

# DEVELOPMENT OF WATERWAYS FOR EFFECTIVE TRANSPORTATION SYSTEM AND RECREATION ENHANCEMENT IN SELECTED NAVIGABLE CREEKS AND WATERWAYS IN RIVERS STATE

**ABSTRACT:** Over the years neither the government of Rivers State nor the Federal Government of Nigeria have shown interest in the development a viable water transportation system that would enhance. The importance of water transportation in the development of coastal communities has not been given the required attention by government at the State and Federal Levels. The emphasis has always been on land transportation. The objectives of this research are to find out: whether people living close to the water bodies actually, use them for transportation and recreation purposes; the number, names and characteristics of the major water transportation routes; people's perception of the water bodies with respect to their value for transportation and recreation and types, ownership and management of watercraft used for water transportation. The research methodology was a multistage as it involved the listing of the major identified waterways and navigable waters in Rivers State and selecting 50% of the most viable economically to Rivers State. The study adopted the 'passive-observational research design'. A total of 4,660 households were identified, and 100 households representing 2.15% of the households were interviewed, data was collected for analysis. The study established that there were challenges of water transportation in the Port Harcourt waterways and creeks; these range from narrow and shallow creeks and navigable waters, uncontrolled sea piracy, floating debris and water hyacinth along the navigable waterways and the near zero safety measures adopted by some of the boat drivers plying the waterways. The study also revealed that waterfronts of these selected communities in the study area have the potential of becoming recreation and tourist centres which can generate revenue for the state but they are poorly managed and/or neglected. In conclusion, water transportation system in the selected navigable waterways of Rivers State is inefficient due to shallow waterways due to continuous siltation of the creeks. The study recommends amongst others; as periodic dredging and canalization of waterways for effective transportation system and enhancement of recreational activities. The government at the State should provide adequate security along the waterways, the creeks to enhance water transportation and recreational activities in the areas. More so the Ministry of Transport should incorporate schemes to improve the waterways. The marine police should enforce the use of safety jackets and buoyancy aid for commuters and enforcing laws against refuse and excreta disposal in water bodies by residents. The government should encourage conservation and preservation of beach fronts and cultural heritage of the people along the waterways and navigable creeks.

**Keywords:** Development, Navigable creeks, Recreation Enhancement, Transportation system, Waterways

## INTRODUCTION

Water transportation in the world over plays a very fundamental role in the conveyance of people, goods and services from one coastal point to another. In Nigeria for instance, import and export of very large consignments is almost entirely by water. Transportation as the name implies is one of the essential services in the economic life of most nations the world over.

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Transportation enables people to interact and serves as a vital component of physical distribution and also a means of moving people, goods and other objects from one place to another, it is also an essential service that cannot be done without by most economies. Until in recent times, water transportation has been the only means of survival and/or

communication for the people of most the coastal communities of Rivers State.

It is an indispensable tool for socioeconomic development of the regions as well as the overall development of the nation. The development of waterways, for transportation and recreation and its attending economic benefits cannot be over accentuated. As a consequence, a reasonable number of private and public enterprises maintain fleet of vessels for the haulage of goods and services to specific needed location.

In most coastal communities of Rivers State, transportation of people, goods and services, and some cultural festivals are carried out on waterways.

Most of the activities on the waterways, especially by larger powered boats and for commerce, are in the Niger Delta and all along the coastline from Lagos State to Cross Rivers State.

However, water transportation is slow and not very suitable for passenger movement, but a well-organized coastal and inland waterways system can relieve pressure on Nigeria's road transport infrastructure.

#### **STATEMENT OF THE PROBLEMS**

There has been total inattention by both the government of Rivers State and the Federal Government of Nigeria towards waterways development and transportation in the State and the country in general.

This has led to challenges encountered in the use of the waterways presently in Rivers State and they are; insufficient safety measures, narrow routes, floating of logs, piracy and high fares is the trend in most of the targeted areas of the creeks and waterways. The importance of waterways transportation in the development of the coastal communities and the water bodies of creeks and rivers are not improved by government.

#### **GOAL OF THE STUDY**

The goal of the study is to identify the various navigable creeks and waterways in the Port Harcourt Metropolitan Region and ascertain how they are presently used with respect to water transportation and their potentials for the enhancement of water – based recreation activities.

#### **OBJECTIVES OF THE STUDY**

The specific objectives of this research are to find out:

- a) Whether people living close to the water bodies actually, use them for transportation and recreation purposes;
- b) The number, names and characteristics of the major water transportation routes;
- c) People's perception of the water bodies with respect to their value for transportation and recreation

- d) The types, ownership and management of watercraft used for water transportation.

#### **SCOPE OF STUDY**

The study also focuses on the major waterways in Port Harcourt Metropolis that supports water transportation and has the potential of water-based recreation. This study focuses only on the following waterways;

- a) Abutoru Creek
- b) Dockyard Creek
- c) Okubiakiri Creek,
- d) Mgbodaya Creek

#### **LITERATURE REVIEW**

Nigeria has the second longest length of waterways in Africa, it has about 8,600 kilometres of inland waterways an extensive coastland of about 852 kilometres. Nigeria centres on its longest rivers, Rivers Niger and Benue, which cuts across the country into the cardinal east, west and north sections, Ndikom (2008).

The two rivers run into each other at Lokoja and flow into the Atlantic Ocean. The coastal waterways extend from Badagry region through Warri to Calabar. However, water transportation with an average share of about 1.6% of Nigeria's Gross Domestic Product (GDP) i.e. internally generated cargoes, although water transport is slow and unsuitable for faster passenger movement, an efficient coastal and inland waterways development, operation and system generally can minimize the pressure on a country's rail and road transport infrastructure, Ndikom (2008).

The operation of Inland waterways transportation is very beneficial with respect to costs of moving heavy equipment, and machinery especially where promptness is not put into consideration.

Inland waterways in Nigeria despite its enormous potentials are under prioritized, underutilized and highly underdeveloped. This has prompted the Federal Government of Nigeria to take a critical look at inland waterways. With a view to maximizing the potentials of the inland waterways, the federal government also plans to restructure the inland waterways authority so that it can focus on its regulatory and concession duties with its other activities.

Under the current plans, the Inland Waterways authority will be responsible for:

1. Issuance and control of licenses for inland navigation, piers, jetties and dockyards and the like;
2. Granting of licenses to private inland water crafts
3. Approval of designs and construction of Inland River crafts.

The restructured Inland Waterways Authority will look up to the private sector to assist in revitalizing the inland

waterways. One way this can be achieved is through the formation of a Nigeria Inland Waterways Fund.

In Nigeria, water transportation has been in existence before the advent of the imperialist later turned colonial masters. It started with the movement of people, goods and services by the use of small dug-out canoes, later, the imperialist in their quest for more trade, introduced the steam engine and as time went on the colonial masters introduced other types of vessels for water transportation. In fact, by the 17th, British vessels were visiting Nigerian coasts, the fall of Nana of Itsekiri and the Oba of Benin palm oil trade in the Delta Region and the operations of the Royal Niger Company by Sir George Goldier was made possible in the 17th century of water transportation.

It became clearer to the Nigerian government in her fourth National Development Plan that the water transportation system needs greater than before attention for a more rational exploitation of the resources.

### **WATER TRANSPORTATION**

This mode of transportation is very crucial, particularly in the Coastal Regions. This mode of transportation is not commonly used in Nigeria except in the littoral zones like the Niger Delta Region. Water transportation entails transporting goods, services and passengers over local and international waters.

Water transportation is the most common means of transportation in the littoral regions of Rivers State in particular as some of the communities are located along the shoreline.

### **HISTORY OF INLAND WATER TRANSPORTATION IN MINNESOTA**

Minnesota boasts a wealth of water resources in its numerous lakes and rivers. One estimate suggests that Minnesota, excluding Lake Superior, contains one square mile of water for every 15 square miles of land. Most of the state is outlined by "navigable" water features, including, in the northeast, Lake Superior, the largest of the great lakes. Among other benefits, the Minnesota's water endowment contributes to its long and diverse history of water transportation.

The greatest impediment to water transportation in Minnesota has always been the winters when lakes and rivers normally Freeze-over, rendering boats other than ice boats useless until the spring thaw.

Water transportation played a major role in the exploration, trade, commerce, and settlement of the state. One of the importance of water transportation in general, Blegen (1964) stated that; supplies were brought in, furs sent out, in Canoes, barges, boats, steamboats and the like .

The demand for water transportation and activities spawned a wide range of recreational watercrafts like fishing

launches, row boats. Speed boats, sailboats, and houseboats. Boat builders in towns like Little Falls worked hard to meet the demand. Even today tourists and excursionists in their thousands flock to Minnesota's Boundary waters' canoe area wilderness to experience the outdoors in a canoe, much as the American and Indian traders did in Minnesota in the years before intensive white settlement.

### **INLANDS WATERWAYS IN NIGERIA**

Lagos Lagoon has become one of the important tourist attractions in Lagos. The name of this place has been connected with the city of Lagos. Lagos is one of the prominent cities of the country of Nigeria. The name of this place actually means "Lake" in Portuguese. Lagos Lagoon in Lagos stretches about a large area. A large sand pool which is about 2 to 5km wide separates the Lagoon from the great Atlantic Ocean.

There is a Lagos harbour which is constructed in the form of a channel. This harbour runs through the centre of Lagos Lagoon in Lagos. The water of Lagos Lagoon is very shallow. This has deterred many ocean going vessels not to navigate in Lagoon area. Nevertheless, there are several smaller barges and boats on the Lagoon. Water transportation is the significant mode of transportation in the western region of Lagos State. The reason for choosing water transport as the main standard is that road transportation is not good enough in that part of Lagos due to the nature of the terrain.

### **CHARACTERISTICS OF WATER TRANSPORTATION**

Ikya (1993) stated that the characteristics of water transportation include the ability to carry large number of persons at a time, availability and reliability, promotion of tourism, comfort of passengers, and availability of free flow traffic, ability to carry passengers from one point to the other quickly and safely.

### **THE ABILITY TO CARRY LARGE NUMBER OF PASSENGERS AT A TIME**

In water transportation the vessels used for carrying passengers vary in sizes. The number of persons carried per trip varies depending on the size of the boat.

However, water transportation vessels are known for carrying large number of persons. For instance, in the fleet of the Inland Water Transportation Department in Lagos (IWD), the ferry can carry one hundred and twenty five passengers and the largest can carry one thousand at a time. Ferries are used in most places in the world but have not been given the needed attention in Nigeria due to obvious neglect of the sector.

### **AVAILABILITY AND RELIABILITY**

The availability of services can be looked at from two perspectives; constant availability and ability to provide hitch free operation when properly managed, ferry services can be made available as at when required. However, in every place where ferries are in operation, the crews that operate the ferry are trained to handle specific duties to ensure that the ferry is available and the movement with respect to the schedule for its services.

### **PROMOTION OF WATER WAYS TO ENHANCE RECREATION AND TRANSPORTATION SYSTEMS**

Generally, civilizations located near water are often preferred; owing partly to the fact that water enables more efficient and reliable travel compared to going over land. Waterways are critically important to the transportation of people and goods and services throughout the world due to its ability to convey bulk goods and services. The complex network of connections between coastal inland ports, trails, air and truck routes forms a footing on the basis which material and economic wealth of a nation depend. Waterways in developing countries are critical avenues for local and regional commerce take place whereby fruits and vegetables vendors flock to floating markets on rivers and canals, such as in Bangkok, Thailand.

The promptness and little charge of conveying goods by water influenced the locations of inhabitants near navigable waters (Rivers, Lakes, Canals, and oceans). Goods produced within inland farms were conveyed through inland waterways to coastal ports and other coastal communities. However modern ferries, cruise ships and many types of recreational boats carry passengers for purposes ranging from daily business commuting to fishing and sight-seeing.

### **PROMOTION OF RECREATION ACTIVITIES ON WATER**

Recreation and leisure activities are critical dimensions of the quality of life for all people, including those with developmental disabilities, Walker (1994) and Willis (1988).

The promotion of recreation in water bodies includes, for example, obtaining good drinking water and water for irrigating crops from the river, it requires fishing, harvesting reeds, to have picnics on the river banks and/or perform religious activities like baptisms in the rivers.

Some goods and services provided by rivers are important for human survival, such as water for drinking and subsistence fishing. Other uses of goods and services support social needs (E.g. Recreation, such as swimming) and economic growth (e.g agricultural and industrial production).

### **PROMOTION OF TOURISM**

Economic pundits have reiterated that tourism if fully developed in this country could equal oil as the highest revenues earner for the country. No tourism package is complete without the water transportation aspect of a riverine Country. The use of ferries in the developed

countries is well known. Presently some of the Rivers of the Niger Delta are navigable though this depends on the size of vessels plying the route.

### **FACTORS INFLUENCING CHOICE OF TRANSPORTATION MODE**

There are certain factors one considers while making decisions concerning the choice of transportation mode or modes according to Stanton (1982), these factors or selection criteria include:

Speed, cost, product characteristics, distance, number of geographical area or locations served, flexibility, reliability. However, the general factors are as follows:

1. **Speed:** Speed is important to note that when transporting perishable goods such as fruits, frozen fish, vegetables, cattle etc. the mode of transportation is a serious factor to be considered.
2. **Cost:** This is also an important factor that determines the choice of transportation mode. It plays a critical role irrespective of the advantages of each mode; users consider the cost of conveying goods or passengers before choosing or making their choice.
3. **Safety:** Everyone wants to ensure that their lives as well as their goods are safe while traveling. In view of that, they consider how safe a transport mode is, before making choice. The safe arrival of goods and services involved in this means of transportation is a major factor taken into account before choosing this means of transport.
4. **Distance:** The distance involved also influences the choice of transportation mode adopted. Due to the expected distance of travel, it is not possible to use all the modes of transportation. It is only some that are suitable for long distances. That is when the distance to be covered involves two or more countries. Hence the means of transporting goods and people within a country varies from that of transporting people and goods from one country to the other.
5. **Product Characteristics:** Not all products are the same. Some products are perishable, bulky, small, light, durable, and heavy and in some cases are liquid in nature. Such products require their own or different modes of transportation. For instance, heavy and bulky products are suitably transported through ship and train while fragile and lighter products are transported through air.
6. **Convenience:** This is another factor that determines the choice of transportation mode. Some entrepreneurs and consumers alike consider the degree of convenience to be obtained before using such mode of transportation. For instance many people especially the burgeoning entrepreneurs go for air transportation because of its degree of convenience.
7. **Destination:** The destination of the goods and services are also taken into consideration before making the choice of transportation. As a result of the destination, not all the modes of transportation can be used in all cases.

### **WATER TRANSPORTATION IN THE NIGER DELTA REGION**

Niger Delta Region is characterized by coastal communities. These coastal communities depend mainly on water transportation as their only means of transportation. The Niger Delta Region is a difficult terrain particularly with regards to transportation. This is because it is a swampy terrain and as a result of that there is minimal development that is land based.

Water transportation plays an important role in the Niger Delta Region due to its terrain. Without water transportation, movement and communication would not have been easy in the region, especially among Coastal Communities, Ikporukpo (1985).

Water transportation is the only accessible means of transportation in the coastal communities in the Niger Delta region. It accounts for its development and only source of livelihood; it is the live wire of the region among others. Despite this, water transportation in the region is not given cognizance by government. The efforts made by the government to improve waterways transportation in the area are minimal.

Water transportation is not only important to the Niger Delta Region but to the nation at large. For instance, it was as a result of the Navigable waters of the Niger Delta that encouraged the imperialist and colonial masters to move into the hinterland of Nigeria and consequently develop it.

Water transportation is very fundamental for the development of the Niger Delta Region. There should be improved water transportation system in the area. The region lacks modernized water transportation facilities.

### **TRANSPORTATION NETWORK OF RIVERS STATE**

The Niger delta area is characterized by complex linkages of rivers and creeks which empty into the Atlantic Ocean. In spite of the many rivers in the area, the only rivers navigable for bigger vessels are the Bonny and Okpokor rivers. The others are only important for local crafts. The effective utilization of these rivers for navigation is quite limited due to fluctuations in their entrance, shallowness of their ways by sediments, weeds, fallen trees, and other obstacles. Apart from the ancient dug-out canoe, the major modes of water transportation in Rivers State are the outboard engine boats, the inboard engine boats and the speed boats. Although the speed boats are small, they are the inboard engine boats. The inboard engine boats are used to carry goods mostly because they have the largest carrying capacities while the speed boats are strictly passengers' vessels. On the other hand, the outboard engine boats carry both goods and passengers.

### **WATER TRANSPORTATION AND THE DEVELOPMENT OF COASTAL COMMUNITIES IN RIVERS STATE**

Water transportation is vital to the social economic development of coastal communities including Coastal Communities of Rivers State. Transportation as a matter of fact is a key to economic development of any society irrespective of the modes. It facilitates economic advancement, Stucky (1973).

If a Country, State or Local Government Area intends to develop her industrial, commercial and other developmental need, then she needs to improve or have a good transportation system.

Water transportation as it were, helps man to conquer or develop his physical environment. In the coastal communities water transportation plays an important role;

- It contributes to the socio economic development of the communities.
- Water transportation in the coastal communities help to create job opportunities and encourage entrepreneurship. As the only means of transportation, transportation companies are established by private individuals and government. In turn employs thousands of people in the area who ordinarily would have remained jobless.
- Water transportation facilitates marketing activities in the coastal communities in Port Harcourt water ways and nation at large.
- Water transportation makes communication between coastal communities and its environs to be possible.
- Another contribution of water transportation is the development of the coastal Communities.
- Water transportation also encourages and facilitates recreation and tourism in the riverine areas. Since the Niger Delta Region is a centre for tourism, the only means of getting to these tourists centers in the region are through water transportation. This shows that water transportation has been contributive to the development of Coastal Communities with respect to revenue generation and economic improvements.
- Water transportation also help in increasing the rate of building constructions in the Coastal Communities, since it is the only means by which building materials are transported to building sites from the source.

The role of water transportation to man especially those within the riverine parts of the world cannot be over emphasized. However, there is the need to improve on the existing standards of water transportation to enable it meet its obligation of contributing to the development of towns.

## **FACTORS INFLUENCING THE SUCCESS OF WATER TRANSPORTATION AS A DEVELOPMENT TOOL IN THE NIGER DELTA REGION**

Transportation is a developmental tool. It brings political, economic and social development. However, its success as a developmental tool has been impinged by certain factors, these factors according to Dimitriou (1994) include:

- a. Insufficient public transport services.
- b. Weak institutional support
- c. Problem of goal formulation
- d. Problems of planning response
- e. Transport problem of the urban poor.

### **INSUFFICIENT PUBLIC SERVICE**

Deficiency of urban public transport is largely attributed both to the place of outstripping that of public sector investment in passenger transport services, and the poor co-ordination among vital components of the public transport system. This in turn has contributed to poor maintenance of vessels, insufficient supply of boats and inadequate provision public transport services, frequency and routes.

### **WEAK INSTITUTIONAL SUPPORT**

The consideration burden placed on transport institutions as a result of the numerous transport challenges is exacerbated by inadequate coordination amongst various authorities involved and insufficient manpower resources.

There is also a wide evident of the duplication of responsibilities in transport planning and traffic management which has led to a general lack of clarity as to who does what; such circumstances are often aggravated by the absence at the national level of a single overall coordinating policy unit to provide guidelines for urban transport operators. These problems have led to increasing incorporation of institutional studies into traffic and transport complications. The absence of adequately trained staff also constitutes as a root cause of many urban transport challenges. This lack critically handicaps efforts at most levels of actions from policy investment decisions to management construction matters. In Indonesia, the shortage of adequately experienced technical management staff endangers the success and viability of a proposed U.S. & 3 Million urban transport project, Dimitriou (1988).

### **PROBLEM OF PLANNING RESPONSE**

In any kind of challenges unraveled, the choice of method is greatly influenced by how the challenge is perceived and defined at the onset. This determines both the scope and character of analysis which follows. In the field of urban transportation, it is public knowledge that challenges are perceived and presented in a variety of ways of different people and agencies. The lack of compatibility and agreement among many of these perceptions as well as partial coverage of the field that some of them provide have contributed considerably to problems of urban transport

planning and facility provision. In the case of third world countries to transport challenges, the difference of perception in their identification and analysis seems to be particularly marked.

### **TRANSPORTATION CHALLENGES OF THE URBAN POOR**

The access to transport facilities in cities or towns is particularly important to the poor. These are people earning income which is insufficient to provide them with basic shelter and nutrition. Their earnings is far below acceptable standards as a result, they are always at the margin of subsistence which Linn (1983) points out, make them very sensitive to dissipations and their earnings brought about by inadequate transport policies. Household expenditure surveys indicate that the urban poor tend to devote an average between 1 to 10 percent of their income to transport, Linn (1983).

From principle, kinds of access problems which require a policy and management response experienced by the poor include problems of physical proximity to transport facilities, problem or cases of access to public transport, vessels, problem of economic accessibility of public transport services and problem to city wide access provided by the transport system.

### **METHODOLOGY**

The methodology is basically concerned with how the data was collected for analysis, in order to ensure efficiency in the level of work done; data collection was based on the goal and objectives of the study. The study adopts the "passive-observational research design (Cook and Campbell, 1979). However the study adopted the multistage sampling technique by first; listing out all the navigable waterways in Rivers State and selected 50% of the most strategic waterways with respect to their functionality and economic importance to the State. Data was got from both secondary and primary source. The secondary source includes other related written works by different researchers, maps and existing documented information of the study area, while the primary sources includes; questionnaire administered, direct personal observation, photographs, key informant approach and stakeholders discussions.

### **RESEARCH DESIGN**

This study adopts the "passive-observational research design (Cook and Campbell, 1979), in the sense that subjects were studied in-situ, without any experimental manipulation.

### **POPULATION AND SAMPLE**

The sample population was taken from respondents who ply the waterways and members of households residing in communities close to the creeks/rivers.

Eight (8) creeks/rivers,  
Namely;

- Abutoru Creek
- Okubiakiri Creek
- Igweali Creek
- Dockyard Creek
- Mgbuodaya Creek
- Bonny River
- Okpokar River

Fifty percent (50%) of these creeks were studied, namely

- Abutoru creek
- Okubiakiri Creek
- Dockyard Creek
- Mgbuodaya Creek

Communities closest to the studied creek/Rivers are given in table 1 below

Table 1: Distribution of questionnaire in the study area

S/N	Creeks/ water bodies	Closest community	Total no households in the study Area	No of households studied
1	Abutoru creek	Marine base	1,530	25
2	Okubiakiri creek	Borokiri	1,840	25
3	Dockyard creek	Bundu	1,050	25
4	Mgbuodaya creek	Eagle Island layout	240	25
			<b>4,660</b>	<b>100</b>

Source: Authors' field trip, 2014

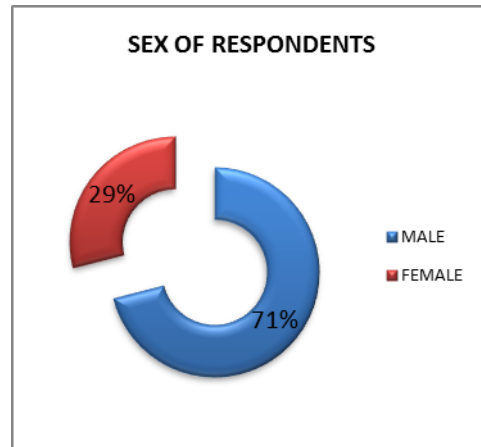
A total of 4,660 households were identified in the study area based on the enumeration data from the National Population Commission and a total of 100 households were interviewed which represents 2.15% of the entire households. Thus this represents the sample size.

**ANALYTICAL TECHNIQUES**

This study utilized simple summary statistics, such as mean, media, mode and percentages. Information was made concise with the aid of charts, tables and photographs.

**FINDINDS AND DISCUSSION**

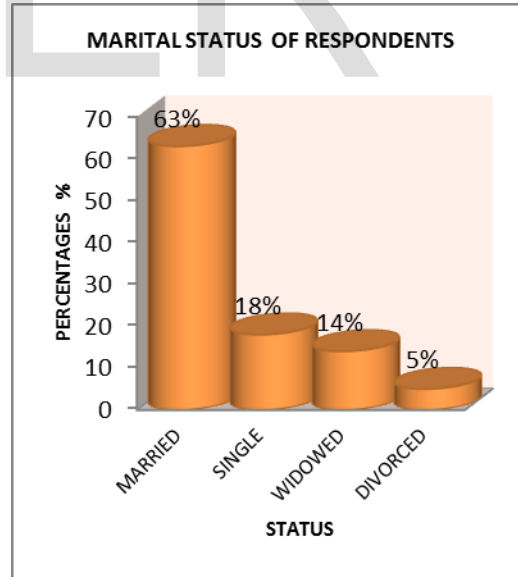
FIG.1: Sex of respondents



Source: Authors' field trip, 2014

Figure 1 above shows the sex of the respondents in the study area. This indicates that 79% of the respondents were males and 29% were females. This shows the study interviewed mostly the male folks.

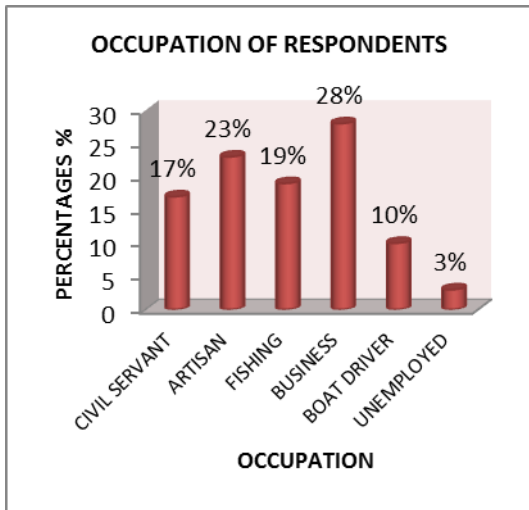
Fig.2: Marital status of respondents



Source: Authors' field trip, 2014

The marital status of respondents was got from the data. This indicates that 63% of respondents are married, 18% of respondents are single, while 14% of the respondents are widowed and 5% of the respondents are divorced. This is shown in figure 2 above.

Fig. 3: Occupation of respondents

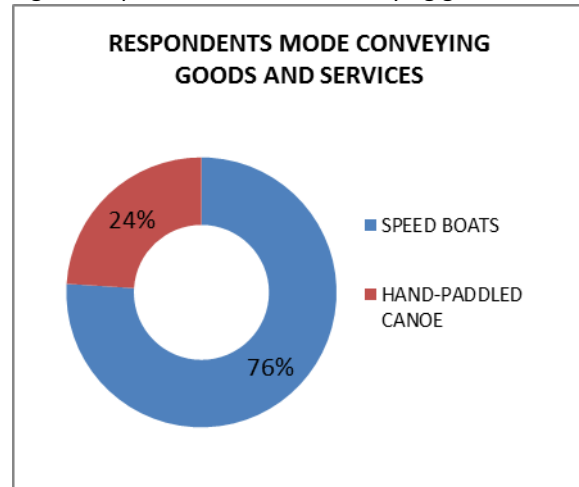


Source: Authors' field trip, 2014

The occupation of respondents is shown in figure 3 above. From the chart, 28% of the respondents were engaged in various forms of Business as their occupation, 17% of the respondents were Civil Servants, and 23% of respondents were Artisans. Others are 10% respondents were Boat drivers. However 3% of the respondents were unemployed.

purposes and only 6% of the respondents make trips for educational purposes.

Fig. 5: Respondents mode of conveying goods and services



Source: Authors' field trip, 2014

Figure 5 above shows the preferred means of conveying goods and services by respondents. From the data, it is evident that 76% of the respondents use outboard speed boats to convey goods, people and services and 24% of respondents use hand-paddled canoe to convey goods, people and services.

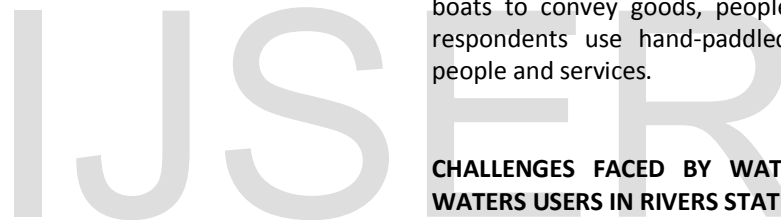
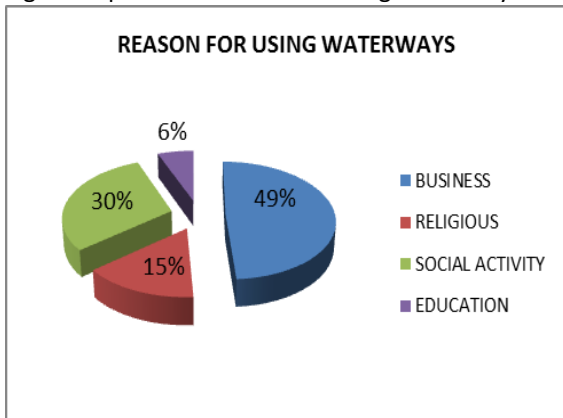


Fig.4: Respondents reason for using water ways



Source: Authors' field trip, 2014

Figure 4 above shows the reason why respondents make trips and it was revealed that 49% of the respondents make their trips for business purposes, 30% of the respondents make trips to engage in various forms of social activity, while 15% of the respondents claim to make trips for religious

### CHALLENGES FACED BY WATERWAYS AND NAVIGABLE WATERS USERS IN RIVERS STATE

In the course of the research, there were some notable challenges that users of the waterways face in Rivers State with respect commuters and operators and these are:

- Floating logs and debris in the river especially the navigable waters.
- Sea Piracy
- Illegal oil bunkering
- Lack of safety gadgets and proper training by boat operators and drivers alike.
- Narrow and shallow routes, leakage of boats used to convey goods and passengers alike.
- High cost of fares.

### WAYS OF IMPROVING WATERWAYS FOR RECREATION AND NAVIGATION

The improvement of waterways is a tripartite approach;

- The Government of the day can provide enough boat for regattas to encourage recreation, tourism and navigation.
- There should be proper and periodic dredging of the canals, creeks and other navigable waterways.
- The government should periodically carry on massive sand filling of waterfronts to create



beaches that are very attractive and that can serve tourists attraction.

- The government can provide good sewage treatment plants to reduce the effect of faecal matters from further polluting the rivers, creeks and waterways.



Plate 1: Showing the type of passenger boats in the study area  
Source: Authors' field trip, 2014



Plate 3: Showing floating logs and debris in the study area  
Source: Authors' field trip, 2014



Plate 2: Showing passengers in boats in the study area  
Source: Authors' field trip, 2014



Plate 4: Showing safety gear (life vests) in a boat in the study area.  
Source: Authors' field trip, 2014



Plate 5: Showing some illegal bunkering activity in the study area  
Source: Authors' field trip, 2014

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- The government should periodically carry out massive sand filling of waterfronts to create beaches that are very attractive and that can serve tourists attraction.
- The government can provide good sewage treatment plants to reduce the effect of faecal matters from further polluting the rivers, creeks and waterways.
- Adequate and effective policing of the waterways to ensure adequate security for the users.

### CONCLUSION

This research identified the challenges of water transportation as it affects recreation and navigation. It also identified the factors influencing the success of water transportation and recreation and it also identified the transportation challenges of the urban poor; in fact this shows that there are really water transportation challenges and there is need for the improvement of the waterways and navigable creeks in Rivers State.

### RECOMMENDATIONS

The following recommendations were made after careful analysis:

1. The Rivers State Ministry of Transport in their transportation plans should integrate schemes to improve on the existing navigable waterways especially by dredging and constantly clearing the waterways of weeds like the water hyacinth, mud silting, debris and other floating objects.

2. The government should enforce boat operators to try and provide enough lifesaving apparatus in their boats to reduce casualties in times of accident.

3. Also commuters should try and acquire personal life vest and ensure that they carry them whenever they are traveling. This should be made mandatory and enforced for safety reasons.

3. The government should purchase larger vessels that can carry up between 50-100 passengers at a time to meet the needs of commuters.

4. The government of Rivers State should overhaul the Ministry of Transport- Marine Transport Section and ensure that they provide larger boats for conveying goods and services that cannot be handled by speed boat operators. For instance the movement of heavy-duty machinery for construction and building materials to the riverine communities will be encouraged.

5. The government should provide well-organized security apparatus along the waterways to enhance safety and the promotion recreation and tourism.

6. The government should encourage conservation and preservation of landscapes and sceneries along the waterways in the selected communities to achieve the restoration and maintenance of cultural heritage and values.

7. The government should introduce some special boating events like; naval parade of historical vessels, regattas, rowing competitions, revival of historical journeys on the waterways, water taxis link of historical site.

8. The protection of the Waterways are essential for irrigation, drainage, transport, recreational use, drinking water supply, processing water, cooling water, bathing water, fishing in the marine ecosystem in the banks.

### ACKNOWLEDGMENTS

The Authors wish to sincerely acknowledge the contributions of these persons who in their own ways contributed immensely towards the success of this work: Prof. O.B.Owei, Dr. V.C. Obinna, Engr. Eric Omianwele, Mrs. Christiana Ibama-Brown and Ms. Jane Emeruem

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