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## **Safety and Security of Ferry Passengers' Lives at Night at Ebute Ero, Marina and Mekuen, Lagos State**

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### ABSTRACT

The continuous incident of ferry passengers' accidents at night in Lagos state sea motivated this study on safety and security of ferry passengers; lives at night at EbuteEro, Marina, and Mekuen, in Lagos state. It is an exploratory study which adopted purposive sampling technique in selecting three hundred 300 respondents from across EbuteEro, Marina, and Mekuen, in Lagos state. Questionnaire was used for data collection and the data collected was analyzed using using frequency and percentages. The result of the study indicated the following factors as constitute hindrance to safety and security of ferry passengers at night: non-enforcement and compliance to safety regulations and policies; untrained and unregistered boat operators; inadequate security personnel at the jetties and terminals; inadequate infrastructure; and dredging activities and logs which causes accidents. Another finding of this study revealed that safety and security awareness influences passengers' preventative behaviour; increases passengers' safety awareness; builds confidence and trust from passengers; enables passengers express higher levels of trust in the crew; as well as enhance passengers identify issues that will put them at risks. Finally, the result of this study suggested the following measures as essential in enhancing safety and security of ferry passengers at night in Lagos sea: the collaboration between government and boat operators; Training of guards to enforce waterways monitoring; Proper registration of all boat operators; Prosecution of any violator/offender; Orientation of passengers on the dangers of night travel on the waterways; and Encourage passengers to pay more attention to safety briefs and safety information. Based on these findings, the study concluded that majority of the boat mishaps – night or day- are human factors; and thus recommended that appropriate taskforce be recruited to ensure total compliance of all the rules and regulations already enacted by the National Inland Waterways Authority.

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**Keywords:** safety, security, ferry passengers' lives, night

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### Introduction

The rationale behind the use of water transportation is the encouragement of affordable transportation, and facilitation on the proper ways to put the water bodies to good use. The interconnection of creeks, rivers and lagoons has enabled the development of coastal transportation in Lagos state. The industrialization of Lagos state is greatly affected by its transportation system, which makes mobility difficult. The roads are greatly congested, an indication of a vibrant and successful city. The Lagos state roads are usually congested at peak hours of the day, making vehicular movement nightmarish. This has resulted in the government developing alternative means of transportation, such as the water transportation, which is the use of ferries to decongest traffic. Water transportation in Lagos state is further necessitated by the economic and social waste resulting from congestion challenges.

The water transportation system is important to the economy; however it is confronted by several challenges as it is susceptible to accident occurrence, which impact on lives and properties in varying degrees. The water transportation is not a popular alternative with passengers in Lagos state for reasons ranging from religious to personal. Common among these reasons are the poor development and maintenance of the waterways and ferries which could lead to accidents while enroute, implying that the issue of safety and security is a factor affecting the choice and use of the water transportation (Yui-yip, Chin-Shan & Hsiang-Kai, 2021).

A challenging aspect of water transportation is ferry safety and security. Safety and security describes a condition in which the requirements of safety and security in relation to the maritime environment, ports and water transportation are met (Siti&Yunita, 2020). Safety and security on ferry, connotes secure and efficient shipping on clean oceans. The reverse seems to be the case as reported by Adenubi (2020) disclosed that most ferry stations do not operate at night, and that the boat operators who work at night are not registered with the boat association and that they are able to get way with their activities as a result of the loose regulation in existence in the jetties. Often times, these boat operators are reckless drivers, who offer substandard services to passengers. Their activities are further aided by the lack of security operatives at most jetties, especially at night, to enforce regulations. Boat operators on their part venture into night travelling as a result of greed, at the cost of endangering lives. This raises concern over the issue of Safety and security of ferry passengers' lives at Night in Lagos.

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## Statement of research problem

The increasing population and economy growth in Lagos state, have contributed to congestions on the roads, and by extension gradually increased the use of the waterway as an alternative means of transportation. However, there are emerging challenges relating to maritime safety with new dimensions such as accidents. The city of Lagos is known for its commercial and investment opportunities, as well as its traffic congestion challenges. Transportation is a challenge which hinders economic activities in Lagos state as millions of passengers go about their business. A major part of the population makes use of road transport system despite the availability of the water system. This alternative is often neglected despite the attempts by various governments to develop and make it attractive to commuters. Commuters are constantly worried about the safety and the security in the use of the ferry. This is even more worrisome at night, given the unkempt nature of the waterways, riddled with hidden debris and waste often causing accidents. Moreso, the boats and ferries are not well equipped as there are no lights to guide their movements when they journey at night which could lead to collusion with another oncoming boat or ferry.

The problem of night movement on water is reported to be responsible for about 80 per cent of boat accidents in Nigeria, aided by loosely enforced regulations by the agencies charged with the duty of regulating the waterways. Boat operators take advantage of the situation to flout regulations and carry out their businesses without regard for passenger's safety and security. Ferry operations in Nigeria are restricted from 6pm for safety reasons by National Inland Waterways Authority; however compliance to this regulation appears to be very low, as there are still evidences of night ferry journeys. According to the Adenubi (2020), a visit to some of the jetties in Lagos state will reveal the noticeable absence of security operatives in the evenings; an indication of governments' lack of control and inability to enforce compliance with safety regulations, and by extension, end boat accidents. In view of the foregoing, this study examines safety and security of ferry passengers' lives at Night with a focus on EbuteEro, Marina and Mekuen in Lagos state.

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## Research objectives

This study specifically aims to;

1. Identify the factors hindering the safety and security of ferry passengers at night.
2. Assess the impact of safety and security awareness on ferry passengers.
3. Suggest measures that can be implemented to enhance safety and security of ferry passengers at night in Lagos state.

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## Research questions

1. What are factors hindering the safety and security of ferry passengers at night?
2. What is the impact of safety and security awareness on ferry passengers?
3. What measures can be implemented to enhance safety and security of ferry passengers at night in Lagos state?
4. night in Lagos state?

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## Literature review

Ferries or passenger boats convey passengers and goods, specifically as a regular service, over a somewhat short distance (Kiersten, 2015). Passenger vessels, particularly domestic passenger ferries are used globally as an efficient means of transport and have enormously contributed to reduce time and distance through their operational efficiency (Onsongo, 2017). Operating a ferry especially at night when visibility is limited increases the risk of colliding with other boats and with fixed objects in the water. It is practical to lessen these risks by taking preventive actions to keep passengers safe such as energizing your navigation lights, slowing to a safe speed and sounding the appropriate sound signals.

Factors contributing to passenger ferry boats accidents differ with respect to location and time and include:

**Overloading Problem:** There are a number of fatalities globally, including passenger death cases due to overloaded passenger ship problem all over the world (Kiersten, 2015, Allianz Global Corporate and Specialty, 2014). A safe design ensures stability, but when overloaded, a ferry is likely to be unstable and put everyone on board at risk (Degiuli et al, 2015).

**Safety matters:** This is a dire cause of many passenger ferry accidents arising from unreliable regulatory and safety checks, operator's lack of safety awareness, poor inspection of safety requirements as well as lack of life jackets (Kiersten, 2015).

**Human Error:** errors of judgment and inadequate look out or watch keeping, tailed by failure to comply with regulations, and inadequate technical knowledge are some of the most common human factors that cause accidents in passenger ferry boats. According to Allianz Global Corporate & Specialty (2014), an estimated 80% of shipping accidents worldwide are caused by human errors and the most common cause of passenger ferry accidents in developing countries.

**Sudden Hazardous Weather:** bad weather and strong wind creates pressure on vessels and ferries, disrupting stability and leading to capsize (Degiuli et al, 2015)

**Limited vision:** Navigating a boat at night can prove to be harder than during the day. At night, vision is restricted and things may not appear very visible to the operator while out on the water. Ferries should have technology available that can help make navigation easier at night such as advanced radar, GPS, detailed electronic cartography and night vision scopes. The boat operators should not get close to other boats their lights on as they could get blinded and lose all sight of night vision if a wave hits the lights while they are close by (Mariners Insurance, 2018). Fog can also develop very quickly and increase the risk of collision.

## Empirical studies

Yui-yip et al (2021) empirically studied the perception of safety delivery and awareness on ferry passengers' preventative behaviours in Hong Kong. Data was obtained from 422 ferry passengers and confirmatory factor analysis and structural equation modeling were conducted. Results from an exploratory factor analysis revealed that safety delivery and awareness positively impacted the preventative behaviour of passengers and safety delivery also positively impacts safety awareness of passengers.

Ljung and Oudhuis (2016) investigated the experiences and perceptions of catering staff as regards the safety practice on board passenger ferries, using semi-structured interviews and analyzing official documents and research articles. Results indicated that improved safety regulations and dictates on the international and national levels took place following major ferry disasters of late 1990s. Modifications in the safety organization on the passenger ferries have led to added involvement of the catering crew in safety on board. Also, the risk of terrorism had further reinforced safety awareness.

Onsongo (2017) analyzed domestic passenger safety in Kenya with a focus on domestic passenger vessels. The time range of the cases chosen was between 1990 and 2016 and barrier analysis joined with a time-line was chosen to be used as the description tool. 11 marine casualty investigation reports concerning ferries in Kenya were analyzed and results showed that human factors such as collision and overloading contributed directly to the cause of the accidents and that safety of domestic ferries in Kenya depended on a range of factors not restricted to human factors, such as bad weather, navigational, operational, technical and statutory factors.

## Theoretical framework

The Domino Theory which was presented by Heinrich in the 1930's states that accidents result from a chain of successive events, figuratively like a line of dominoes falling over. According to Heinrich, the main causes of accidents include social environment and origin, carelessness of crew and persons responsible for the ferries, absence of safety equipment and awareness to both crew and passengers (DMI, 2015). He clarifies that several events happening separately after the other result in an accident and by eradicating one or more of the links in the chain of events, an accident can be stopped. The model is concentrated on the failure and glitch of independent causes (Nurwahyudy, 2014).

## Methodology

The study is an exploratory study. Exploratory study is a study carried out to discover challenges or knowledge that has not really been studied. This study adopted purposive sampling method in selecting the area of study, EbuteEro, Marina and Mekuen in Lagos state. These areas were selected as they are one of the busiest terminals in Lagos state, with a high number of passengers as well as recorded a number of boat mishaps at night. Random sampling method was used in selecting 100 passengers from each of the terminals, bringing the total population of respondents to 300. Questionnaire was adopted as the source of data collection and was structured using the four point likert scale format. The instrument was distributed with the aid of research assistants and was retrieved immediately. The data collected was descriptively analyzed using frequency and percentages.

## Data Presentation, Analysis and Discussion

### RQ1: What are the factors hindering the safety and security of ferry passengers at night?

**Table 1: Factors hindering the safety and security of ferry passengers at night**

ITEMS		SA	A	D	SD	% in agreement
Non-enforcement and compliance to safety regulations and policies	F	300	0	0	0	100.0
	%	100.0	0	0	0	
Untrained and unregistered boat operators	F	130	70	24	26	66.6
	%	43.3	23.3	8	8.7	
Inadequate security personnel at the jetties and terminals	F	112	100	39	40	70.6
	%	37.3	33.3	13.0	13.3	
Inadequate infrastructure	F	300	0	0	0	100.0
	%	100.	0	0	0	
Dredging activities and logs which causes accidents	F	211	84	5	0	98.2
	%	70.3	27.9	1.7	0	

Field Survey (2021)

Table 1 above presents the respondents' opinion on the Factors hindering the safety and security of ferry passengers at night. With above 70% agreement to all the items in the statement, the study supports that the following factors are hinder the safety and security of ferry passengers at night: Non-enforcement and compliance to safety regulations and policies; Untrained and unregistered boat operators; Inadequate security personnel at the jetties and terminals; Inadequate infrastructure; and Dredging activities and logs which causes accidents. This result supports that of earlier studies

which also identified some of these factors as responsible for ferry insecurity at night. Among these studies are Yui-yip et al (2021); Kiersten (2015), Allianz Global Corporate and Specialty (2014), and Degiuli et al, (2015) respectively.

**RQ2 What is the impact of safety and security awareness on ferry passengers?**

**Table 2: The impact of safety and security awareness on ferry passengers**

ITEMS		SA	A	D	SD	% in agreement
Safety and security awareness will influence passengers' preventative behaviour	F	190	93	11	6	94.3
	%	63.3	31.0	3.7	2.0	
Safety and security awareness will influence passengers' safety awareness	F	200	50	20	30	83.5
	%	66.7	16.7	6.8	9.9	
Safety and security awareness builds confidence and trust from passengers	F	102	99	40	59	69.00
	%	34.0	33.0	13.3	19.7	
Safety and security awareness will enable passengers express higher levels of trust in the crew	F	300	0	0	0	100.0
	%	100.0	0	0	0	
Safety and security awareness will enable passengers identify issues that will put them at risks	F	211	84	5	0	97.3
	%	70.3	27.98	1.67	0	

**Field survey (2021)**

Table 2 above presents the respondents' opinion on the impact of safety and security awareness on ferry passengers. With above 70% acceptance of each of the items in the table, the study conclude that: Safety and security awareness influences passengers' preventative behaviour; influence passengers' safety awareness; builds confidence and trust from passengers; enables passengers express higher levels of trust in the crew; as well as enable passengers identify issues that will put them at risks. The result confirms the findings of Ljung and Oudhuis (2016) and Kiersten (2015) respectively who indicated that safety and security awareness reduces the chances of boat mishaps, improves the level of trust of boat users as well as alerts the seafarers to be cautious of the safety risks.

**RQ3: What measures can be implemented to enhance safety and security of ferry passengers at night in Lagos state?**

**Table 3: Measures to be implemented to enhance safety and security of ferry passengers at night in Lagos state**

ITEMS		SA	A	D	SD	% in agreement
Collaboration between government and boat operators	F	200	50	20	30	83.4
	%	66.7	16.7	6.8	9.9	
Training of guards to enforce waterways monitoring	F	112	100	39	40	70.6
	%	37.3	33.3	13.0	13.3	
Proper registration of all boat operators	F	112	100	39	40	70.6
	%	37.3	33.3	13.0	13.3	
Prosecution of any violator/offender	F	300	0	0	0	100.0
	%	100.0	0.0	0.0	0.0	
Orientation of passengers on the dangers of night travel on the waterways	F	211	84	5	0	98.3
	%	70.3	28.0	1.67	0	
Encourage passengers to pay more attention to safety briefs and safety information	F	211	84	5	0	98.3
	%	70.3	28.0	1.67	0	

**Field Survey (2021)**

The final table above presents the respondents' opinions on the measures to be implemented to enhance safety and security of ferry passengers at night in Lagos state. As indicated in the Table, each item was accepted as the rate as measures to enhance security and safety of ferry passengers, especially at night. This implies that, the collaboration between government and boat operators; Training of guards to enforce waterways monitoring; Proper registration of all boat operators; Prosecution of any violator/offender; Orientation of passengers on the dangers of night travel on the waterways; and Encourage passengers to pay more attention to safety briefs and safety information, are all measures that could be adopted to enhance security and

safety of ferry passengers at night in Lagos state. The result of this study confirm the outcome of some earlier studies such as Siti and Yunita (2020) and Onsongo (2017) who respectively suggested similar measures as essential in enhancing boat/ferry passenger safety at the sea.

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## Conclusions and Recommendations

Night movement, regardless of whether air, sea or land has its dangers. A study on ferry safety by Adenubi (2020) revealed that night movement on water is responsible for about 80 per cent of boat accidents in Nigeria, aided by loosely enforced regulations by the agencies charged with the duty of regulating the waterways. Ferry operations in Nigeria are restricted from 6pm for safety reasons by National Inland Waterways Authority; however compliance to this regulation appears to be very low, as there are still evidences of night ferry journeys. According to the Adenubi (2020), a visit to some of the jetties in Lagos state revealed noticeable absence of security operatives in the evenings; an indication of governments' lack of control and inability to enforce compliance with safety regulations, and by extension, end boat accidents. The result of this study indicated the following factors as constitute hindrance to safety and security of ferry passengers at night: non-enforcement and compliance to safety regulations and policies; untrained and unregistered boat operators; inadequate security personnel at the jetties and terminals; inadequate infrastructure; and dredging activities and logs which causes accidents. Another finding of this study revealed that safety and security awareness influences passengers' preventative behaviour; increases passengers' safety awareness; builds confidence and trust from passengers; enables passengers express higher levels of trust in the crew; as well as enhance passengers identify issues that will put them at risks. Finally, the result of this study suggested the following measures as essential in enhancing safety and security of ferry passengers at night in Lagos sea: the collaboration between government and boat operators; Training of guards to enforce waterways monitoring; Proper registration of all boat operators; Prosecution of any violator/offender; Orientation of passengers on the dangers of night travel on the waterways; and Encourage passengers to pay more attention to safety briefs and safety information. Based on these findings, the study concluded that majority of the boat mishaps – night or day- are human factors; and thus recommended that appropriate taskforce be recruited to ensure total compliance of all the rules and regulations already enacted by the National Inland Waterways Authority.

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**Appendix -I****SAFETY AND SECURITY OF FERRY PASSENGERS' LIVES AT NIGHT AT EBUTE ERO, MARINA AND MEKUEN, LAGOS  
REQUEST FOR INFORMATION**

Dear Respondent,

I am carrying out a study on "Safety and security of ferry passengers' lives at Night at EbuteEro, Marina and Mekuen, Lagos", and you have been chosen to be part of the study. This questionnaire is only for academic purposes. Kindly select the response which applies to you and all information will be kept confidential

Instructions: Please tick (√) as appropriate where

SA = Strongly Agree (SA), A = Agree, D = Disagree (D), SD = Strongly Disagree (SD)

**Key: Strongly agree (4), Agree (3), Disagree (2), and strongly disagree (1).**

S/N	ITEMS	SA	A	D	SD
<b>RQ1</b>	<b>What are the factors hindering the safety and security of ferry passengers at night?</b>				
1	Non-enforcement and compliance to safety regulations and policies				
2	Untrained and unregistered boat operators				
3	Inadequate security personnel at the jetties and terminals				
4	Inadequate infrastructure				
5	Dredging activities and logs which causes accidents				
<b>RQ2</b>	<b>What is the impact of safety and security awareness on ferry passengers?</b>				
6	Safety and security awareness will influence passengers' preventative behaviour				
7	Safety and security awareness will influence passengers' safety awareness				
8	Safety and security awareness builds confidence and trust from passengers				
9	Safety and security awareness will enable passengers express higher levels of trust in the crew				
10	Safety and security awareness will enable passengers identify issues that will put them at risks				
<b>RQ3</b>	<b>What measures can be implemented to enhance safety and security of ferry passengers at night in Lagos state?</b>				
11	Collaboration between government and boat operators				
12	Training of guards to enforce waterways monitoring				
13	Proper registration of all boat operators				
14	Prosecution of any violator/offender				
15	Orientation of passengers on the dangers of night travel on the waterways				
16	Encourage passengers to pay more attention to safety briefs and safety information				