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Sea Safety In The Maritime Environment; The Enforcement Of The International Convention For The Safety Of Life At Sea In Nigeria (Solas 74) (Case Study Of Nigerian Inland Waterways, Warri)

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Abstract: *This study was carried out to examine and to enforce sea safety and the international convention for safety of life at sea (SOLAS 74) (a case study of Inland Water Ways, Warri).The methodology used in this research work involved the collection of data from primary and secondary sources. The primary source is the administration of 30 questionnaires among officials of the Nigeria Inland Water Authority (NIWA) Warri, and 22 questionnaires were retrieved. While the secondary sources include the consultation of relevant academic materials, journals, books, field observation/verbal interaction with the respondents etc. The collected data were analyzed using the simple percentage. After careful analysis of the collected data, one of the findings revealed that SOLAS 74 is being observed by NIWA, but a lot needed to be done to make it a 100% compliant. The researcher therefore amongst the recommendations, suggested that in order for SOLAS regulation to remain, binding, signatory countries should ensure that ships registered under their flag state should comply with SOLAS 74 convention and regulation should enforce the local laws in order to reduce collusion at sea.*

Keywords: Sea, Safety, Maritime Environment, Enforcement, International Convention, SOLAS 74

Introduction

Sea safety is concerned with the protection of life and property onboard the vessel and within the navigable areas through regulations, management and technological development of all forms of water borne transportation. A ship named RMS Titanic sank in the North Atlantic Ocean four days into her maiden voyage from Southampton to New York City, killing over 1,500 people onboard due to terrible sea conditions (a collision with an iceberg), according to a report in Wikipedia.org titled "Sinking of the Titanic" on April 15, 1912. The first international treaty for the safety of life at sea (SOLAS) was adopted in 1914 as a result of the Titanic disaster. The International Maritime Organization (IMO), which was first known as the Inter-governmental Maritime Consultative Organization (IMCO), was founded in 1948, and this was revised in 1929, 1948, 1960, 1974, and 1980, when it entered into force.

Safety onboard ship is very important and sacrosanct to every sailor and stakeholders. A change to the 1974 Safety of Life at Sea (SOLAS) Convention outlines steps to improve maritime safety will take effect on the specified information on security and safety in ports and ships. In order to secure the security of the amendment as well as the safety of people and property, SOLAS specifies steps that must be implemented. The primary goal of the SOLAS agreement is to define the minimum safety requirements for designing and building ship equipment as well as the international safety equipment rules and certification, which specify the type and quantity of safety equipment needed for different types of vessels.

The International Safety Management (ISM) code, which outlines the suggested procedures for carrying out different shipboard tasks, is specified by SOLAS. Crew members and officials should be required to follow a predetermined algorithm of checklists for safety, as trained professionals are typically cautious when doing seaborne operations. According to Ndikom-Obed (2006), it is necessary to offer sufficient protection against damage to vessels and cargo. If there are strong reasons to suspect that a ship and its equipment do not substantially comply with the convention's criteria, control provisions provide contracting government agencies to inspect ships of other contracting states. Port State Control is the name for this process. The articles of the current SOLAS convention describe general obligation amendment procedures and other topics, and then there is an annex with 12 chapters. Again, Ndikom-Obed, Buhari, Okeke, and Matthew (2017) went on to emphasize how important and widely acknowledged as the most important determinant for growth and development is the marine sector's key position in the socio-economic, transformative, and political development of countries around the world. This claim that ports always play a key role in the growth of internal and foreign trade in a country, whether it is a developing or established country, was also supported by Okuedo (2013), which concretize the fact that ports are very important to the socioeconomic development of any nation.

After the US terror attack on September 11, 2001, maritime zones (sea routes) could no longer be regarded as secure channels for the transportation of goods and people. The International Ship and Port Facility Security Code (ISPS Code) was ultimately improved by this choice of the SOLAS Amendment Act. It is a type of legislation that establishes the minimal security requirements for vessels and port infrastructure used in maritime trade. It was approved at the IMO members' London-based SOLAS (diplomatic) meeting in 2002. It was held in accordance with the guidelines of SOLAS Convention Chapter X-2, which is dedicated to boosting maritime security and safety in both ports and ships. Sections X1-2 of the ISPS code, which went into effect on July 1, 2004, represent a new security and safety regulation. In order to increase the security and safety of ports and vessels inside maritime nations, the code stipulates a number of significant security measures.

As a result, starting in July 2004, only ports that have obtained an ISPS code are allowed to service the transportation of goods and people via international shipping routes. The ISPS code consists of two sections: Part B is optional and offers instructions for implementing the provisions in Part A, whereas Part A describes the necessary security standards. It is significant to remember that the International Maritime Organization (IMO) stipulates the code to be followed by all SOLAS boats over 500 gross tonnage engaged in international voyages as well as all port-facility services. Every country was required to fully comply when the law went into force in July 2004. Prior to takeoff, every country in the world published plans aimed at raising public awareness and promoting legal compliance. Wikipedea.org states that the following mandatory regulations, which apply to all ships and port facilities covered by the ISPS code, must be put into practice as indicated below:

1. Ship identifying number must be permanently carried on the ship’s hull
2. There is an onboard Continuous Synopsis Record (CSR).
3. Ship or port-facility security assessment (SSA)
4. Ship or port-facility security certificate (SSC)
5. Ship or Port-facility Security Officer (PFSO), Ship Security Officer (SSO) or Company Security Officer (CSO)
6. Continuous Ship-to-Port Security Communication Link, Training and Drills
7. Ship Security Alert System (SSAS)

Each maritime nation is anticipated to create unique law that complies with the security and safety concerns of their particular environment. In addition, it was anticipated that Nigeria's government would enact a law in advance of the code's launch in July 2004. The apex maritime regulatory authority anticipates that the Nigerian Maritime Administration and Safety Agency (NIMASA) would develop the law's details. The management team should oversee the proper implementation of the ISPS code and, as permitted by the government in this regard, collaborate with the Nigerian Ports Authority. The Nigerian Ports Authority would oversee the proper implementation of the ISPS code by setting up operational local port security committees to carry out the implementation of the code within the port area.

The stewarding agencies are expected to strike a balance through exchanging security information and best practices in order for the law to be successful and functional. As a follow-up, the ship owners must have security procedures that have been approved in place for their passenger and freight ships traveling both internationally and locally.

According to the law, foreign-flagged ships must comply with the ISPS code and provide a current international ship security certificate issued by their flag state before being allowed to enter a Nigerian port. A violation of the law would result from them failing to make their ship available for inspection when asked to do so by Nigerian Port State Control or ISPS implementation officers. It is in everyone's best advantage to uphold the code, both on a national and worldwide scale (Ihenacho, 2005). The code is applicable to all ships making international journeys, including passenger ships, cargo ships, mobile offshore drilling units (MODUs), and the port infrastructure that support those ships. Warships, naval auxiliary ships, and government vessels employed for non-commercial purposes are not covered. It is applicable to any port facility within the jurisdiction of a contracting government that chooses to abide by the code as well as those that serve ships on international voyages (Osnin and Shah, 2003). Consequently, The ISPS code intends to create a global framework for collaboration in information sharing and efficient information gathering so that security threats can be identified and preventive measures can be taken. To achieve this, plans and procedures for change are used to provide methods for security evaluation.

The Key Ingredients:

The code addresses security treatment, which is divided into three (3) separate security levels based on their security assessment as described in the table below:

Table 1: The ISPS Code Security Level

S/N	Security Level	Definition/Action
1.	Normal	Minimum protective security measures to be maintained at all times
2.	Heightened risk	Additional protective security measures shall be maintained for a period of time, as its security incident

3.	Exception risk	Further specific protective security measures shall be maintained for a limited period of time, when a security incident is probable or imminent, although it may not be possible to identify the specific target

Source: Osnin and Shah, (2003)

Contracting Government

The government's responsibility under the SOLAS convention is to evaluate the level of security for ships and port facilities, identify the ports that are covered by the code's requirements, appoint a port facility security officer (PFSO), and create a port facility security plan.

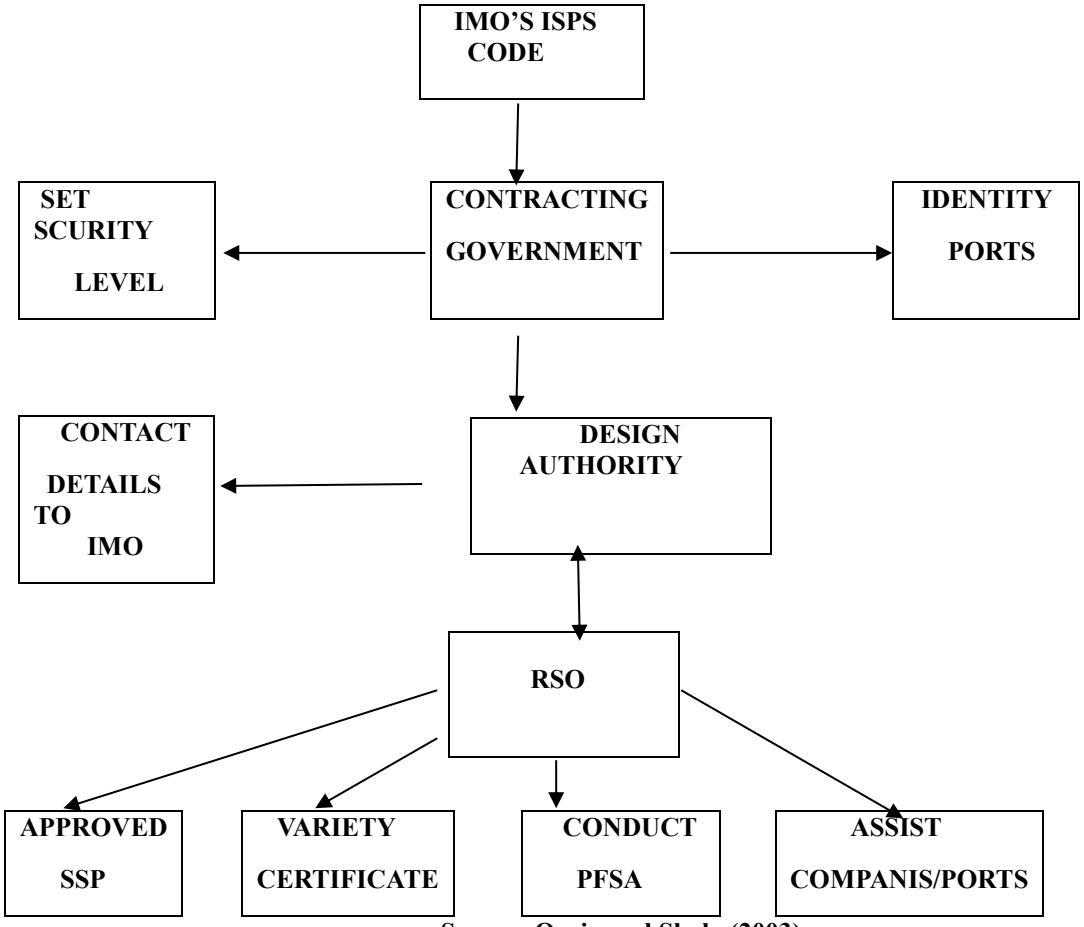
Designated Authority (DA)

This organization, which the government appointed, will be in charge of making sure port facilities follow security procedures. A central point of contact must be established by the DA, and the IMO must be informed of the contact information for any government officials to whom the Ship Security Officer (SSO), Chief Security Officer (CSO), and Port Facility Security Officer (PFSO) can make security-related reports. For instance, Nigeria has designated NPA and NMA, two organizations within the Ministry of Transport, as the key organizations in this regard. If necessary, the designated authority approves the recognized security organization, determines which ports on their territory must adhere to the code's requirements, conducts a port facility security assessment (PFSA), establishes a security plan (PFSP), appoints a Chief Security Officer (CSO) for the company, and ensures that ships flying their flags have a Ship Security Officer (SSO) and a Ship Security Plan (SSP) that has been approved.

Recognized Security Organization (RSO)

The RSO is a recognized group authorized to handle a variety of maritime security-related tasks, such as approving ship security plans, confirming and certifying ship compliance, and conducting port facility security assessments. The relationship of key players in the sea safety and security is expressed below:

Figure 1: Relationship of key players and their tasks



Source: Osnin and Shah, (2003)

Statement of the Problem

The main causes of accidents at sea are of great concern, hence seafarers must know the importance of SOLAS and what happens if there is absence of SOLAS equipment during their operation at sea. Thus, the study tries to find out and know the behavioural response of workers or employers towards safety of life at sea, using the Nigerian Inland Waterways, Warri as a case study.

Research Questions

The study is directed by the following research questions.

1. How many of the RSCs are functional in the Niger-Delta zone?
2. Are all the RSCs that are located in koko, Burutu, Escravos and Forcados functional?
3. Are the equipment for SAR functional and adequate?
4. What are the functions of Rescue Control Centre (RCC)
5. Do you have Global Maritime Distress and Safety System (GMDSS) installed in Warri Port?

Aim and Objectives of the Study

The broad objectives is sea safety in the maritime environment; the enforcement of the international convention for the safety of life at sea in Nigeria. The specific objective of the study is:

1. To examine the compliance level of sea security of SOLAS 74 in Inland Waterways, Warri
2. To enforce SOLAS 74 if not adequately observed
3. To highlight the importance of SOLAS 74 on sea security and to enable seafarers know the dangers in absence of SOLAS 74 onboard and shore operations.

Literature Review

Concept of SOLAS

The International Convention for the Safety of Life at Sea (SOLAS) and its subsequent amendments prescribe all the safety and operational rules and standards from international conventions and apply to vessels over 500 gross tons (G.T.). Safety of Life at Sea (SOLAS) is the provision made during a series of international conventions governing maritime safety. The International Maritime Organization (IMO) is in charge of overseeing the SOLAS international convention. Almost all commercial ship types currently engaged in international service are covered by SOLAS, which has been ratified by all major maritime governments.

Igbokwe (2012) asserts that although marine transportation is essential to daily life, it also carries major risks that, if left uncontrolled, might endanger a country's economy. At a meeting in Hambury in 1979, the international treaty on maritime search and rescue was approved. This convention aspires to create a global SAR plan so that, regardless of where an accident happens, the rescue of mariners in need will be organized by a SAR organization and, if necessary, by cooperation between nearby SAR organizations.

The SAR agreement is an expansion of past obligations of ships to assist vessels in need, which have their roots in customary international treaties like the SOLAS 1974 convention and the UN law of the sea. Prior to the SAR convention's implementation in 1985, there was no international structure governing SAR operations. The Search and Rescue Transponders (SART) are one of the tools used in search and rescue operations.

Search and Rescue Transponders (SART)

Self-contained, waterproof transponders called search and rescue transponders are designed for usage in maritime emergencies. These gadgets could be either a GPS-based Automatic Identification System (AIS-SART) or a Rader-SART. By placing a sequence of dots on the radar display of the rescuing ship, the radar (SART) can be used to find a survival craft or troubled vessel. A SART won't respond to any other radar shipboard, only a 9 GHz X-band (3 cm wavelength) radar; it won't be picked up by an S-band (10 cm wavelength) radar. One or more search and rescue locating systems are part of GMDSS.

Further Works by IMO to Enhance Maritime Safety

The international convention for the safety of life at sea (SOLAS 74), as amended (hereinafter referred to as the convention), was updated by the International Maritime Organization with regard to special measures to improve maritime security. In order to ensure the global and uniform adoption and implementation of the specific measures to strengthen maritime security established by the conference, IMO acknowledges the necessity for additional work to be done in the sea.

In addition, the IMO did the following, keeping in mind the ISPS code and the stipulations of Chapter Xi-2 of the convention:

i. Create training guidelines, such as a sample course, for security officers aboard ships as well as for company, ship, and port staff.

ii. reviewed resolution A.787 (19) of the assembly, as amended by resolution A.882 (21) on the procedure for port state control, and, if necessary, developed an appropriate amendment there to take the need into consideration and, if necessary, developed additional guidance on control and compliance measures on aspects other than those already covered in the port ISPS code.
iii. When interacting, take into account the situation and, if necessary, assess the aspect of ship security that Chapter Xi-2 of the convention pertains to when interfacing.

Implementation of the Code in Nigeria

Osnin and Shah (2003) state that any port facilities under the control of the contractual government, as determined by the contracting government to be in compliance with this legislation, are subject to this clause and that there is no commercial use of warships, naval auxiliary ships, or any other government vessels. Further research reveals that the marine safety law approved security measures on over 86% of ships and 69% of port facilities pursuant to the new code. Additionally, the problem of the certificates' delayed issuance has its own drawback that reduces efficiency. Consider Africa and some of the nations in Eastern Europe.

Consequently, it is argued that only 22 of Nigeria's 127 jetties are currently fully compatible with ISPS standards, according to Samson (2014), making it the least developed nation in Africa. He claims that the Deputy Commandant for Operations of the US Coast Guard, Admiral Neffenger, delivered a diplomatic message on behalf of Homeland Security stating that since the US government's last visit in 2015, the number of Nigerian port facilities that are fully compliant has increased from 9 to 22.

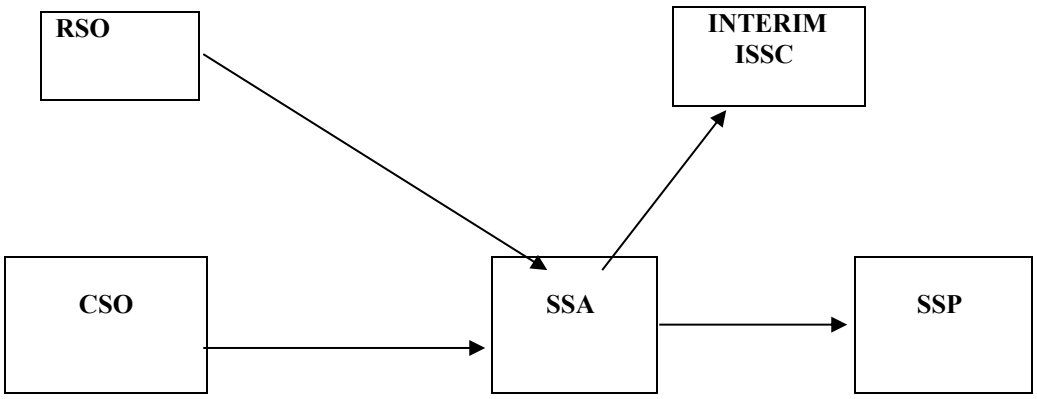
The ISPS Operation Code

The ISPS Code is based on risk assessment and risk minimization. As a result, doing a security review is an important step in the implementation process. Databases and other information systems, as well as weaknesses in the infrastructure and superstructure, may all be discovered during a security examination. Any security compromise might put persons, property, or perhaps both at danger. With this code in place, solutions are provided for reducing or eliminating risks and their effects.

Mejia (2004) noted that both the PFSA and the ships that dock there are subject to security assessments under the code. Therefore, by the time the system is put into use, the port infrastructure and the vessel's security plans ought to be in place. He continued by saying that as a result, conducting security assessments is an important step in creating and altering security policies and procedures. He added that this individual is in charge of supervising the implementation of the security measures for each plan.

Mazarheri (2008) illustrated an assessment of the Ship's Security in Accordance With ISPS Code below:

Figure2: Ship Security Plan



Source: Adopted from Mazarheri, (2008)

Nigerian Ports Before and After NIMASA Takes Control of ISPS

Less than 10 ports had adequate anti-terrorism measures in place prior to NIMASA having complete responsibility for ISPS code implementation, according to Kabir Kabir (2022) in his M.Sc. thesis. By hitting Nigerian ports with COE, NIMASA, the new DA, has been able to boost compliance from 7% to 70%. He said that in just two years, the administration of President Goodluck Jonathan selected a DA to oversee the ISPS Code's implementation, which increased compliance from 7% to 83%. As a result of the high level of compliance, importers were no longer concerned about their goods being destroyed, and wharf rats were eradicated as a result.

METHODOLOGY/METHOD OF DATA COLLECTION

The methodology for this study involves gathering information from both primary and secondary sources. The research distributed 30 questionnaires to officials of the Nigerian Inland Water Authority (NIWA) Warri and 22 of those questionnaires were retrieved. While the secondary sources comprise the review of pertinent academic publications, books, journals, field observations, verbal exchanges with respondents, etc.

TABLE 2: Demographic Data of the Sampled Population

Sex	Response	Percentage (%)
Male Female	18 4	82 18
Total	**22**	**100**
Age		
18-35	8	36
36 - Above	14	64
Total	**22**	**100**
Rank		
Master	9	41
Chief Officer	6	27
2nd Officer	4	18
Cadet	3	14
Total	**22**	**100**
Experience (Years)		
1-5	8	36
6-10	5	23
11-15	5	23
16 - Above	4	18
Total	**22**	**100**

Source: Field Survey, 2022

Table 2 shows the demographic data of the sampled respondents. It shows that the male respondents are much with 82% while the female is 18%.

The ages of the respondents 'range between 18 and above with age 18-35 having 36% and age 36 – above having 64% indicating that there are young and agile staff working population.

The ranks of the respondents shows that there are more senior and experienced staff working there, as 41% are in the rank of Master, Chief Officer 27% 2nd Officer 18% and Cadet 14%.This is an indication that there is bound to be a level of professionalism.

The analysis also shows that the workers having 1-5 years working experience is 36%, 6-10 years and 11-15 years working experience have 23%respectively while those with over 16 years and above have 18%.

TABLE 3: Demographic Data of the Sampled Population

S/N	Questions	Responses		Total Responses		Percentage (%)	Total Percentage (%)
		Yes	No		Yes	No	
1.	Is Nigeria a contracting Port in SLOAS 74?	12	10	22	55	45	**100**
2.	Has Nigeria ratified to SOLAS Convention?	15	7	22	68	32	**100**
3.	Have you had any case of ship accident at sea?	22	0	22	100	0	**100**
4.	Have you had any significant non-compliance?	14	8	22	64	36	**100**
5.	If you have had any significant non-compliance, was the case resolved by SOLAS 74?	10	12	22	45	55	**100**

6.	Are there functional and adequate equipment for SAR functional?	19	3	22	86	14	**100**
7.	Do you have SAR Marshals?	20	2	22	91	9	**100**
8.	Do you have GMDSS installed in Warri Port?	22	0	22	100	0	**100**

Source: Field Survey, 2022

In Table 3, the analysis shows the responses from different questions asked. On number one question on the table, it shows Nigeria is a contracting Port that is supposed to observe in SOLAS 74. Question two that Nigeria has ratified or keyed into SOLAS Convention. Question Three shows that a lot of ship accidents have been recorded by the Port Authority. Question Four shows that there is a record of much or significant non-compliance of SOLAS. Question five shows that cases involving non-compliance was resolved by SOLAS. Question Six shows that there is adequate functional SAR equipment for operational activities while question Seven also shows that there much SAR Marshalls who are involved in Search and Rescue. Question Eight indicates that there is adequate GMDSS installed in Warri Port.

Conclusion

From the study, the analysis shows that there is observance of SOLAS but in a poor level of compliance by ships from the Nigerian experience. The analysis also showed that are ineffective implementations of regulation on SOLAS 74 at Warri Port. SOLAS is a set of regulation for the prevention of collusion at sea and seaport. Therefore, it is important to be safety conscious in all forms to look forward to safety of life and much more pleasant experience.

However, it is evident that the Port Authority and even seafarers in the implementation of these regulation on ships in compliance to SOLAS 74 no matter how small it is, in no doubt have been of great help in a way in preserving the marine environment and also to reduce the risk of collusion at sea.

Recommendation

1. In other for SOLAS regulation to remain binding, signatory countries should ensure that ships registered under their flag state comply with the SOLAS 74 convention and regulation.
2. Agencies or bodies tasked with the enforcement, implementation and monitoring of SOLAS and other local laws should strictly carry out their duties in other to totally eradicate collusion at sea or reduce it to its barest minimum.

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