AN ASSESSMENT OF INLAND WATERWAYS OPERATIONS AND CHALLENGES ALONG COASTAL COMMUNITIES IN THE NIGER DELTA

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ABSTRACT

The purpose of this research is inland waterways transport in Nigeria face, which have an impact on both their potential for future growth and their ability to continue to contribute to the nation's economic development. Inland waterway transportation's operational difficulties in Niger Delta coastal villages were investigated. A cross-sectional research design was used for the investigation. A total of 2000 copies of a questionnaire were distributed in four Local Government Areas of Niger Delta States. Simple summary statistics including mean, media, mode, and percentages were used in this study.

The study concluded that despite the major operational difficulties faced by boat owners and operators, there is still a sizable amount of passenger traffic in this type of water transportation. According to the study, government and private boat operators should offer sufficient covered speed boats and safety vests for all users, as well as a boat repair facility, intermittent dredging of waterways, the removal of wrecks and water hyacinths, stabilization of transportation costs, zero tolerance for alcohol and drugs, and speed limiter devices.

Keywords: Transportation, Operational Challenge, Inland waterways, Boat, Niger Delta

INTRODUCTION

Nigeria has the second longest length of waterways in Africa, it has about 8,600 kilometers 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).

Transport is the cornerstone of civilization (Oni & Okanlawon, 2004). As society and economic organizations become complex, the relevance of transport grows. Transportation is a requirement for every nation, regardless of its industrial capacity, population size, or technological development. Moving goods and people from one place to another is critical to fostering economic growth. A country's transportation system is comparable to the blood circulatory system in humans (NDES, 1997). An efficient transportation system facility the movement of goods and people cheaply and quickly which is vital in producing a vibrant economy. The more efficient the transport system is, the lower the cost of transport, and invariably the lower the cost of goods and services (NDDC, 2006).

Water transportation 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.

Inland waterways are made up of navigable rivers, lakes, coastal creeks, lagoons and canals (Aderemo and Mogaji, 2010). The movement of goods and services along inland waterways is one of the oldest means of transporting goods and services from point to point (Fellinda, 2006) This is largely since Inland Water Transport offers the most economical, energy efficient and environmentally friendly means of transporting all types of cargo from place to place (Ojile, 2006). It also offers safer and cheaper rates in areas where water exists naturally. This facilitates commerce, promotes wealth creation, poverty alleviation, and creates job opportunities for youths within such regions. The ancillary sector of boat building industry also generates employment through active engagement of the youths in welding and fabrication process (Gray, 2004).

The most common and effective transportation mode in the rural Niger Delta areas is by water in canoes, ferries and small boats (NDRDMP, 2000). River transport is a very significant means of transport in Niger Delta region of Nigeria, which are now usually used in movement over short distances and for fishing activities across several nautical miles (Daramola, 2003). In recent times, emphasis has been placed on urban road transport; with less regard to rural transportation development, especially river transport - for example, modern jetties hardly exist - which is essential for the movement of most of the rural population. As a result, there is immense difficulty of movement of people and goods in the estuarine part of the Niger Delta.

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 Ndikom (2008).

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 Insufficient public transport services, Weak institutional support, Problem of goal formulation, Problems of planning response, Transport problem of the urban poor.

In Nigeria, Ezenwaji (2010) noted that inland waterways transverse 20 out of the 36 states within the nation and that areas adjacent to the navigable rivers represents the nations' most important agricultural and mining regions. The direct impact of IWT, for instance, was highlighted for the deltaic areas of southern Nigeria by Abubakar (2002) who noted that IWT is very vital and critical for all facets of development in the region. Gray (2006) also noted that about 48% of all the rural residents in the region live in remote, isolated and inaccessible communities with no motorable roads and another 29% live in communities with limited services. For such people IWT is absolutely imperative for survival and for accessing social services-education, health etc. Recently, Obed, (2013) lamented that there has been a considerable decline in the use of IWT in Nigeria. This was attributed to several physical constraints impending growth and performance in the IWT sector in Nigeria. This creates an urgent need for innovative actions and strategies which can radically improve the sector so that it continues to remain the bedrock of trade, industrial and economic growth.

Since 1960 several attempts have been made by the Nigerian government to pay special developmental attention to the river transportation in the estuarine Niger Delta region because of its uniqueness; by establishing development agencies to plan, organize and implement necessary phases of the service delivery process (CASS, 2002). This region of the Niger Delta suffers a major lack of basic physical infrastructure, badly maintained road and water networks, along with unemployment the region is virtually cut off from the entire country be virtue of living in water surrounded environment (Abam, 2001).

The Nigeria inland waterways operations and management has long since time immemorial been in service but are yet to meet with her state's expectation seeing the various natural features on ground as tools to facilitate its operations. This study is all about the critical evaluation of the operations and management of the Nigeria inland waterways system with emphasis on the coastal shipping (cabotage) Act, its formation purposed, and implementation effected or not Nigeria inland waterways would generally center on the coastal and inland shipping (cabotage) Act which was passed into law on the 30th of April 2003. The significant contribution of the maritime sector to the socio-economic and political development of Nigeria cannot be over-emphasized; of major significant to the Nigerian economy is the maritime sector with about 100kilometers of navigable waterways added to the numerous lagoons and channels with deep waters. Despite the tremendous contributions and level of economic activities revolving around the coastal waters, one would assume that Nigeria is a major maritime nation, sadly and unfortunately this is not the case which is greatly published through the challenges and problems experienced by the operations and management of the inland waterways systems of Nigeria. Cabotage policy has not fully be practiced in Nigeria because at present it's faced with the problems of proper operational implementation and lack of infrastructural facilities; although the effectiveness and efficiency of cabotage will improve the Nigeria shipping industries, eliminate competition between indigenous and foreign shipping, improves the economy and National coastal security. Inland waterways operations and management would be more recognized and appreciated if not globally when the cabotage policies related to all its sectors are fully reasonably enforced.

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 is the 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 the government. The efforts made by the government to improve waterways transportation in the area are minimal. Water transportation is very fundamental for the development of the Niger Delta Region. There should be an improved water transportation system in the area. The region lacks modernized water transportation facilities. Therefore, an assessment of the inland waterways' operations and challenges along the coastal communities in the Niger Delta needs to be ascertained

MATERIALS AND METHODS

This section is divided into four sub-sections, namely: the study area, research methods, target population, sampling technique and sample size Study Area.

Study Area

The Niger Delta region is situated in the Southern part of Nigeria and bordered to the South by the Atlantic Ocean and to the East by Cameroon, occupies a surface area of about 112,110 square kilometers (UNDP, 2006). It represents about 12% of Nigeria's total surface area The region comprises nine of Nigeria's constituent states (CASS, 2002).

The Niger Delta is the third largest wetland in the world (Uluocha and Okeke 2004; Umoh 2008), and the largest river delta and mangrove ecosystem in Africa (Dupont *et al*. 2000; Ajonina *et al*. 2008), with the greatest extension of freshwater swamps (Ogon 2006). Over 50% of the Niger Delta is water, with thousands of creeks (Ikelegbe 2006), and collectively,

the Niger Delta accounts for 55% of all fresh water swamps in Nigeria (Umoh 2008). Annual rainfall ranges from 3000 mm to 4500 mm, with a wet season between July and September, and a dry season from December to February. Average monthly temperature is 27◦C (World Bank 1995).

Research Methods

A cross-sectional survey was adopted for this study. Primary data and secondary data sources were utilized. The collection of data from the primary source was done through the administration of structured questionnaire to the passengers, operators and communers using a random sampling technique, direct personal observation, photographs, key informant approach and stakeholder's discussions. Secondary data included information on the average number of passengers that commutes monthly or yearly on Niger Delta waterways, related written works by different researchers, maps and existing documented information of the study area. The structured questionnaire was also focus on socio-economic characteristics (gender, age, occupation type, educational status, and income) travel by water transport, safety on waterways, reasons for using water transport, operations, problems and challenges associated with inland waterways.

The design was used because it provides an appropriate methodology for opinion and perception of the benefits accruable from the operations of inland waterways in terms of growth and development of the region's economy. The questionnaire was structured to generate information with respect to research questions.

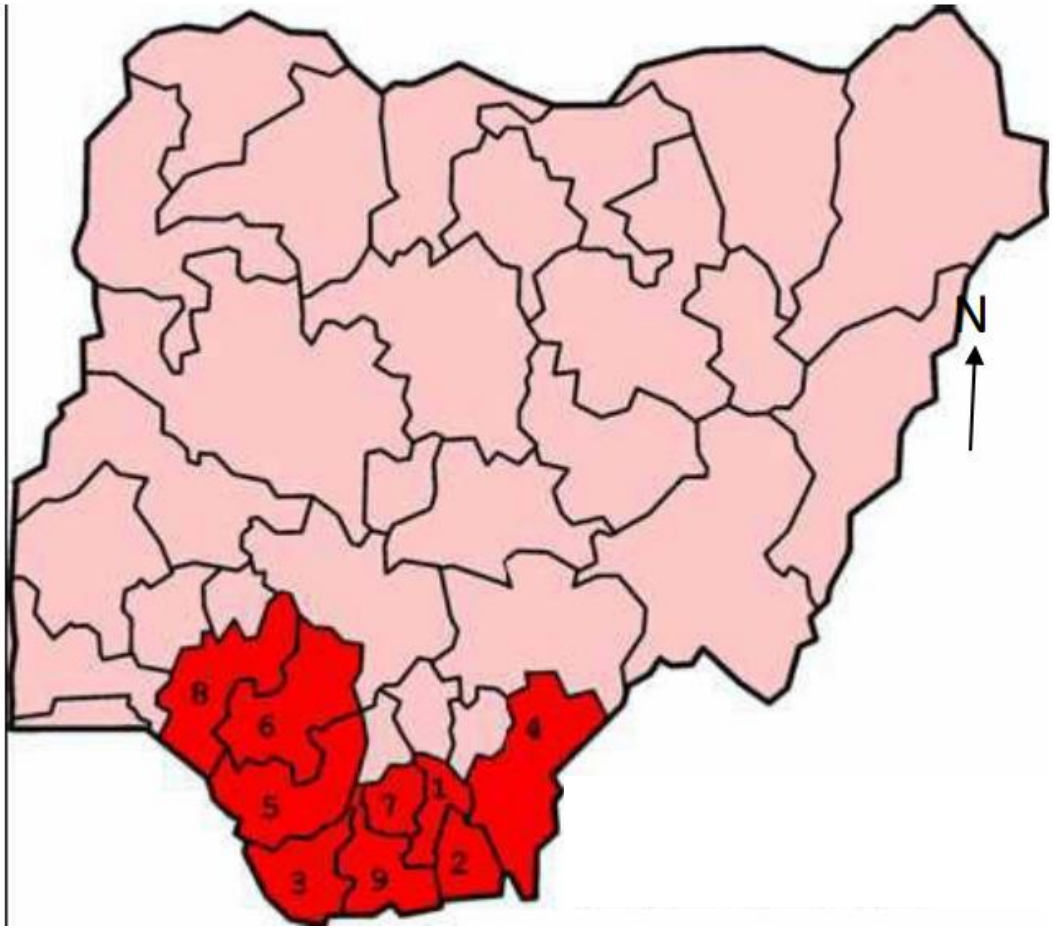

Figure 1: Map of Nigeria showing the Niger Delta region

Population and Sample

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

S/N	Sample River/Jetty/Ports	State
1	Burutu	Delta
2.	Okirika	Rivers
3.	Yenagoa	Bayelsa
4.	Oguta	Imo

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A total of 1450 Reponses were collected from the questionnaire administered.

Analytical Techniques

Simple summary statistics including mean, media, mode, and percentages were used in this study.

Charts, tables, and photos were used to condense the information.

Findinds and Discussion

The Gender breakdown of the respondents in the study area is shown in Figure 1 below. According to this, 35% of responders were female and 65% were male. This demonstrates that the study interviewed largely men.

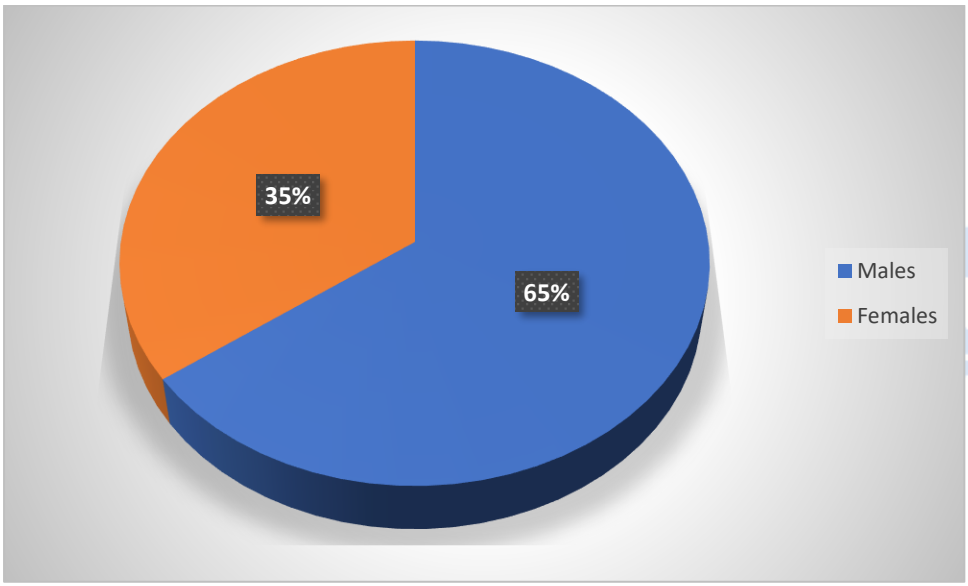


Figure: Gender

Inferred from the data was the respondents' marital status. According to these results, 50% of respondents are married, 30% are single, and 20% of responses were either divorced or widowed. Figure 2 below displays this.

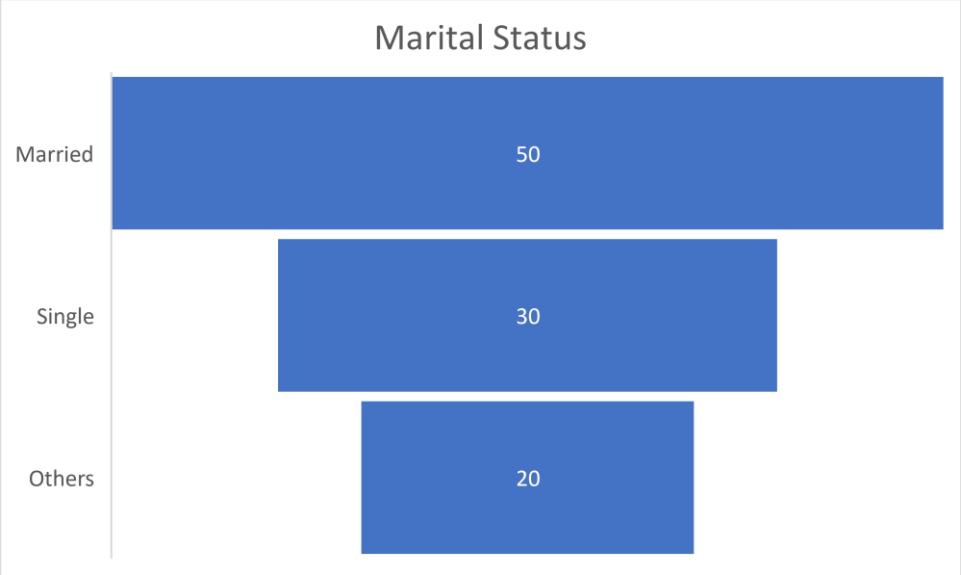


Figure: Marital Status

Figure 3 below, the respondents' jobs are depicted. According to the graph, 30% of respondents were involved in small-scale trading, 25% were fishermen, and 15% were artisans and civil servants. Both drivers were employed at 10%, compared to 5% of respondents who are unemployed.

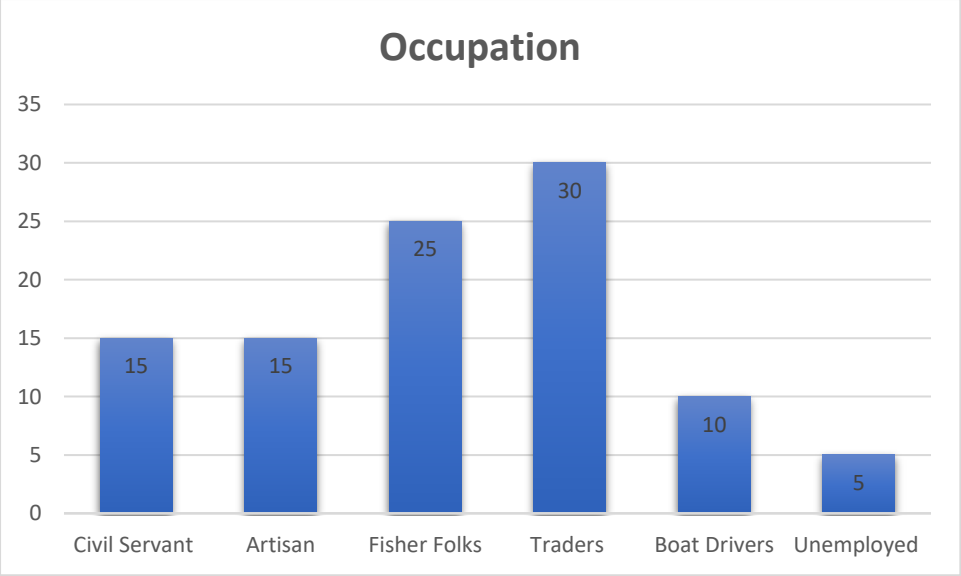


Figure 4 below illustrates the reasons respondents give for travelling, and it reveals that 50% of respondents travel for business, 20% of respondents travel for various social activities, and 15% of respondents claim to travel for religious and educational reasons.

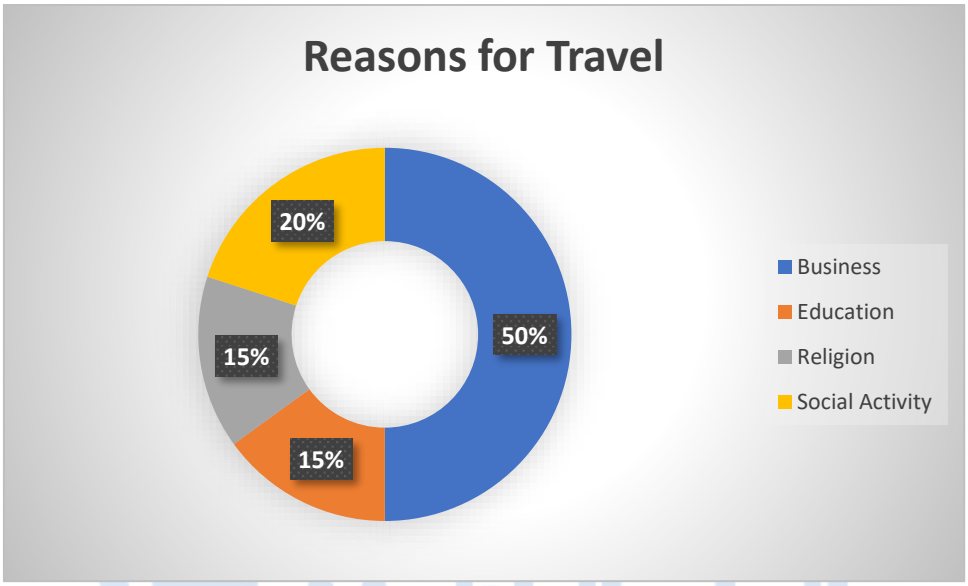
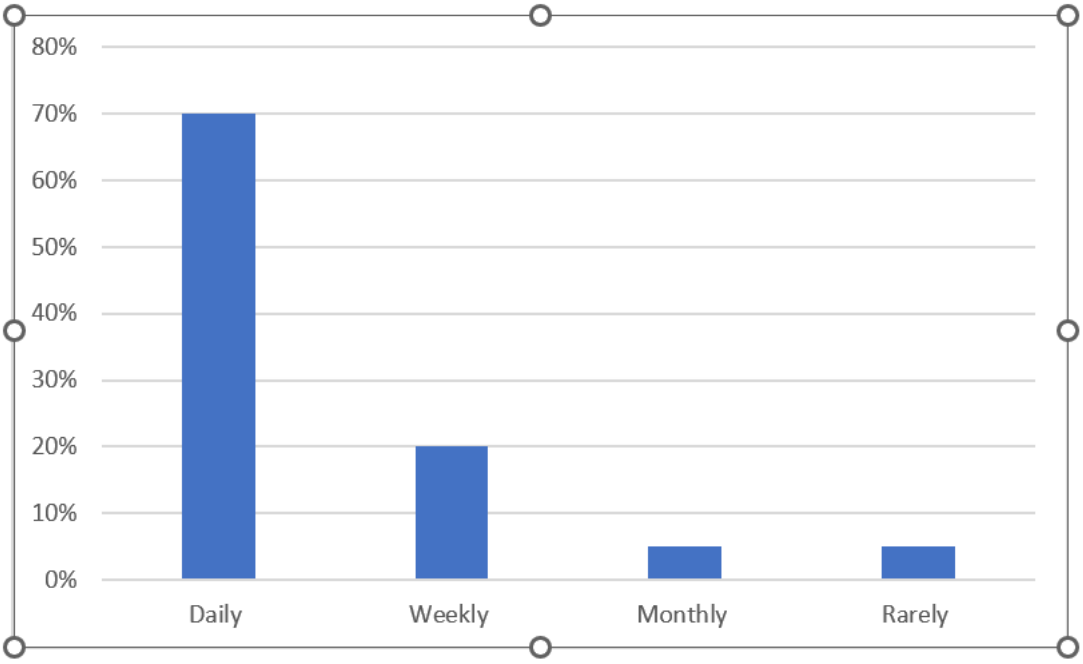
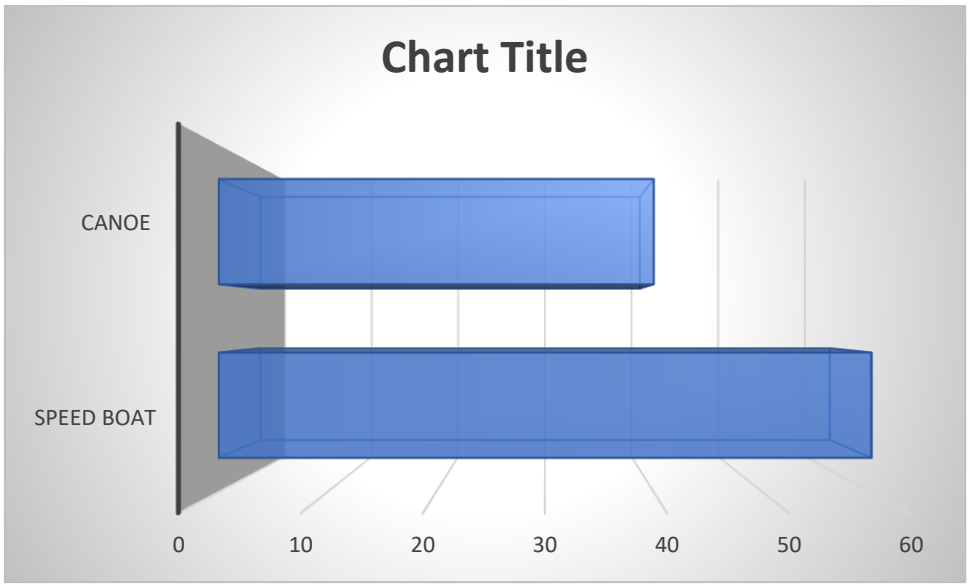


Figure: Reasons for Travel

In terms of average distance covered per week and travel profile, 73% travel above 100miles per week while 27% travel below 100 miles per week. While 70% travel daily, 20% travel weekly while 5% travel monthly and 5% rarely travel.



The respondents' preferred methods of delivering products and services are shown in Figure 5 below. It is clear from the data that 60% of respondents utilize outboard speed boats to transport products, people, and services, whereas 40% of respondents use hand-paddled canoes.



CHALLENGES FACED BY WATERWAYS AND NAVIGABLE WATERS USERS IN NIGER DELTA

In the course of the research, there were some notable challenges that users of the waterways.

Like most Nigerian regions, the Niger Delta wetland faces various difficulties with water management. Given that a sizeable portion of the population lacks access to an adequate (excellent) water supply, the issues facing urban and rural water management are numerous and pose a threat to the long-term viability of the water system. Among others, these include the following:

Floating logs and debris in the river especially thenavigable waters.

- Sea Piracy
- Illegal bunkering of oil
- Exorbitant fare prices.
- A lack of safety equipment and appropriate training for both boaters and drivers.
- Narrow and shallow passageways, leaks in boats used to transport both passengers and goods.
- Piracy at sea

WAYS OF IMPROVING WATERWAYS FOR RECREATION AND NAVIGATION

- Enough boats can be provided by the current government for regattas to promote recreation, tourism, and navigation.
- To make beaches that are aesthetically pleasing and may attract tourists, the government should periodically fill waterfronts with a lot of sand.
- The canals, creeks, and other navigable waterways need to be dug out properly and on a regular basis.
- To lessen the impact of faecal matter from further polluting the rivers, streams, and waterways, the government can develop effective sewage treatment facilities.
- Adequate and efficient law enforcement on the waterways to protect the users' security.

- The government should compel boat owners to attempt to include adequate lifesaving equipment in their boats to lower the number of victims in the event of an accident.
- To address the needs of commuters, the government should buy larger ships that can accommodate up to 50–100 passengers at once.
- To improve safety and to promote tourism and pleasure, the government should place well-managed security equipment along the rivers.
- To achieve the repair and maintenance of cultural heritage and values, the government should promote conservation and preservation of landscapes and scenes along streams in the chosen communities.
- The government could establish certain unique boating activities, such as naval parades of historic vessels, regattas, rowing contests, restoration of ancient voyages on the canals, and water taxi links to historical sites..

For irrigation, drainage, transportation, recreation, drinking water supply, processing water, cooling water, bathing water and fishing in the marine habitat on the banks, the protection of the waterways is crucial.

OPPORTUNITIES OF INLAND WATERWAYS TRANSPORTATION IN NIGER DELTA PART NIGERIA

The potential of coastal inland waterways as an alternate and complementary medium for trade, transportation, and tourism as well as an amenity for local communities, creating jobs and generating income for the government and operators. Due to the simplicity of shipping raw materials and manufacturing equipment to the site for industrial location, the south-west coastal waterways have significant potential for nature conservation. Additionally, the industrial archaeology of the waterways is growing in popularity among foreign investors in the export processing zone along the coastal water. These activities recognise the shifting usage of the coastal inland waterways, highlighting the need for a broader focus in canal development planning.

A platform that will allow for private and public discussion on collaboration in some areas of inland waterways finance, utilisation, and preservation is necessary. Since there would be a process of consultation with the communities, users, operator, and government, development and management would establish rules and regulations to guide the association or body and management, a method for the monitoring should be erected to make predictions about the future.

Since inland waterways were probably one of the cross-border entities (managing bodies), they needed to have important information that would improve management of the waterways and make a difference in the assessment of the procedure that had been followed.

CONCLUSION

It is crucial to realise that despite the significant operating difficulties faced by operators and boat users, a significant number of passengers continue to employ this kind of water transportation throughout the Niger Delta. This is due to the dearth of alternate modes of transportation (road, rail, and economical air travel) to various sites along the Niger Delta communities' coastal waters. The study recommends that the government and private boat operators provide sufficient covered speed boats and safety jackets for all users, as well as cold storage buildings, first aid kits, handling equipment, luggage racks, transit sheds, warehouses, and boat repair yards. This recommendation is based on the study's findings. Additionally, sporadic channel dredging, wreck clearance, and water hyacinth removal by pertinent government organisations (NIWA, NIMASA, and Ministry of Transport).Finally, there should be sufficient government oversight of the management of passenger jetty terminals and boats to encourage, among other things, stabilising transport costs, preventing boat drivers from using alcohol or drugs, and enforcing speed limits.

REFERENCES

Abams, T.K. (1998) Niger Delta Environmental Survey 1998: Phase Two Report on Hydrology and Hydrodynamics.

Abams, T.K. (1999) 'Dynamic and Quality of Water Resources in Niger Delta', In Bryan E. (Ed) Impacts of Urban Growth on Surface Water and Groundwater Quality. Pp.126-127

Abams, T.K. (2004) Geo-hydrology with Application to Environmental Management. Charisma Graphic Publishers, Port-Harcourt.

Adejare, Q.A., Olusina, J.O., and Olaleye, J.B. (2017) Empirically Determined Passenger Ferry Navigable Routes within Lagos Lagoon. Nigerian Journal of Technological Development, 14 (2): 74-79.

Ademiluyi, I.A, Fashola, O.K., and Afolabi, O.J. (2016) Analysis of Intra-City Water Transportation in Lagos. International Journal of Innovative Research and Advanced Studies, 3 (8): 246-254.

Aderemo, A.J. & Mogaji, S.A. (2010) "Rural Transportation of public facilities in Nigeria: a case study of Edu Local Government Area of Kwara State" Journal of Human Ecology, Vol. 29 no. 3, pp. 171-179.

Adetola, J.B. (1971) Geography Notes and Modern Answers, Omolayo Standard Publishers, Ibadan, Nigeria.

Akogun, D. (2014) Why Boats Are Capsizing, People Dying on Lagos Waterways. National Mirror.

Anderson, E.E., Talley, W.K, (1995). The oil spill size of tanker and barge accidents: Determinants and policy implications. Land Economics 71, 216-228

Anyam, R.W. (2003) The Complexity and Dynamics of Man-Environment Interactions In Nigeria, Paper Presented at The First Stakeholders' Workshop on Environmental Policy For Benue State Held On The 15th October 2003 Benue State University, Makurdi

Badejo, B. A. (1995) Maritime Transport In Nigeria, Problems and Prospects, Paper Presented at First National Conference, Tai Solarin University of Education March 20 - 23. Ijebu –Ode, Ogun State.

Bassey, S. I. & Nsa, M. E., (2018). Problems and Prospects of Developing Inland Water Transportation in Nigeria: The Case of Calabar River. IOSR Journal of Human and Social Sciences, 23 (7): 27-37.

Bayode, T. and Ipingbemi, O. (2016) Safety and Operational Characteristics of Water Based Transportation in Lagos State. SCIREA Journal of Traffic and Transportation Engineering. Volume 1, Issue1, October 2016

Bello, O. (2018) Lagos and the Prospect of Water Transportation. Public Affairs Unit, Lagos State Ministry of Transportation, Lagos. Ikejahttps://lagosstate.gov.ng/blog/2018/09/19/lagos-and-the-prospect-of-watertransportation/

Celik, M. and Cebi, S. (2009) Analytical HFACS for Investigating Human Errors in Shipping Accidents. Accident Analysis and Prevention, 41, 66-75.https://doi.org/10.1016/j.aap.2008.09.004

Ezenwaji, E. E. (2010) 'Constraints on Effective Water Transportation in Some Riverine Communities of Old Anambra L.G.A., Anambra State', A Paper Delivered at the 2010 Rural Development Seminar, Rural Transportation in Nigeria. 31st March to 1st April, 2010. Imo State University, Owerri.

Fellinda, L. (2006) World's Water Transport Needs Further Development. Journal for Transport Development, 1, 68-72.

Iamtrakul, P. and Wongbumru, T. (2019) Exploring eco-friendly travel towards sustainable water transport in Bangkok. Paper presented at the IOP Conference Series: Earth and Environmental Science, 398(1) doi:10.1088/1755-1315/398/1/012014

Ndikom, O.B.C. (2013). A Critical Assessment of the Inland Waterways Operation and Management on the Development of the Nigerian maritime Industry. Greener Journal of Environmental Management and Public Safety, 2 (2): 99-107.

Obeta, M.C. (2014). The Characteristics of Inland Water Transport in Nigeria. Journal of Humanities and Social Science (IOSR-JHSS) Volume 19, Issue 3, Ver. IV (Mar. 2014), PP 119-126.

Ogunbajo, A.B., Akinpelu, T.A., and Odubela, C.A. (2017) The Prospects and Problems of Water Transportation in Lagos Metropolis. LASPOTECH Journal of Scientific, Engineering and Technology Research, 1 (1): 1-12

Ogwude, I.C. (1993). Topics on Economic Assessments in Transport planning and Management. Transport Working paper No. 1 Department of Transport Management Technology FUT, Owerri.

Ojile, M. O. (2006) Draft Report of the Socio-Economic Characteristics for the Idealization of the Port Harcourt Warri Roads Submitted to Messer allots Nigeria. Limited on behalf of the Federal Ministry of Works, Abuja 1:60

Oyadongha, S. (2014). Piracy Activities Heighten in Niger Delta. Vanguard.

Progoulaki, M. and Roe, M. (2011) Dealing with Multicultural Human Resources in a Socially Responsible Manner: A Focus on the Maritime Industry. WMU Journal of Maritime Affairs, 10, 7-23. https://doi.org/10.1007/s13437-011-0003-

Sulaiman, O.O., Saharuddin, A.H and Kader, S.A. (2011) 'Review of Potential of Inland Waterway Hybrid Transportation for Sustainable Transportation Capability Building Terengganu' Canadian Journal on Environmental, Construction and Civil Engineering.2.5:73-83

Tannum, M. S., & Ulvensøen, J. H. (2019). Urban mobility at sea and on waterways in Norway. Paper presented at the Journal of Physics: Conference Series, 1357(1) doi:10.1088/1742-6596/1357/1/012018