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RESEARCH ARTICLE

Assessment of Rural Transportation in Abi Local Government Area, Cross River State, Nigeria

Sunday I. Bassey[1], Salvation U. Eteng*[2], Eric Friday Ewah[1]

[1]Department of Urban and Regional Planning, Cross River University of Technology, Calabar, Cross River State, Nigeria
[2]University of Uyo, Uyo, Akwa Ibom State, Nigeria

Corresponding Author: Salvation U. Eteng; salvationeteng@gmail.com
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Abstract
Generally, the survival of regions and locations is predicated among others, on the corridors of accessibility. In contemporary times, transportation is regarded as the lifewire of development and a lot is dependent on it. In spite of its importance, there is neglect in the development and maintenance of rural transportation system especially in countries of the developing world such as Nigeria. Based on this assertion, this paper seeks to assess the level of service of rural transportation in Abi Local Government Area of Cross River State. The study specifically sought to identify the various modes and means of transportation in the study area, examine the contributions of rural transportation to the socio-economic development of the area, identify the problems militating against effective rural transportation services and make recommendations for improvement. The study relied on questionnaire, interviews and observations for data collection. A total of 400 copies of questionnaire were distributed and 377 copies were retrieved and used for analysis. The study used tables, charts and simple percentages for data presentation and analysis. The hypothesis that was formulated was tested using simple linear regression. The study observed that motorcycle is the most preferred mode of transportation by respondents in the study area. The result of the hypothesis showed that the level of service of rural transportation does not have significant effect on the socio-economic development of the area. This imply that socio-economic development in the study area is not completely tied to the level of service of rural transportation. Furthermore, the problems militating against effective rural transportation services include poor funding and difficult terrain. The study suggested that funding for road rehabilitation be increased by the government and other sources of funding such as Public Private Partnerships be advocated in the road development/rehabilitation process.

Keywords: Transportation; rural transportation; mode of transportation; means of transportation; level of service

Introduction

Transportation is the movement of people and goods from one place to another. Aderamo and Magaji (2010) asserts that transportation plays an important role in the political, economic and social development of any society and whether in rural or urban societies. Transportation constitutes the main avenue through which different parts of the society are linked together. It is the only means through which places and regions are linked together. However, transportation is indispensable to economic development especially in a developing country like Nigeria. This is because transport is essential in the execution of daily economic and social activities in any given area (Akangbe, Oloruntoba, Achem and Komolafe, 2013).

In Nigeria, rural areas have been considered as the major producers of food and fiber for the urban areas. This implies that rural areas are characterized by increased agricultural activities. Akangbe *et al.* (2013) explained that agriculture is the primary and biggest source of income in rural communities and provides employment to approximately 70 percent of its population. Hill (2008) opined that a significant proportion of agricultural task involves moving equipment and materials from one place to another in a wide variety of types and sizes of loads to be moved over different distances and types of terrain. This therefore makes rural transportation a subject of interest (Okoko, 2011).

Transportation demand both modes and means for proper functioning. Therefore, several means of transportation exist for both people and goods. These means have evolved

through the length of time of man's existence on the planet (Mamun and Paul, 2017). The means for transporting people, goods and services include air, water and land. Among the transportation means listed above, the commonest is land/road transportation (Tunde and Adeniyi, 2012). Road transportation is the movement of goods and people from one place to another on land. However, it is the predominant means of transportation mostly, in rural areas (Usman, 2014).

Describing transportation modes, Usman (2013) noted that for transportation to be effective, the mode through which transportation services are provided has to be defined clearly. For instance, air transportation require modes such as aeroplane, helicopters, jets etc. while canoes, ships, boats etc are used in transporting people, goods and services through water. Ayodele and Babatunde (2015) noted that the modes for land transportation include motor vehicles (cars, lorries, buses, etc.) as well as motorcycles, tricycles and bicycles (otherwise known as Para-transit). Others include the use of animals (camels, donkeys and horses), and animal drawn carts.

While cars, lorries, tricycles and buses may be the predominant mode for intra – city transportation in several major urban areas of Nigeria (especially the state capitals), other urban areas and the rural areas mostly use motorcycles for intra-city transportation and even inter-city when distances are short (Bassey and Eteng, 2021). Usman, (2013) further noted that much of rural travel in Africa is however on foot or through intermediate means of transport (IMT) operating along the local footpaths and tracks. These constitute what Starkey (2005) referred to as "invisible" rural transport, consisting of footpaths, cart, cycle tracks and footbridges.

Rural transportation is determined by a number of factors including the presence of roads, nature of goods transported, income of travelers and so on. However, efficient rural transportation can bring about increase in production. For instance, Yaro, Okon and Bisong (2014) showed that where agricultural products are transported with vehicles such as vans, cars, buses, lorries etc, agricultural production among farmers is likely to be on the increase. Equally, where there are large river bodies; boats, canoes and ships may be used for rendering transportation services.

Abi Local Government Area of Cross River State is predominantly a rural area with agricultural activities being the major employer of labour to the residents due to the fertile land. However, there are commercial and agro-industrial activities all of which require transportation services in order to be effective. As a result, various rural transportation means and modes abound in the Local Government Area (LGA). For instance, residents in riverine areas such as Itigidi and Ediba, widely use boats and canoes for transportation while motorcycles, cars, buses, vans, bicycles, carts etc are used for the conveyance of goods and services by others residing and doing businesses in areas that can only be accessible by land. Where bridges are constructed across rivers, both water and road transportation modes are used to facilitate mobility. Examples include Ediba and Itigidi. With the above observation, it is clear that transportation in rural areas of Abi LGA is through different modes and means. Therefore, it was necessary to carry out a study of this nature to carefully assess rural transportation in Abi Local Government Area of Cross River State with particular reference to assessing the level of service.

Literature Review

Concept of Rural Transportation

Rural transportation is the movement of goods, services and people from one place to another within a geographical space called rural. Rural areas in Nigeria simply refer to settlements with population of below 20,000 (Laah, Adefila and Yusuf, 2014). The above definition may not be applicable in other countries like the United States of America, France, England and Russia. For instance, a population of 10,000 people and above constitute an urban area in USA.

Rural transportation system is the culmination of the totality of the different means and modes through which movement is carried out in rural areas. Usman (2014) remarked that rural transport system consists of transport infrastructure, transport operations (services) and the transport users within the rural areas. These include the commercial services and those provided by private owners. Therefore, for any transport system to function effectively, there must exist the appropriate infrastructure, transport services, maintenance and traffic management (Asian Development Bank, 2007). The infrastructure includes the road network, tracks, paths and bridges (including footbridges only suitable for pedestrian and Intermediate Means of Transportation).

Rural transportation therefore represents conscious attempts and strategies towards ensuring that goods, services and people can travel to and from rural areas for business, leisure, tourism etc (Usman, 2014). In simple terms, rural transportation refers to the movement of goods, services and people within the rural areas. Ajayi (2009) explained that the major transportation in rural areas mostly has to do with the conveyance of farm products and other commodities from places of production to where there are needed. The concept of rural transportation is focused on describing the whole procedures, services and humans that are moving within the rural areas. Rural transportation is a key factor in improving agricultural development all over the world (Mamun and Paul, 2014). This is because rural areas (mostly in sub-Saharan Africa) are the major producers of agricultural produce for the urban areas and other places.

In several rural areas in Nigeria, the basic modes through which goods, services and people are moved from place to place include trekking, the use of motorcycles, bicycles, canoes, boats and cars. However, the means of transportation are land, water and air. Of all the transportation means, the commonest used means is land transportation. Among other reasons for preferring land transportation; it is flexible and provides door to door services. In the rural areas, most communities use both water and land transportation to access their farmlands.

The Modes and Means of Transportation in Rural Areas

The means and modes through which rural residents transport people, goods and services across rural areas of the world have been documented. Basically, available literatures have identified that in developing nations, several rural transportation means and modes combine to make rural living meaningful. In New Zealand; Reeder, Chalmers and Langley (2006) observed that people in rural areas are transported through motorcycles, cars and canoes. Others trek and use bicycles in moving within rural areas. Reeder *et al.*,(2006) also noted that car ownership is relatively high and as such, over 70 percent of the rural residents are car owners. Also, in areas with water bodies, modes such as ships, canoes and boats are predominantly used.

In Indonesia, Hartoyo (2013) observed that cars, lorries, vans and buses are largely used for the transportation of people, goods and people in the rural areas and country sides. This is largely because the roads are accessible and are in good condition. He specifically noted that the use of such transportation modes have vehemently increased production among the rural people in Indonesia. Also, in riverine areas, goods, services and people are transported through canoes and speed boats. He equally noted that agricultural products from farms that are nearby are simply taken home through foot.

In Ghana, Dinye (2013) observed that motorcycles constitute the predominant transportation mode in rural areas. He showed that rural areas are predominantly low income earners and as such, they mostly lack the financial capabilities of purchasing cars for movement within their localities. He revealed that the motorcycles are not only used by private owners in villages but also, there are used for commercial purposes by the people and therefore provide the means of earning livelihoods to transporters. Okoko (2011) noted that in Ghana, farmers largely use foot while transporting their goods and services. Okoko observed that the increasing use of foot and bicycles is as a result of the presence of deplorable state of roads.

In a similar finding, Kassali, Ayanwale, Idowu and Williams (2012) observed in Oyo State, Nigeria that transportation in rural areas is through trekking, use of motorcycles, cars and tricycles. They specifically showed that farmers across rural areas that have accessible roads leading to their farmlands transport their products from farms through motorcycles, cars and tricycles. Kassali *et al.*, (2012) showed that trekking was the most widely mode used by rural residents in Oyo. For instance, they note that farmers and residents in Oyo travelled between 5 and 10km from their villages to farmlands on foot.

Usman (2014) also noted that in rural Kwara - Nigeria, there is a combination of various transportation services to ensure economic development. For instance, he showed that rural residents travel to places of interest in rural areas by foot (trekking), bicycles, motorcycles and carts. A small percentage of the rural residents use cars within the rural areas. Obviously, car owners in rural areas mainly use their cars for private purposes, meaning that motorcycles are the predominant transportation mode for moving people. Loads from farms and other places are transported through foot and wheel barrows. He showed that the reasons behind the increasing use of other modes against commercial cars can also be deduced from the deplorable condition of rural roads in Kwara. He suggested policy options to bring about improvement in transportation including the provision of adequate funds for road construction and rehabilitation, community-oriented approach to rural road development and introduction of interventions that will improve the provision of rural transport services.

Similar observations were made by Bassey and Eteng (2021) in their study in rural Cross River State. Their study noted that rural residents depend principally on the use of motorcycles for movement. They further observed that rural residents even use motorcycle operation as a means of earning livelihoods being that commercial motorcycle operators render such services to passengers. Ther study revealed that commercial motorcycle operation contributes to the development and growth of trading and agricultural activities thus, it is the major mode of transportation. With the observation that motorcycles ease movement as well as provide means for earning livelihoods for rural residents, they suggested that the government should empower the youths in rural areas with motorcycles and grant credit facilities to enable youths purchase their own motorcycles.

Contributions of Rural Transportation to Socio-economic Development

In available literature, rural transportation has been recognized as catalysts to socio-economic development of regions and locations. It has tremendously contributed to the growth of the economy and standardization of the living conditions of rural residents. It should be noted that rural areas are mainly agrarian societies which means that farm produce are generated from farms which require efficient rural transportation system and modes to facilitate delivery.

Tuan and Shimizu (2005) observed that in Vietnam, the use of motorcycle in rural transportation has increased the

number of workers and served as an income generating avenue for operators, while further contributing to revenue generation to the government. For instance, motorcycle owners purchase tickets on periodic basis as well as make necessary registration before being allowed to operate. The registration process contributes to the economic base of the government.

In Malaysia, Sadullah (2006) used multinomial logit model to examine motorcycle ownership and rural transportation and how they contribute to agricultural development. His study shows that monthly household income, car ownership, total number of driving licenses in household and number of household members influenced motorcycle ownership. In the long run, transporters that were involved in delivering services through moving people and goods from place to place were earning reasonable amounts that increase their economic status and also they impact the society with their services.

Hsu and Lin (2007) in Taipei Taiwan investigated both car and motorcycle ownerships with 336 samples using multinomial logit model. The study was based on the assumption that when both car and motorcycle are owned by the same household each will have a relation of substitution. The study concluded that the main reason for motorcycle and a car was not cost, but utility factors. The increase in reliability as well as convenience of a car, increased car ownership between 12% - 29% while it reduces motorcycle ownership.

Lokesha and Mahesha (2016) observed that rural transportation including the use of lorries, cars, carts, motorcycles and so on contribute a lot to ensuring that the socioeconomic lives of rural residents receive a boost. For instance, they noted that when the above and more transportation modes are available, it becomes easy for products to be transported from farm to homes and/or markets. The increase in the options for transporting goods through increasing transportation modes further increases agricultural productivity for the overall benefits of the people. In the long run, the socio-economic lives of the people are improved.

Ndiyo, Bassey and Ibia (2016) noted that rural transportation availability is central to the development of the economy of rural areas. Obviously, most rural areas depend on agricultural production and primary activities for economic sustenance. This will become increasingly impossible to achieve without the availability of transportation services to ensure and facilitate the conveyance of goods and services from places of production to where they can be marketed and/or consumed.

Ogunnowo and Oderinde (2012) studied the linkages among rural transformation, provision of basic infrastructure and agricultural productivity in rural Nigeria with a view to determining how the socio-economic lives of rural residents is enhanced through transportation services. They noted that the transportation services provide the avenue for foods, fibre and other important rural products to be sold to urban areas while making huge profits. The amounts gotten as profits are used for family upkeep among other benefits.

According to Aderamo and Magaji (2010), rural transportation makes it easy for farm lands and towns to be accessed and as such areas with good transportation services are likely to provide their residents with more alternatives to economic survival than the reverse. Gbam (2017) observed that rural transportation is not only necessary in the production of agricultural products but further facilitates marketing of the products. He observed that in rural areas of Plateau State, transportation services helps in creating market for agricultural product and reduces spoilage and wastage of farm products. As a result, productivity is enlarged as farmers do not have fears of whether or not their products would be bought by traders. Gbam further argued that improvement in transportation can encourage farmers to work hard and increase production.

Problems Militating Against Effective Rural Transportation Services

The problems militating against rural transportation services are enormous. For instance the condition of rural transportation infrastructure such as the deplorable state of rural roads and shallow waters constitute problems to rural transportation. Tunde and Adeniyi, (2012) observed that it is difficult to embark on the movement of goods, people and services in the rural areas due to the bad condition of roads in rural areas of Nigeria. They observed that due to the deplorable state of the roads, transporters charge huge amounts as fares while moving goods and people. Usman (2014) also noted that the deplorable state of roads negatively affect movement of agricultural goods as motorists are usually unable to access these roads to the farms and back.

Adedeji, Olafiaji, Omole, Olanibi, and Lukman (2014) observed that due to the poor state of rural roads, motorized transport costs are usually high especially during rainy season, as public transport operators hike their fares because of the increased vehicle running cost occasioned by the prevalent bad road conditions. Similar high fares are demanded when transporting goods from farms to markets or homes. In most occasions, farmers lack adequate finance to offset such bills thus; they prefer cultivating in small quantities. Others use head portage, bicycles, hand drawn carts which are energy consuming and cannot carry bulky loads like vehicles.

Nsa (2016) lamented that the government of Nigeria is doing very little in the aspect of dredging water bodies. As a result of the inability of the government to dredge the water bodies, sophisticated speed boats and electronic canoes cannot be used in the transportation process. Nsa revealed that the shallow nature of the waters also do not

give room for the conveyance of bulky agricultural products as only small capacity canoes and boats can be used for the transportation of goods, people and services from place to place.

Furthermore, terrain to a large extent can determine the development of transportation infrastructure. Ikem (2019) noted that rural areas with difficult terrains are usually relegated in the road infrastructure development of several communities. The reason is because; it would be quite expensive to finance the construction process. However, since the transportation infrastructure is not constructed, residents do not see reasons to purchase vehicles that would be used for transportation. It is in a similar observation that Yaro, Okon and Bisong (2014) showed that inaccessible rural areas convey their products through foot and human energy.

There is also the problem of absence of self-help projects. Against this backdrop, Laah, Adefila and Yusuf (2014) had noted that the citizens of rural areas are not collaborating in the area of developing projects for themselves. Laah *et al.*, (2014) buttressed on this while observing that the residents of rural Plateau State are not having effective partnership with the government in the development of rural road infrastructure for their common good.

Okafor (2011) observed that in rural areas of Enugu, there is relegation by the rural residents in the aspect of collaborating in the areas of developing rural roads, maintaining roads and other transportation infrastructure. Okafor further remarked in areas with transportation infrastructure, the sustenance of the infrastructure has remained a problem due to unwillingness of the community residents to collaborate in rural project maintenance.

However, the inability of the communities to collaborate in the development of projects and their maintenance unveils negative effects of effective use of transportation services. For instance, when the roads are in deplorable conditions, vehicles would likely break down and as such, transporters would be discouraged from offering transportation services. In the long run, there will be shortage of transportation services and the conveyance of goods and people would be difficult.

Materials and Methods

Study Area

Abi Local Government Area is a border Local Government Area located on the Central Senatorial District of Cross River State. It lies between latitude 5°00' and 6°30' North of the Equator and longitude 8°00' and 8°10' East of the Greenwich Meridian (Akpoke, 2015). It is bounded in the North and West by Ebonyi State and on the East and South by Yakurr and Biase Local Government Areas of Cross River State respectively (figure 1). Major communities in Abi LGA include Adadama, Afafanyi, Igonigoni, Igbo Ekureku , Igbo Imabana, Usumutong, Itigidi, Ebom, Ediba, Annong, Itigeve, Egboronyi, Emin Ekpon, Isongiyang. Abi however has a total land mass of 334,53162km2 (Abi Leeds, 2016)

Going by the 1991 National Population Census results, Abi Local Government Area had a population of 78,452 persons (National Population Commission, 1991). Current projection with a growth rate of 2.8 percent put the population at 202,010 persons in 2019. The vegetation of Abi is characterized by mangrove and rainforest ecosystems which forms part of the rich fauna and flora of the state. The Abi soil is predominantly clay in nature. Some areas like, Ediba, Adadama and Igbo Imabana also have a mix of clay and loamy soil. The soil is fertile for agricultural activities and production of crops such as cassava, yam, maize, groundnut and vegetables.

The word Abi is coined from the words; Agbo (A), Bahomono (B) and Igbo Imabana (I). The above clans formed the group of settlements in Abi. The Local Government Area was created on the 21st of September, 1991. It was created from Yakurr Local Government Area and has Itigidi as its Headquarters. Abi people belong to the large heterogonous group of upper Cross River called Ekoi of the Bantusan family (Abi Leeds, 2016). The Abi people speak Bahomono and Agbo languages. The Abi people like all patriarchal societies have a rich cultural heritage, elaborately manifested in their traditional dances, festivals, marriage customs, chieftaincy and age grade system which are highly cherished (Abi Leeds, 2016).

Farming is the predominant socio-economic activity in the study area. Subsistent agriculture is the major practice. Most of the residents in the study area are involved in rice, cassava, maize, yam, cocoa yam, groundnut, vegetables and fruit production. A small percentage of people are engaged in businesses and civil/public service jobs; with artisans also constituting a percentage of the population.

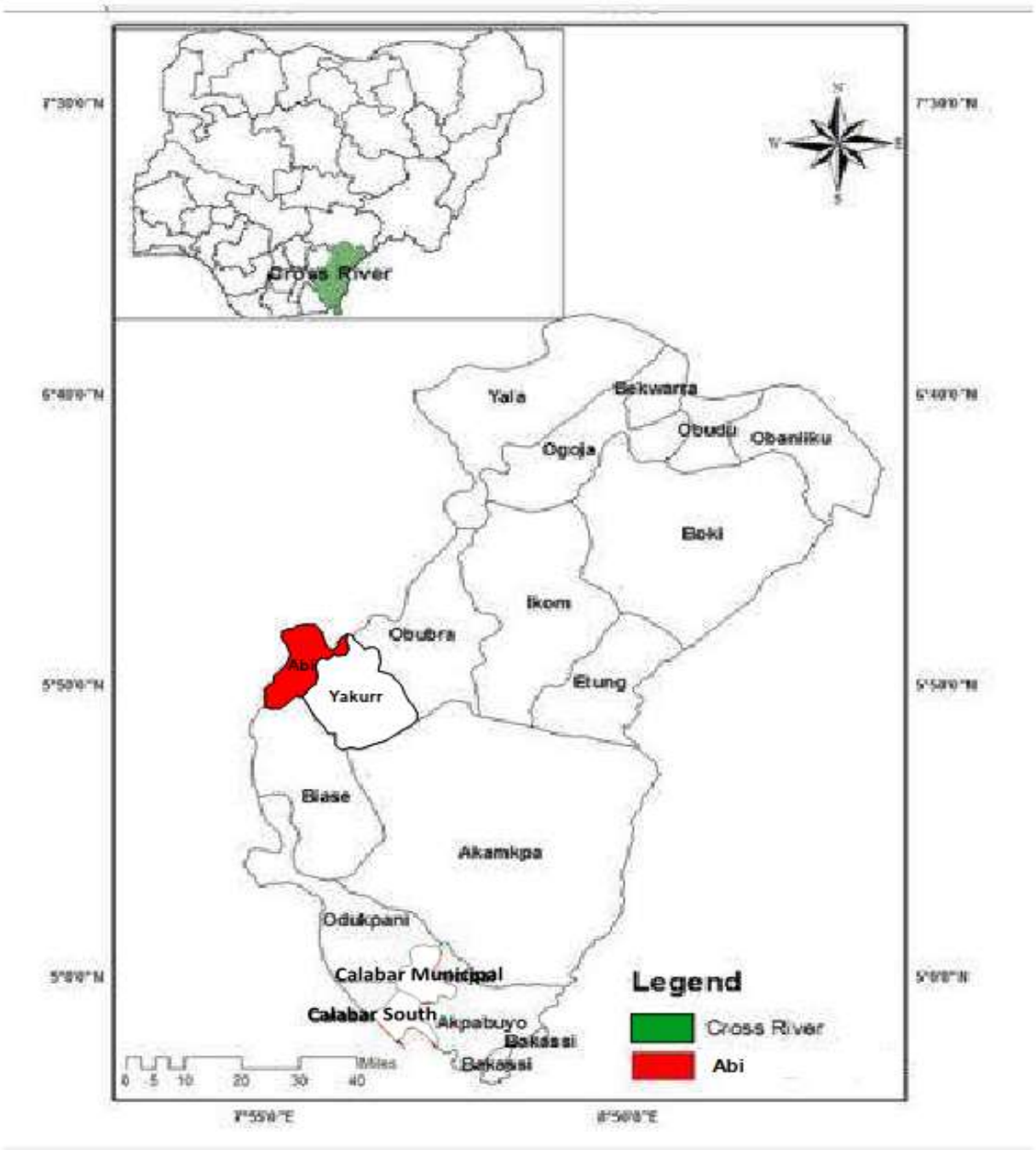

Figure 1: Map of Abi LGA on the Map of Cross River State
Source: Cross River Geographic Information Agency, 2020

Methods

The survey research design was adopted in this study. This required the design of sample questionnaires among others in the collection of data from the target population. The data collected were presented and analyzed in order to draw

inferences**.** The study further employed both primary and secondary data**.** The primary data include age of respondent, sex, occupation, educational qualification, mode of transportation, amount charged by transportation operators, factors determining choice of transportation mode etc. Secondary data were also used. Data from this category include population figure of the study area and maps of Nigeria, Cross River State and Abi LGA. The primary and secondary sources of data were used in the study. The primary sources of data used in this study include the use of questionnaires, direct observation and oral interviews. The secondary sources of data were published documents. These published documents include the 1991 population of Abi LGA which was collected from the National Population Commission Area Office, Calabar, maps from Cross River State Geographic Information Agency. Unpublished documents including past research works and government reports were used. The population of the study according to the 1991 population was 78,452. The population was projected to 2019 and it resulted to 93,085. This number formed the sample frame for the study. In order to determine the sample size, the Taro Yamane formula of infinite population was used as follows.

$$n = \frac{N}{1+N(e)^2}$$

Where;

n = Sample Size

N = Finite Population

e = Level of Significance (Limit of tolerable error =0.05)

$$n = \frac{93,085}{1+ 93,085(0.05)^2}$$

$$n \frac{93,085}{1 + 93,085X\ 0.0025}$$

$$n = \frac{93,085}{232.7125}$$

n =400

Therefore the sample size for the study was 400.

The stratified random sampling method was adopted in the collection of data from the field. In the light of the above, Abi LGA was divided into three (3) units. The units were divided using the three major clans that make up the entire Abi LGA. There are; Agbo, Bahomono and Igbo Imabana clans which were considered as units in the stratification process. From each of the units established above, the researcher randomly selected four communities within each unit for data collection. In Agbo clan, the communities that were studied were Igbo Ekureku, Itigidi, Etani and Adadama. In Igbo Imabana clan, the communities studied were Ikpalegwa, Lehangha, Ebol and Ilike. In Bahomono clan, the communities studied were Anong, Ediba, Abeugo and Afafanyi. The systematic approach was used in distributing the questionnaire to the individual communities as shown in Table 1. Copies of questionnaire were the major instrument for data collection. Specifically, a total of 400 copies of questionnaires were administered in the study area. Table 3.1 shows the number of questionnaires that were administered in each sampled community. The questionnaires were distributed in line with the population of the community. In order to achieve this, the ratio of the sampled neighborhoods were divided by the total ratio of the entire sampled neighborhoods and multiplied by the sample size to arrive at the number of questionnaire distributed in each neighborhood.

Using Egboronyi as an example, it was expressed as:

n =R/TrXS

Where: n = number of questionnaires to be distributed at each unit

R = ratio of the projected population of each unit

Tr = total ratio of the entire sample unit selected

S = sample size

n = 5/78 X 400

n = 27

Data were also obtained through oral interviews with community heads and youth leaders in the study area as well as the Town Planning Authority in Abi Local Government Area. In othertables and charts were used in carrying out the analysis of data that were obtained from the field. The hypothesis was tested using simple linear regression analysis. The hypothesis states that the level of service of rural transportation does not have significant effects on the socio-economic development of the residents in Abi Local Government Area. Statistical Package for Social Science (SPSS) was used in conducting the test. The Multiple Regression Analysis formula is as follows; Y = a + b x + E. Where: Y = dependent variable, X = independent variable, a = intercept, b = slope, E = residual (error)

Results and Discussions

Table 2 revealed that the preferred mode of transporting goods among respondents differ. As seen in the table 209 (55.5 percent) respondents prefer using motorcycle while 13 (3.5 percent) prefer cars. Equally, 13 (3.4 percent) respondents use speed boats for movement within the LGA. The table also showed that 21 (5.6 percent) respondents travel within the LGA with canoes while 134 (35.5 percent) trek within the LGA.

The modes for transporting goods among the respondents in the study area is presented in table 3. The table shows that 138 (36.6 percent) transport goods with motorcycles while 28 (7.4 percent) transport goods within the LGA through cars. The table further revealed that 69 (18.3 percent) transport goods within the LGA through canoes and 8 (2.1 percent) use speed boats. Those that trek with goods were 74 representing 19.6 percent and 60 (16 percent

use wheelbarrows. From the table, it is obvious that those that use motorcycles are more. This equally implies that motorcycles are the most used transportation mode in the study area.

Table 1: Distribution of Questionnaire

S/N	Unit	1991 Population	Projected Population 2019	Ratio	Sample size	Response Rate
	Agbo					
1	Egboronyi	832	1,647	3	15	13
2	Igbo Ekureku	2068	4,481	9	46	43
3	Itigidi	7475	16,198	11	56	49
4	Adadama	6743	14,612			
	Igbo Imabana					
5	Ikpalegwa	1589	3,443	5	26	25
6	Lehanga	744	1,612	2	10	10
7	Ebol	1809	3,920	6	31	29
8	Ilike	2014	4,281	8	41	34
	Bahomono					
9	Anong	1976	4,201	7	36	36
10	Ediba	8936	19,364	12	62	59
11	Abeugo	905	1,961	4	21	19
12	Afafanyi	2531	5,485	10	51	9
	Total	31,631	36,531	78	400	377

Source: Statistical Computation, 2019

Table 2: Preferred Mode of Transportation by Respondents

Transportation mode	Frequency	Percentage
Motorcycle	209	55.4
Car	13	3.5
Canoe	21	5.6
Speed boat	13	3.4
Trekking	121	32.1
Total	**377**	**100**

Source: Field Survey, 2020

Table 3: Preferred Mode of Transportation for Goods

Transportation Mode	Frequency	Percentage
Motorcycle	138	36.6
Car	28	7.4
Canoe	69	18.3
Speed boat	8	2.1
Trekking	74	19.6
Wheelbarrow	60	16
Total	**377**	**100**

Source: Field Survey, 2020

Table 4: Level of Service of Transportation

Level	Frequency	Percentage
Excellent	171	45.4
High	112	29.7
Medium	59	15.7
Low	16	4.2
Very low	19	5
Total	**377**	**100**

Source: Field Survey, 2020

The level of service of transportation modes by the respondents was ascertained in table 4. The information in the table revealed that 187 (49.6 percent) respondents were of the view that the service was excellent while 132 (35 percent) said it is high. The table further revealed that 58 (15.4 percent) respondents were of the opinion that it is medium while 16 (4.2 percent) said it is low and 19 (5 percent) said it is very low. From the findings, it was clear that those that depend on transportation modes for their businesses on daily basis were more. This was based on their judgment that the level of service of transportation is excellent and high. By implication, it may be deduced that transportation services are high in the study area.

Table 5: Activity that Attract Transportation Modes

Activity	Frequency	Percentage
Farming	125	33.2
Commercial	198	52.5
Others	54	14.3
Total	**377**	**100**

Source: Field Survey, 2020

The activities that demand the use of transportation modes within the study area by respondents varies. Table 5 shows that 125 (33.2 percent) use various transportation modes for farming purposes while 198(52.5 percent) use them for commercial activities. The responses of 54 (14.3 percent) respondents explained that they depend on transportation modes for other activities such as tourism, recreation and sporting activities.

Table 6: How Rural Transportation Contribute to Economic Development

Contribution	Frequency	Percentage
Employment	133	35.3
Agricultural Expansion	187	49.6
Revenue Generation by Government	39	10.3
Others	18	4.8
Total	**377**	**100**

Source: Field Survey, 2020

Rural transportation is highly beneficial as it provides the means of earning livelihoods as noted in Table 6. Respondents under this category include motorcycle operators, canoe sailors, drivers and wheel barrow pushers. These persons are principally employed by those they offer services and the means of generating funds is dependent on the services they offer. The Table further revealed that 187 (49.6 percent) have been positively effected through the use of transportation modes to the extent that their agricultural practices have been expanded. Also, 39 (10.3 percent) respondents were of the view that the constant and consistent use of transportation modes leads to increase in the revenue that is generated by the government. These revenues come in the aspect of tickets and taxation on commercial operators of transportation modes. Even more, private owners of transportation modes seek for licensing and renewal of documents (when necessary).

Table 7: Level of Socioeconomic Development

Level	Frequency	Percentage
Excellent	126	33.4
High	78	20.7
Medium	99	26.3
Low	56	14.9
Very low	18	4.7
Total	**377**	**100**

Source: Field Survey, 2020

Table 7 explained the level of socioeconomic development in the study area. The study showed that 126 (33.4 percent) respondents agreed that the level of socioeconomic development is excellent due to rural transportation while 78 (20.7 percent) respondents revealed that its high while 99 (26.3 percent) said that the level of socioeconomic development is medium. In the views of 56 (14.9 percent) respondents, the level is low while 18 (4.7 percent) respondents say the level is very low. With this information, it is clear that the residents of the study area are taking advantage of the availability of transportation modes to expand development,

Test of Hypothesis

The hypothesis formulated for the study was tested using simple linear regression analysis. The null hypothesis states that "The level of service of rural transportation does not have significant effect on the socioeconomic development of the residents in Abi Local Government Area". Analysis was based on Statistical Package for Social Sciences (SPSS). The result of the analysis is presented in table 8

Table 8: Model Summary

					Change Statistics		
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	Sig. F Change
1	.234[a]	.055	-.064	53.534	.055	.462	.516

a. Predictors: (Constant), x

The result from the regression test as presented in table 4.15 shows that the calculated significant value was 0.516 which is greater than 0.05. Based on this result, the null hypothesis was accepted and the alternative hypothesis was rejected. This implies that the level of service of rural transportation does not have significant effect on the socioeconomic development of the residents in Abi Local Government Area. This suggest that the totality of the lives of the people of the study area is not basically dependent on the transportation services in the area. Therefore, other activities such as trading, agricultural practices among others may account for the level of socioeconomic development.

Discussion of Findings

The various means and modes of transportation in the study area were identified. It was revealed that the predominant mode of transporting goods within the study area is motorcycle. Other modes equally exist which include cars, canoes and trekking. The reason for the continuous use of motorcycle is the state of the road which is highly deplorable. Obviously, the use of motorcycles above other modes is due to the fact that motorcycles have the ability to be manipulated into roads that are not in very good state. Due to the fact the roads in the study area are not in good conditions, residents of the study area prefer moving within the study area with motorcycles. This observation aligns with the findings of Dinye (2013) who revealed that motorcycles are the predominant transportation mode in rural areas. Dinye noted that rural areas are dominated by low income earners that lack financial capabilities of purchasing cars for movement within their localities. Dinye further revealed that the motorcycles are also used for commercial purposes by the people and therefore provide the means of earning

livelihoods to transporters. However, motorcycles are configured to be manipulated on land therefore, land is largely used as means of transporting people and goods in the study area. Residents in the study area also trek to locations to deliver goods and services. Moreso, the availability of large river bodies in Abi LGA has promoted the use of canoes for transportation within the study area. The result of the hypothesis has shown that socio-economic development in the study area is not completely tied to the level of service of rural transportation. This imply that other variables equally contribute to economic development in the study area. Instance of such variables may include infrastructure availability such as electricity, water and other job opportunities. Nevertheless, rural transportation have contributions only that it is not the sole determinant of socio-economic development in the study area. For instance, the study noted that rural transportation provides residents with the means of earning livelihoods. Notably, through rural transportation, the services of motorcycle operators, canoe sailors, drivers and wheel barrow pushers are employed. Obviously, the funds they generate are used to aid their livelihoods. Equally, transportation contributes to agricultural expansion further revealing in food production at increased level. This is because, energy and travel distances are saved through the use of machines for traveling to farms and markets. This assertion is buttressed by the findings of Hartoyo (2013) who showed that the development of roads in rural Indonesia promoted agricultural practices and ensure food availability. Okoko, (2011) returned that rural transportation in Ghana also promoted agricultural activities in Ghana. Also, transportation contributes to increase in revenue generation by the government in form of vehicle licensing and daily ticket sales to commercial transporters. The problems militating against effective rural transportation services in the study area are poor funding, limiting the regular rehabilitation and upgrading of road. This particular reason has resulted in the presence of deplorable roads and collapsing transportation infrastructure. Another factor is the difficult terrain in the study area which demands large sums for fixing of roads further serving as a discouraging factor for the government to commit funds to road development.

Recommendations

In line with the study objectives and subsequent findings, the following recommendations were made;

i. Since land is the predominant transportation means, the roads in the study area should be rehabilitated regularly.
ii. Residents in the study area should be encouraged with facilities for mobility such as motorcycles, vehicles and wheel barrows so as to encourage productivity among the residents of the people
iii. There is need for diversification of the economy and rehabilitation of more roads within the study area so as to encourage farmers to embark on agricultural productivity.
iv. Funding for road rehabilitation should be increased by the government.
v. Finally, other sources of funding such as Public Private Partnerships should be advocated in the road development/rehabilitation process.

5. **Conclusion**

The study assessed rural transportation in Abi LGA. The study specifically identified the predominant transportation means and modes that are used for rural transportation in the study area. The study identified that land is the main transportation means that the residents of Abi LGA travel within the LGA. Transportation modes used by the residents include motorcycles, cars, wheel barrows and others trek. As seen in the study area, rural transportation contributes to the development of socio-economic activities, yet, socio-economic development is not completely tied to the level of service of transportation in the study area. This is because some of the residents do not mainly use machines for movement.

Finally, rural transportation in the area is plagued with problems. The problems basically include weak funding by relevant authorities and weak monitoring/supervision in the road development/rehabilitation process.

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