same institutional limitations affect the ability to maintain continuing contact with operators and ensure that previously identified deficiencies are corrected.

The fifth obstacle is the financial capacity of owners. Vessel repair, replacement safety equipment, and certificate renewal compete with operating expenditure. Some owners postpone compliance-related expenditure so that transportation can continue. These circumstances require practical assistance and accessible compliance support, while the research continues to treat safety requirements as necessary conditions of operation.

The sixth obstacle is the limited continuity of guidance and legal education. Although the Harbormaster conducts outreach, some owners and crews remain unfamiliar with changes in requirements, inspection procedures, or the proper use of safety equipment. Administrative obligations may consequently be perceived as a burden rather than a form of protection. Taken together, the obstacles demonstrate that implementation problems cannot be assigned exclusively to either regulators or vessel operators; they involve institutional, economic, technical, and cultural conditions.

### Strengthening Guidance, Inspection, and Institutional Capacity

The study proposes regular guidance for owners, masters, and crews through legal education, maritime safety training, equipment-use simulations, and assistance with documentation. These activities should explain the protective purpose of requirements and connect them with the practical experience of operators. Continuous guidance is intended to develop understanding beyond the moment when a vessel applies for departure approval. It also gives the Harbormaster an educational role alongside the inspection and enforcement functions.

A second proposal is more comprehensive, risk-based inspection. Examination should cover documentation, hull construction, machinery, navigation and communication equipment, firefighting and lifesaving appliances, and loading capacity. The study identifies older vessels, vessels with frequent voyages, and vessels with previous safety violations as priorities for inspection. Prioritization is proposed as a way to use limited personnel more effectively, without redefining the basic requirements that all vessels must fulfill.

A third proposal concerns the number and competence of inspectors. Additional qualified personnel and technical training are needed to support continuing supervision. Training should include the characteristics of traditional wooden vessels so that officers can apply technical standards with an informed understanding of the construction they are examining. Institutional strengthening also requires appropriate inspection tools, safety-testing equipment, machinery-inspection facilities, and administrative support systems. These measures address the practical limitations identified in the field.

### Supporting Compliance and Integrating Local Knowledge

The study proposes assistance with safety equipment, certification, and the development of traditional shipping enterprises through cooperation among the transportation authorities, local government, and relevant shipping organizations. The purpose is to help owners meet requirements that are difficult to finance from limited operating income. The proposal does not replace owners' responsibilities; it addresses the material constraints that contribute to delayed repairs and incomplete equipment.

Traditional knowledge should be incorporated into guidance where it is consistent with mandatory safety requirements. Knowledge of weather, currents, channels, and local sailing techniques can serve as material for safety education and discussion between officials and operators. Such incorporation recognizes practices already used by crews while making clear where technical checks, valid certificates, and functioning equipment remain indispensable. In the study's proposed approach, local knowledge supplements the standard rather than becomes an alternative standard.

Consistent administrative action remains necessary where deficiencies persist. Guidance, warnings, inspection, and postponement of departure approval are connected elements of the supervision process. The study also proposes consistent application of administrative sanctions against violations within the relevant authority. Under the administrative-supervision framework, corrective action and assistance should work together: assistance supports the ability to comply, while lawful enforcement maintains the significance of requirements intended to protect users of transportation.

### Collaborative Maritime Safety and Legal Novelty

The proposed contribution is a collaborative maritime safety model combining regulatory supervision by the Harbormaster with continuing guidance, improved legal awareness, institutional capacity, and recognition of the characteristics of traditional shipping. The model involves government, port authorities, vessel owners, crews, and coastal communities. It seeks to connect formal obligations with the practical conditions that influence whether those obligations can be implemented consistently.

Its principal components are risk-based supervision, gradual standardization, support for compliance, and the integration of relevant local safety knowledge. The study also proposes clearer operational provisions concerning vessel-risk classification, minimum safety equipment, continuing guidance, and coordination between central government, local government, and port institutions. These proposals respond to the gap between the available general legal framework and the specific implementation needs identified at Sungai Guntung.

The model is presented as the study's proposed legal and practical contribution, not as an intervention whose outcomes have already been measured. Gradual standardization is not intended to remove essential safety requirements or permit experience alone to justify departure. Its stated purpose is to make implementation more responsive to vessel characteristics, owners' socioeconomic conditions, and local culture while preserving the protection of life, vessels, cargo, and the maritime environment. Further implementation would therefore need to maintain the distinction between adapting the way compliance is supported and weakening the safety standard itself.

## CONCLUSION

The study reaches three principal conclusions. First, seaworthiness supervision for traditional shipping vessels at Sungai Guntung has a legal foundation in the shipping legislation and implementing instruments examined in the research. The framework provides the basis for administrative and technical checks before an SPB is issued. Its effectiveness depends on substantive implementation, including the assessment of vessel condition, equipment, crewing, loading, and navigation, rather than documentary completeness alone.

Second, the Harbormaster has implemented supervision through document verification, physical inspection, cargo checks, guidance, and the postponement of departure approval when deficiencies are identified. Nevertheless, implementation is not yet fully effective. The field findings record incomplete technical compliance, inadequate or unusable safety equipment, delayed certificate renewal, and continuing reliance on traditional judgments of readiness. Local maritime knowledge remains useful, but it cannot replace mandatory requirements or competent technical inspection.

Third, the main obstacles are limited personnel and facilities, owners' financial constraints, uneven legal awareness, and differences between formal standards and inherited operating practices. The proposed response combines continuous education, risk-based inspection, increased technical capacity, improved facilities, support for

safety equipment and certification, and consistent administrative enforcement. These measures should be coordinated among the Harbormaster, government institutions, owners, crews, and relevant community organizations.

The study's proposed collaborative model integrates supervision, guidance, gradual standardization, and appropriate local knowledge without reducing the central importance of safety. Clearer technical guidance and continuing institutional support are needed to align regulation with the conditions of traditional shipping. The findings remain qualitative and specific to the research setting, and the proposed model has not been presented as an empirically tested accident-reduction program. Its contribution is to identify how legal protection can be pursued through a more coherent relationship between regulation, supervisory capacity, and the safety practices of traditional shipping communities.

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