



Management of Passenger Boats to Reduce Frequent Boat Mishaps in Lagos

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ABSTRACT

Frequent boat accidents and mishaps in Lagos waterways had made water transportation unattractive to Lagosians who are willing to spend their entire in traffic jam rather than taking waterways transportation that may end their journey in the belly of the fish. For this reason, this study investigated management of passenger boats to reduce frequent boat mishaps in Lagos. It adopted a descriptive research survey in Lagos Island using self-made questionnaire. The study sample comprises 300 boat passengers and 100 boat operators selected using nonprobability sampling techniques. Data collected were analyzed descriptively using frequency and simple percentages. The result of this study revealed the following factors as responsible for boat mishaps in Lagos state: poor maintenance of available facilities; deficiencies in lifesaving equipment; substandard boats; non adherence to regulations; non utilization of life jackets; inadequate training of boat operators; inappropriate speed of the boat; inadequate lighting system; overloading; and lack of enforcement of safety regulations. The result also revealed the following measures to be adopted in curb with boat mishaps: taking off all rickety boats off the waterways; constant dredging in order to clean up the entire space; empowering passengers to check on operators' excesses; sensitization campaign to enlighten passengers on their rights and safety measures; provision of support for the operators, through access to funds to acquire the right kind of equipment; banning of rickety boats; standard maintenance workshop; mandatory use of marine communications equipment by all boat operators; boats without or faulty navigation aids should not be allowed to operate; and ensuring that boat's license are inspected before setting off to the sea. Based on these findings, the study concluded that carelessness is the primary causative factor of boat mishaps and thus recommended that adequate management and maintenance culture be developed among seafarers.

Keywords: management, passenger boats, boat mishaps

Introduction

In Nigeria, some cities situated close to the sea have quite a number of roads that are unmotorable and congested owing to the presence of gridlocks and potholes. This has led to commuters often seeking an alternative means of transportation, such as water transportation, the use of boats and ferries (Hanafi, 2020). This description aptly fits the city of Lagos, the commercial nerve center of Nigeria, with a growing population of about 20 million. However, this alternative despite having numerous advantages comes with its own challenges, such as boat mishaps which unfortunately have been on the increase.

Valuable time lost in traffic jam is usually part of the consequences faced by commuters in Lagos state. This issue has led to various administrations implementing measures to curb this situation of poor transportation in the state. Despite being referred to as a megacity, Lagos state cannot boast of a functional integrated transport system. The available alternatives are water and rail, however these alternatives are not popular amongst Lagosians due to the perception of being dangerous, disorderly and underdeveloped. Thus, commuters remain unattracted to utilizing available options. The low patronage often reported in regards to the use of the water transportation is further attributed to the weak regulations which encourage malpractices among boat operators such as overloading of passengers, often resulting to boating accidents (Lakin, 2018). Given these observations, it is summed up that boat mishaps are common occurrence and interventions need to be implemented to eliminate the erroneous perception among commuters of the water system of transportation being a dangerous option and promoting increased patronage.

The prevalence of boat mishaps is an issue that calls for governmental intervention and has increased the concerns regarding making safer the waterways. The state of the waterways is enough to deter prospective and existing commuters away from water transport and into using the ineffective road transport with all its attendant issues, ultimately increasing the traffic gridlock (Priambudi, 2020). Apart from the unsafe waterways, the irresponsible attitude and poor maintenance culture associated with this means of transport are contributory factors to the deterrence of passengers. Some of the boats operators disregard laws and are unconcerned about the dangers posed by their actions to their passengers. These actions include overloading of the boat beyond its capacity, which is responsible for the recurring mishap experienced on the waterways. Given that the water transport system requires constant supervision and close regulation, it becomes worrisome when there is no regulator on duty at the berth.

Statement of research problem

The waterway which is supposed to serve as an alternative to other means of transportation has become the cause of deaths of a good number of passengers. The factors attributed to as the cause of the waterways becoming a deathtrap includes non-adherence and non-enforcement of safety regulations, rivalry between agencies charged with the responsibility of regulating the waterways and regulatory hitches. The effect of all this is regular boat mishaps. 70 per cent of boat mishaps are blamed on over speeding, inexperienced boat operators, non-utilization of life jackets, poor boat maintenance, rickety and substandard crafts, poor lighting, over loading, diversion of passenger boats to evade arrest, night voyage and collision with objects submerged in water. The rivalry between agencies, LASWA and NIWA, charged with the collection of revenues from boat operators and dredgers is also contributory to the increasing number of deaths on Lagos waterways (Lakin, 2018).

Passengers are also not left out of the blame given the level of ignorance displayed in terms of safety measures such as the wearing of life jackets, which could help save a life in the event of an accident. Some of the boat riders do not undergo adequate trainings, thus relying on archaic knowledge to navigate a boat (Baird, 2018). All of these factors have led to the loss of confidence in the use of the waterways for transportation. In view of the foregoing, this study examines the extent to which the management of passenger boats can reduce frequent boat mishaps in Lagos.

Research objectives

Specifically, this study seeks to;

1. Identify the factors responsible for frequent boat mishaps in Lagos state.
2. Suggest measures that can be implemented to minimize boat mishaps in Lagos state.

Research questions

1. What are the factors responsible for frequent boat mishaps in Lagos state?
2. What measures can be implemented to minimize boat mishaps in Lagos state?

Literature review

Boat mishaps are accidents that damage boats on waterways and can lead to loss of lives and properties. A boat mishap can happen to any boat operator at any time on the waterways. Common causes of boat mishaps include:

Sea unworthiness: this can stem from poor construction design of the boat and inadequate maintenance. Unseaworthy boats are boats that have not been correctly maintained or have been poorly altered to increase their carrying capacity. Fraudulent boat owners who also want to reduce their maintenance and safety equipment expenses put boats that are not seaworthy on waterways (Baird, 2018).

Human errors: these include overloading of passenger boats which is unquestionably the most intentional type of human error that results to fatalities from accidents. Such mishaps usually occur in the form of sinking or capsizing or both.

Other causes of passenger boat mishaps are general negligence, sudden hazardous weather, Lack of communication (alerting/location) and inadequate rescue response (Baird, 2018), crashes resulting from mechanical faults, collisions, non-usage of lifejackets, stumbling of boats on logs of wood littered in water and excessive speeding (Hanafi, 2020).

Operation of passenger boats by uncertified personnel: a lot of boat operators who navigate waterways are not listed with the regulatory agencies, thus casting doubt on their capacity to operate. Many of them display rickety boats in their fleet and disobey safety rules at will. Some of these passenger boat operators were bred in the riverine areas and perceive waterways as a terrain they can navigate without being restricted by any agency. (Hanafi, 2020).

In managing passenger boats effectively to reduce mishaps, there should be always present on-board safety items like lifejackets, fire extinguisher, life buoy and sand/fire bucket as mandated by Lagos State Waterways Authority (LASWA). All operators of passenger boats must own marine communications equipment to always monitor their fleet. It must be ensured that the marine environment is not polluted; firefighting appliances are available in the boat; that individuals under the age of 18 are not allowable to be in control of a passenger boat; suitable means to expedite the rescue of an individual from the water are provided and structural/mechanical conditions and the equipment stated in the license are always kept in good condition and accessible for instant use (Hanafi, 2020).

Boat operators must have a standard maintenance workshop or a maintenance agreement with a reputable maintenance workshop which should be approved by the Authority.

The training and certification of boat operators is key in managing passenger boats effectively. Practical regulations should be introduced and rigorously enforced as this will eliminate the problem of overloaded passenger boats.

Empirical review

Nwankwo and Ukoji (2015) investigated general trends and risk factors of boat accidents in Nigeria between June 2006 and May 2015 and data reviewed showed that 1607 lives were lost in 180 boat accidents caused by overloading, turbulent weather, negligence, careless driving, etc. within this period.

Baird (2018) analyzed passenger vehicle accidents focusing on ferries and tourist boats and attributed most of the deaths that occurred to human error mostly in the form of unseaworthy vessels, general negligence, poor lookout, overloading, and poor seamanship aggravated by evacuation and deficiencies in lifesaving equipment and search and rescue operations, with these accidents occurring in the poor, tropical regions of the world.

Priambudi (2020) evaluated the performance of operational officers in the maritime field, to identify the period and reason they stray from established protocols, and the risks this presents to passenger safety. The study used the normative jurisdiction approach, coupled with descriptive analysis, taking on primary data through interviews and observations and secondary data related to the research and concluded that one of the biggest risks to passenger safety is incorrect loading manifestos which can be avoided when each passenger and driver are required to produce a ticket, to effectively manage the capacity of passengers and prevent overloading.

Theoretical framework: Domino Theory

This theory was proposed by Heinrich in 1959 and maintains that accident happens in a series of events and that the single fault can be linked to other factors in sequence, like a domino. According to this theory, there are five dominoes (Zobair& Kazuhiko, 2017) in which the first domino elucidates that unwanted personality traits can be passed along through inheritance or developed from a person's social environment which can contribute to a person's faults. The second domino deals with worker personality traits which contribute to accident causation. The third domino is the unsafe act which is the direct cause of incidents. The point of domino theory is to build a linear cause-effect relationship between several social and individual factors using five metaphoric dominoes. The fifth domino is injury, damage and/or loss which is the effect of accident (Nwokedi et al., 2017). When passenger boats are not properly managed, mishaps are inevitable.

Methodology

The descriptive research survey was utilized in this study. Using purposive sampling method, Lagos Island was selected as the area of study, given its feature as a commercial center with people from all walks of life passing through on a daily basis, using various transportation modes. It is also part of the routes covered by ferries. With the aid of random sampling method, 300 passengers and 100 boat operators from the terminals as respondents for the study. The selection was based on willingness and knowledge of the issue under study. Questionnaires structured from the formulated research objectives using a four point likert scale was the choice of instrument for data collection. The data was analyzed descriptively with the aid of frequency and simple percentages.

Data Presentation, Analysis, and Discussion

Demographic Data

Table 1: Respondents Educational qualification classified by Gender

Gender Education	Male	Female
OND/NCE	139 (34.8%)	121 (30.25%)
B.SC/HND	62(15.5%)	48(12.0%)
MBA/MSC	14 (3.5%)	8(2.0%)
Others	5 (1.25)	3 (0.8)
Total	220 (55.0%)	180 (45.0%)

Source: Field survey, 2021

The participants in the study comprises both male and female who cut across different levels of educational qualifications. According to the result presented in Table 1 above, 55% of the respondents were male from whom 34.8% had OND/NCE; 15.5% had BSc/HND; 3.5% had MBA/MSc while 1.3% selected others. Similarly, 45% were female, among who 30.25% had OND/NCE; 12% has BSc/HND; 2% had MBA/MSc; while 0.8% selected others. These shows that the respondents have varied levels of educational attainments and included both male and females.

1. What are the factors responsible for frequent boat mishaps in Lagos state?

Table 2: Respondents opinion on the factors responsible for frequent boat mishaps in Lagos state

STATEMENTS		SA	A	D	SD	Percentage in agreement (%)
Poor maintenance of available facilities	F	192	190	8	10	95.5
	%	48.0	47.5	2.0	2.5	
Deficiencies in lifesaving equipment	F	166	211	9	14	94.3
	%	41.5	52.8	2.25	3.5	
Substandard boats	F	199	178	20	3	94.3
	%	49.8	44.5	5.0	0.8	
Non adherence to regulations	F	167	201	12	20	92.1
	%	41.8	50.3	3.0	5.0	
Non utilization of life jackets	F	275	101	13	11	94.1
	%	68.8	25.3	3.3	2.8	
Inadequate training of boat operators	F	117	267	4	12	96.0
	%	29.3	66.8	1.0	3.0	
Inappropriate speed of the boat	F	162	216	13	9	94.5
	%	40.5	54.0	3.25	2.3	
Inadequate lighting system	F	262	111	7	20	93.3
	%	65.5	27.8	1.8	5.0	
Overloading	F	169	211	17	3	95.0
	%	42.3	52.8	4.3	0.8	
Lack of enforcement of safety regulations	F	266	102	21	11	92.0
	%	66.5	25.5	5.3	3	

Source: Field study, 2021

Table 2 above embodies respondents' opinion on the factors responsible for frequent boat mishaps in Lagos state. As indicated in the table, all the items in the table were accepted as being responsible for the frequent boat mishap in the waterways in Lagos state with above 92% in agreement to each of the statement. The study therefore concludes that the following factors are responsible for frequent boat mishaps in Lagos state: Poor maintenance of available facilities; Deficiencies in lifesaving equipment; substandard boats; Non adherence to regulations; Non utilization of life jackets; Inadequate training of boat operators; Inappropriate speed of the boat; Inadequate lighting system; Overloading; Lack of enforcement of safety regulations. These findings are in consonance with that from earlier studies such as Hanafi (2020); Nwankwo et al (2015); Nwokedi et al (2017) and Priambudi (2020) respectively who identified one or more of the aforementioned factors as responsible for boat mishaps in their respective study area.

2. What measures can be implemented to minimize boat mishaps in Lagos state?

The table below presents the respondents' opinion on the measures that can be implemented to minimize boat mishaps in Lagos state. From the analysis, above 92% are in agreement to all the items in the table above. This implies, all measures propose above such as taking off all rickety boats off the waterways; constant dredging in order to clean up the entire space; empowering passengers to check on operators' excesses; sensitization campaign to enlighten passengers on their rights and safety measures; provision of support for the operators, through access to funds to acquire the right kind of equipment; banning of rickety boats; standard maintenance workshop; mandatory use of marine communications equipment by all boat operators; boats without or faulty navigation aids should not be allowed to operate; and ensuring that boat's license are inspected before setting off to the sea should be carried out as ways to prevent boat mishaps in Lagos waterway. This result supports that of earlier studies such as Baird (2018) and Lakin (2018), respectively.

Table 3: The respondents' opinion on measures that can be implemented to minimize boat mishaps in Lagos state

STATEMENTS		SA	A	D	SD	Percentage in agreement (%)
All rickety boats should be taken off the waterways	F	211	172	14	3	95.8
	%	52.8	43.0	3.5	0.8	
Constant dredging in order to clean up the entire space	F	192	189	11	8	98.3
	%	48.0	47.8	2.8	2.0	
Empower passengers to check on operators' excesses	F	169	211	17	3	95.1
	%	42.3	52.8	4.3	0.8	
Sensitization campaign to enlighten passengers on their rights and safety measures	F	179	192	21	8	92.8
	%	44.8	48.0	5.3	2.0	
Provision of support for the operators, through access to funds to acquire the right kind of equipment	F	266	112	22	0	94.5
	%	66.5	28.0	5.5	0.0	
Banning of rickety boats	F	114	270	16	0	96.0
	%	28.5	67.5	4.0	0.0	
Standard maintenance workshop	F	102	266	21	11	92.8
	%	26.3	66.5	5.3	2.3	
Mandatory use of marine communications equipment by all boat operators	F	288	100	12	0	97.0
	%	72.0	25.0	3.0	0.0	
Boats without or faulty navigation aids should not be allowed to operate	F	266	112	22	0	92.5
	%	66.5	26.0	5.5	0.0	
Ensuring that boat's license are inspected before setting off to the sea	F	112	266	21	1	94.5
	%	28.0	66.5	5.3	0.3	

Source: Field study, 2021

Conclusion and recommendations

The traffic situation in Lagos makes it inevitable to explore sea/waterways transportation. However, there has been series of boat mishaps and accidents that has claimed so many lives. As a result many individual are skeptical and scare of water transport. These accidents are avoidable through proper management and maintenance culture. The result of this study there identified careless as the major cause of boat mishaps. This is characterized by poor maintenance of available facilities; deficiencies in lifesaving equipment; substandard boats; non adherence to regulations; non utilization of life jackets; inadequate training of boat operators; inappropriate speed of the boat; inadequate lighting system; overloading; and lack of enforcement of safety regulations. On the basis of this findings, the current study recommends adequate maintenance and management culture which embodies: taking off all rickety boats off the waterways; constant dredging in order to clean up the entire space; empowering passengers to check on operators' excesses; sensitization campaign to enlighten passengers on their rights and safety measures; provision of support for the operators, through access to funds to acquire the right kind of equipment; banning of rickety boats; standard maintenance workshop; mandatory use of marine communications equipment by all boat operators; boats without or faulty navigation aids should not be allowed to operate; and ensuring that boat's license are inspected before setting off to the sea should be carried out as ways to prevent boat mishaps in Lagos waterway.

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Appendix**Management of Passenger boats to reduce frequent boat mishaps in Lagos****REQUEST FOR INFORMATION**

Dear Respondent,

I am carrying out a study on “Management of Passenger boats to reduce frequent boat mishaps in 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

SECTION A

Gender: Male () Female ()

Education qualification

- a) OND/NCE ()
 b) B.Sc./ HND ()
 c) M. Sc./MBA ()
 d) Others () Specify.....

SECTION B:

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
RQ1	What are the factors responsible for frequent boat mishaps in Lagos state?				
1	Poor maintenance of available facilities				
2	Deficiencies in lifesaving equipment				
3	Substandard boats				
4	Non adherence to regulations				
5	Non utilization of life jackets				
6	Inadequate training of boat operators				
7	Inappropriate speed of the boat				
8	Inadequate lighting system				
9	Overloading				
10	Lack of enforcement of safety regulations				
RQ2	What measures can be implemented to minimize boat mishaps in Lagos state?				
11	All rickety boats should be taken off the waterways				
12	Constant dredging in order to clean up the entire space				
13	Empower passengers to check on operators' excesses				
14	Sensitization campaign to enlighten passengers on their rights and safety measures				
15	Provision of support for the operators, through access to funds to acquire the right kind of equipment				
16	Banning of rickety boats				
17	Standard maintenance workshop				
18	Mandatory use of marine communications equipment by all boat operators				
19	Boats without or faulty navigation aids should not be allowed to operate				
20	Ensuring that boat's license are inspected before setting off to the sea				