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ANALYSIS OF CONDITION OF RURAL ROAD TRANSPORT IN KWARA STATE, NIGERIA

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Abstract

Despite the crucial role transportation plays in the socio-economic development of every society most developing countries are characterized by inadequate transport. This study examines the road transport situation in rural areas of Kwara State, Nigeria. The work adopted an integrated approach whereby rural road transport is viewed as a whole complex of the available roads, transport services and Intermediate Means of Transport (IMT). A total of 993 respondents were surveyed across the three senatorial districts of the state. The data collected were analysed using frequency counts, percentages, mean ranking and histograms. Four topological measures were also used to determine the road network connectivity in the sampled LGAs. Overall, road network connectivity, level of road accessibility and transport services are generally poor and inadequate in rural areas of the state. However, spatial variations were found to exist in the area. Kaiama LGA was found to have the least level of road accessibility, road network connectivity and has the poorest transport services among the sampled LGAs. This implies that there is a greater restriction on mobility with attendant negative effects on the economy and general wellbeing of the people in the area. Transportation problems faced by rural residents in the area include that of poor road surface conditions, high cost of transport, overloading and incessant highway robberies. Suggested policy options include 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.

Keywords: Integrated Approach; Road Accessibility; Rural Roads; Spatial Variation; Transport Services

Introduction

Most countries of the developing world are characterized by inadequate and poorly maintained road transport infrastructure (Hilling,

1996). The condition of rural areas of Nigeria is more pathetic since they are highly deprived of infrastructural facilities, especially when compared to the urban areas (Akinola, 2007). In a study of rural accessibility problems in Kwara State, Ogunsanya (1987) noted that poor rural situation result from inadequacy of both networks and vehicles. According to Adesanya (1997) only about 5 percent of rural roads in Nigeria could be said to be in good condition. He further explained that the bad condition of these rural roads is compounded by the poor response to repairs and delays in rehabilitation by the responsible government agencies. Thus, the poor state of rural transport in the country do not only lead to high vehicle operating cost but, also result in sharp increases in prices of food items. Oni and Okanlawon (2006) reported that the neglect of roads in the country multiplies the cost of repairs at the end of every rainy season and also, sharply increase the cost of vehicle maintenance. They further established that inadequate transport imposes a great constraint on mobility and people's access to facilities like markets, hospitals and schools. The problem is more severe in the rural areas of Nigeria where the bulk of the population live. Filani (1993) observed that, most rural roads in Nigeria are unpaved, narrow, circuitously aligned and with narrow bridges, they are full of pot holes and many of them remain passable only during the dry season. According to Adeniji (1983) governments at all levels in Nigeria have not being paying enough attention to provision and maintenance of rural roads, due to the problem of low volume of traffic and periodicity and seasonality in demand for transport in rural areas. Thus, governments rarely see provision of rural roads as a priority. Similarly, in a study on rural transport and distribution of public facilities in Edu Local Government Area of Kwara State, Aderamo and Magaji (2010), observed a poor level of road development and explained that this situation exist because the Local government could not shoulder the financial responsibility of maintaining these roads.

Olomola (2003) classified various types of transportation problems in Nigeria to include: bad roads, high cost and shortage of fuel, traffic congestion in urban areas, inadequacy of services, high cost and shortage of spare parts and poor vehicle maintenance. Similarly, Aderamo and Omolaran (2006) established that, rural travel and transport in Nigeria remain difficult due to the poor condition of roads and transport services, which have continued to aggravate the problem of low productivity and high level of poverty in rural areas. Meanwhile, according to the International Fund for Agricultural Development (IFAD) (2001), isolation resulting from inadequate transportation is closely associated with rural poverty in Nigeria.

Suggesting solutions to rural transportation problems in Nigeria, Adesanya (1997) called for a drastic improvement in inter-settlement transportation links. He further suggested that, most rural roads should be put

in good condition, if the government is really interested in raising the welfare of the rural dwellers. He also, called for a well integrated rural and urban transport system in order to guarantee the movement of people, agricultural inputs, food items and other materials cheaply, safely and promptly within the country. Filani (2001) observed that it is important to now direct attention to the construction of simple tracks suitable for the use of Intermediate Means of Transportation (IMT) in rural areas. Against this background, the main aim of this study is to assess rural road transport situation in Kwara State. This will be achieved through two objectives. First, is to determine the level of road network connectivity, level of accessibility and nature of transport services available. Secondly, is to examine the road transport problems confronting the people in the area.

Components of the rural road transport system

According to Onokerhoraye and Omuta (1977) every transportation system is generally considered to consist of three main interrelated parts. These are the travel way, the vehicles and the terminal facilities. Berwell (1996) however, observed that no transport system can be said to be complete in the absence of transport services. He therefore emphasized that, transport services constitute a very important element of rural transport. According to Starkey et al (2002) rural road transport system consists of transport infrastructure, transport operations (services) and the transport users. Rural transport operations include the commercial services and those provided by private vehicles. 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 IMT traffic). The means of transport consist of the private and for-hire vehicles providing transport services. The users include the rural people, operators of for-hire transport services and government officials (Barwell, 1996). A very important but, often neglected component of the road transport system consist of the various official regulators (Starkey et al, 2002).

Much of rural travel in Africa is however on foot or through IMT operating along the local footpaths and tracks (Barwell, 1996). These constitute what Starkey (2005) referred to as “invisible” rural transport, consisting of footpaths, cart and cycle tracks and footbridges which may not be found on maps. Emphasizing the fact that few rural dwellers in Africa own motor vehicles, Barwell (1996) classified rural transport services into two main types. These are the ‘for hire transport services’ and the transport services operated by governments and other agencies. With the exception of

where people own Intermediate Mode of Transport (IMT), local-level transport services are highly inadequate on the continent (Barwell, 1996).

Materials And Methods

Kwara state is located between latitudes 8^0 05' and 10^0 05' north and longitudes 2^0 50' and 6^0 05' east. It has an area of about 32, 500 square kilometres. The state has 16 local Government Areas and according to the 2006 national census had a total population of 2,365,353. (Federal Republic of Nigeria, Official gazette, 2009). This gives the state an average of 72.8 per square kilometres. Oyebanji (2000) put the State's urbanization level at 30%, indicating that majority of the people resides in rural areas. There is strong evidence of urban primacy in the state with Ilorin the State capital having a concentration of large part of the population and infrastructural facilities. Aderamo (2007) put the total length of roads in the state at 11,651.3 kilometres. About 8,680 kilometres consists of gravel and earth roads, while the rest are bitumen covered. About 888 kilometres of roads are Federal roads, while the State and Local Governments control the remaining part.

The data for the study were obtained through field observation and questionnaire administration. The questionnaire was administered to a total of 993 respondents selected from thirty rural settlements in three Local Government Areas (LGAs), spread across the three Senatorial Districts of the State. The selected LGAs are Kaiama (Kwara North), Ilorin east (Kwara Central) and Ekiti (Kwara South). Five of the ten settlements selected in each LGA are located along a major (Trunk A road), while the remaining five settlements consist of remote settlements located along other roads in the LGAs. This study adopts an integrated approach whereby, rural road transport is viewed as a whole complex of the available roads, transport services and Intermediate Means of Transport (IMT). This study also used a Participatory Rural Appraisal technique whereby, the rural dwellers themselves were made to identify the types and magnitude of transportation problems they encounter in their daily lives.

The data collected were analysed using descriptive statistics consisting of frequency counts, percentages, mean ranking and histograms. Four topological measures namely, Alpha, Beta and Gamma indices and the Cyclomatic number were used to determine the road network connectivity in the sampled LGAs.

Results And Discussion

Category of roads connecting the sampled settlements

Roads connecting the sampled settlements were found to have fallen within four of Anderson (1995)'s six road categories. It was therefore possible to determine the functionality of the roads throughout the year. As

indicated in Table 1, the roads connecting 23 (77%) of the sampled settlements were found to be passable for two – wheel drive vehicles throughout the year. Roads connecting the remaining seven settlements are passable to four-wheel drive vehicles for most of the year and only passable for two-wheel drive vehicles in the dry season.

Table 1: Category of roads connecting sampled settlements

Description	Access Level	Route Access	Ekiti	Ilorin East	Kaiama
Very poor	0	Impassable to all traffic	Nil	Nil	Nil
Poor	1	Passable to four wheel Drive Vehicles When dry. Impassable to two wheel Drive vehicles when wet.	Nil	Nil	Nil
Poor to fair	2	Passable to four wheel drive Vehicles Nearly all year. Impassable to two wheel Drive vehicles when wet.	Nil	Nil	Kanikoko, Olokotitin
Fair	3	Passable to four wheel vehicles all year. Often closed to two wheel drive vehicles When wet.	Nil	Budo Oyo, Marafa, Budo Are.	Banni, Kemenji.
Fair to good	4	Passable to two wheel drive vehicles All year.	Eruku, Obbo Aiyegunle, Etan, Isare Opin.	Agbeyangi, Alalubosa-Isale,	Kaiama, Moshi Gada, Venra, Aboki, Gwaria, Adena.
Good	5	Reliable access all year to all vehicles.	Osi, Oke Opin, Epe Opin, Koro, Isapa.	Oke Oyi, Iponrin, Panada, Apado, Oke Ose	Nil

Source: Field survey, 2011 (Based on Anderson's 1995, classification)

As clearly shown in Table 1, most (70%) of the sampled settlements in Ilorin East LGA can be accessed by two wheel drive vehicles all year round. All the roads connecting the sampled settlements in Ekiti LGA are accessible to two-wheel drive vehicles throughout the year. On the other hand, none of the sampled settlements in Kaiama LGA has reliable access all year to all vehicles. Furthermore, 40% of the sampled settlements in Kaiama LGA are connected by roads either completely impassable or often closed to two wheel drive vehicles when wet. This implies that vehicular travel is highly restricted by poor road surface conditions especially in Kaiama LGA. Rural travel within Kaiama LGA during the wet season will be mostly on foot, by motorcycles/bicycles and with the very few four-wheel drive

vehicles in the area. This places great restrictions on mobility with attendant negative effects on the economy and general wellbeing of the people.

Road network connectivity in the sampled LGAs

The topological graph of the road network of Ekiti LGA indicates a total of 21 vertices and 29 edges. That of Ilorin East shows 39 vertices and 48 edges. For Kaiama LGA there are 60 vertices and 59 edges (see figures 1 – 3).

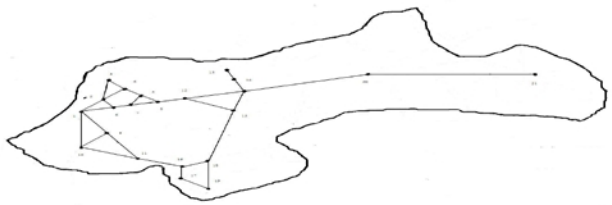

Figure 1: Topological graph of road network of Ekiti LGA, Kwara State

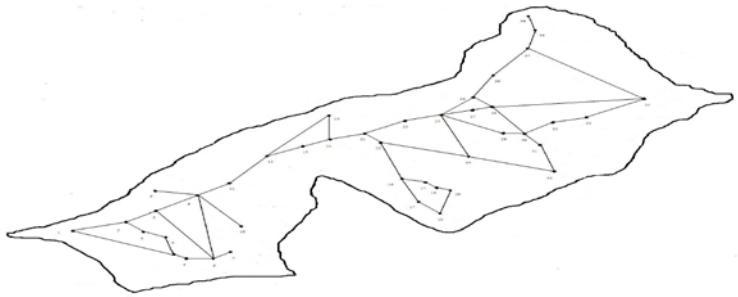

Figure 2: Topological graph of road network of Ilorin East LGA, Kwara State

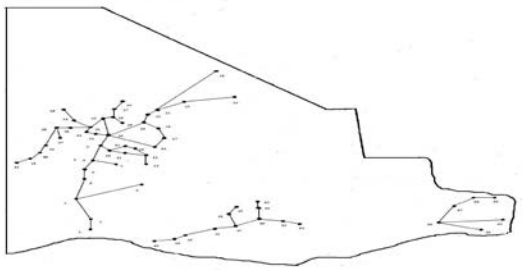

Figure 3: Topological graph of road network of Kaiama LGA, Kwara State

Table 2 shows the structural indices of the network for the three sampled local government areas. For instance, as indicated in the Table 2 using the beta index, Ekiti is the most connected with a value of 1.38, while Kaiama is the least connected with a value of 0.98. However, using the Cyclomatic number Ilorin East is the most connected with a value of 10. Kaiama with a value of 2.0 is the least connected.

Table 2: Road network connectivity indices in samples LGAs

LGAs	Alpha Index	Beta Index	Gamma Index	Cyclomatic Number
Ekiti	0.243	1.38	0.51	9
Ilorin East	0.137	1.23	0.43	10
Kaiama	0.017	0.98	0.34	2

Source: Field survey, 2011

Road network connectivity was found to be highest in Ekiti LGA and lowest in Kaiama LGA which is also the least in terms of reliability of roads to vehicular access among the sampled LGAs. This implies that there will be greater restriction and difficulty of movement of people and goods in Kaiama LGA, with adverse effects on socio-economic wellbeing of the people. Rural dwellers in Kaiama LGA will likely have more difficulties in terms of access to basic facilities and transportation of their agricultural produce to the market. This is supported by the findings of Ali-Nejadfard (2000) that poor road connectivity and lack of access increases the time and efforts required to access basic facilities, results in isolation, reduces productive activities and perpetuates rural poverty.

Nature of transport services in the area

Transport services in the area are provided by a diversity of vehicles. The for-hire vehicle fleet consist of buses, rural taxis, pick-up vans, lorries and commercial motorcycles. Ownership of personal means of transport is also important in the area with 58.2% of households possessing at least one personal means of transport. IMT Ownership is highest in Kaiama LGA with 65% of the households possessing a motorcycle or bicycle. IMT ownership is lowest in Ilorin East LGA at 52.3% (Table 3).

The diversity of vehicle services available in the sampled settlements is also shown in Table 3. The services of all the for-hire vehicles mentioned earlier are available in 26 of the sampled settlements. For the remaining four settlements (Alalubosa Isale, Budo Are, Kemenji and Kanikoko) transport services are restricted to pick-up vans and commercial motorcycles mainly due to poor condition of the roads in these areas.

Table 3: Nature of transport services in the study area

Nature of Transport Services Available	Local Government Areas/Settlements		
	Ekiti	**Ilorin East**	**Kaiama**
No Transport Service	Nil	Nil	Nil
Commercial Motorcycle Service only	Nil	Nil	Nil
Pick-up and Commercial Motorcycle only	Nil	Budo Are, Alalubosa Isale.	Kanikoko, Kemenji.
Bus Service only	Nil	Nil	Nil
Bus/Commercial car only	Nil	Nil	Nil
Bus/Pick-up/Trucks only	Nil	Nil	Nil
Bus/Car/Pick-up/Truck/ Motorcycle	Osi, Eruku, Obbo Ile, Oke Opin, Epe Opin, Obbo Aiyegunle, Ettan, Koro, Isapa, Isare Opin.	Oke Oyi, Iponrin, Panada, Apado, Oke Ose, Agbeyangi, Budo Oyo, Marafa.	Kaiama, Moshi Gada, Venra, Gwaria, Aboki, Adena, Banni, Olokotintin.
IMT ownership rate	57.3%	52.3%.	65%

Source: Field survey, 2011

Since the transporters are out to make profit they tend to avoid inaccessible roads and very remote areas with poor patronage. Poor transport services therefore force people in such areas to depend mostly on walking/head portage, motorcycles and bicycles to travel to basic facilities and for marketing activities.

Regularity of transport services

Survey of the regularity of individual vehicle services show that commercial motorcycle is viewed as being available at all periods of the day by 88.2% of the respondents. On the other hand truck service is viewed to be available at all periods of the day by only 0.1% of the respondents (Table 4). The use of trucks is mostly limited to the harvest period when large quantities of farm products have to be transported.

Table 4: Regularity of transport services in the study area

Vehicle types	Not available	Only available occasionally	Often available	Available at most times of the day	Available at all periods of the day	Total
Bus	39 (3.9)	148 (14.9)	428 (43.1)	143 (14.4)	235 (23.7)	993
Rural Taxi	170 (17.1)	381 (38.4)	288 (29)	94 (9.5)	60 (6.0)	993
Pick-up van	9 (0.9)	270 (27.2)	535 (53.9)	135 (13.6)	44 (4.4)	993
Lorry	56 (5.6)	603 (60.7)	299 (30.1)	34 (3.4)	1 (0.1)	993
Commercial motorcycle	0 (0)	6 (0.6)	6 (0.6)	105 (10.6)	876 (88.2)	993

Note: Percentages in parentheses.
Source: Field survey, 2011

The different vehicle types were further ranked according to the availability of their services. Commercial motorcycle which is ranked first is the most important vehicle type providing "for-hire" transport services in the area. Lorry services are least available in the study area. This is not surprising since lorry services are mainly pronounced during harvest periods when farm products are transported in bulk and to more distant places. The result as shown in Table 5 further confirms the importance of commercial motorcycles in rural areas of the country. Motorcycles are highly suited for travel along the mostly narrow and poorly surfaced rural roads, tracks and bush paths.

Table 5: Rank-Order of vehicle types according to their availability in the study area

Vehicle types	Not Available (0)	Only available occasionally (1)	Often available (2)	Available at most times of the day (3)	Available at all periods of the day (4)	Total score	Mean	Rank
Commercial motorcycle	0	6	12	315	3504	3837	3.9	1
Bus	0	148	856	429	940	2373	2.4	2
Pick-up van	0	270	1050	405	176	1901	1.9	3
Rural Taxi (kabukabu)	0	381	576	282	240	1479	1.5	4
Lorry	0	603	598	102	4	1307	1.3	5

(0), (1), (2), (3) and (4) = weights.
Source: Field survey, 2011

With a mean value of 12.24 for all vehicle types considered, Ilorin East LGA has better transport services than the other sampled LGAs. Kaiama is least served in terms of transport services with a mean value of 9.39 as indicated in Table 6.

Poor transport services is mostly responsible for the low farm gate prices of agricultural products, especially in Kaiama LGA of Kwara State. For instance, farmers receive only about 40% - 50% of the final market price of most agricultural products from the area due to high cost of transportation. This implies that transport service is as important as road access for the purpose of assembling inputs, evacuation of farm outputs and the general functioning of the rural economy (Barwell, 1996).

Table 6: Mean scores for all vehicle services according to sampled LGAs

LGA	Vehicle types	Not Available (0)	Only available occasionally (1)	Often available (2)	Available at most times of the day (3)	Available at all periods of the day (4)	Total score
Ekiti							
	Bus	**0**	**64**	**484**	**162**	**560**	**1270**
	Rural Taxi	**0**	**200**	**462**	**123**	**52**	**837**
	Pick-up	**0**	**148**	**572**	**114**	**88**	**922**
	Lorry	**0**	**316**	**346**	**21**	**4**	**687**
	C/motorcycle	**0**	**2**	**12**	**195**	**1708**	**1917**
	Mean						**5630/500 = 11.26**
Ilorin East							
	Bus	**0**	**0**	**132**	**135**	**356**	**623**
	Rural Taxi	**0**	**66**	**80**	**141**	**188**	**475**
	Pick-up	**0**	**81**	**164**	**78**	**64**	**387**
	Lorry	**0**	**136**	**118**	**0**	**0**	**254**
	C/motorcycle	**0**	**4**	**0**	**66**	**724**	**794**
	Mean						**2533/207 = 12.24**
Kaiama							
	Bus	**0**	**84**	**240**	**132**	**24**	**480**
	Rural Taxi	**0**	**115**	**34**	**18**	**0**	**167**
	Pick-up	**0**	**41**	**334**	**213**	**24**	**612**
	Lorry	**0**	**151**	**69**	**81**	**0**	**301**
	C/motorcycle	**0**	**0**	**0**	**54**	**1072**	**1126**
	Mean						**2686/286 = 9.39**

(0), (1), (2), (3) and (4) = weights
Note: Number of respondents (Ekiti = 500, Ilorin East = 207, Kaiama = 286).
Source: Computed from field data, 2011

Road transport problems in the area

Poor road surface condition

Roads connecting many of the settlements are narrow and unpaved while most of the paved roads have broken surfaces with a lot of pot holes. This is a very important problem identified in the study area as 42.1% of the respondents regard this as a very serious problem (Figure 4). In Ekiti LGA 43.6% of the respondents consider this as a very serious problem. It further indicates figures of 12.1% and 61.2% for Ilorin East and Kaiama LGAs

respectively (Table 7). This implies that the problem of bad roads is most prevalent in Kaiama LGA than other parts of the state. This is in line with the findings of Aderamo (2007) who noted that as at 1999 all the 519 kilometres of roads in Kaiama LGA consisted of earth road. Today the situation in most of the rural areas of Kwara State is not much better.

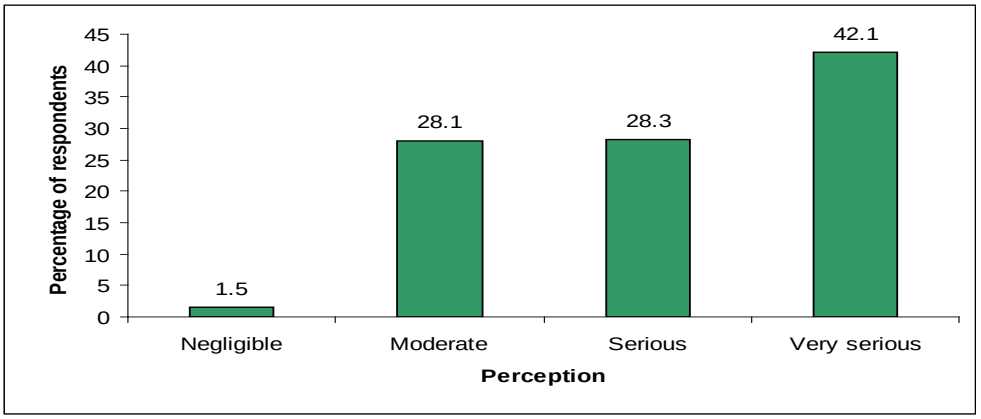

Figure 4: Respondents' perception of problem of bad roads

Inadequate transport services

Passenger and cargo transport services are generally insufficient and mostly irregular the study area. As shown in Figure 5, about 60% of the respondents consider inadequate transport services a serious problem. This problem is most prominent in Ekiti LGA where 15.8% of the respondents view this as a very serious problem (Table 7). A total of 62.6% of the respondents see this problem as being serious. On the other hand only 6.8% of the people consider irregular transport services as very serious problem in Ilorin East LGA. However, 56% regard it as a serious problem. This is not surprising since road conditions and transport services are generally better in Ilorin East LGA than in the other sampled LGAs. This could be as a result of the close proximity of Ilorin East LGA to Ilorin the State capital, where most of the infrastructural facilities are concentrated.

The level of motorization is low in Nigeria at 20 vehicles per 1,000 people. Thus, motorcycles continue to play important role especially in rural transportation by providing about 70% of vehicle fleet (African Development Fund, 2007). Constraints to the operation of vehicles in developing countries include shortage of credit, inadequate vehicle backup services, poor operator and mechanical training and uncompetitive transport markets, low density of demand and inability to pay competitive charges (Ellis, 1997 and Ellis and Hine, 1998).

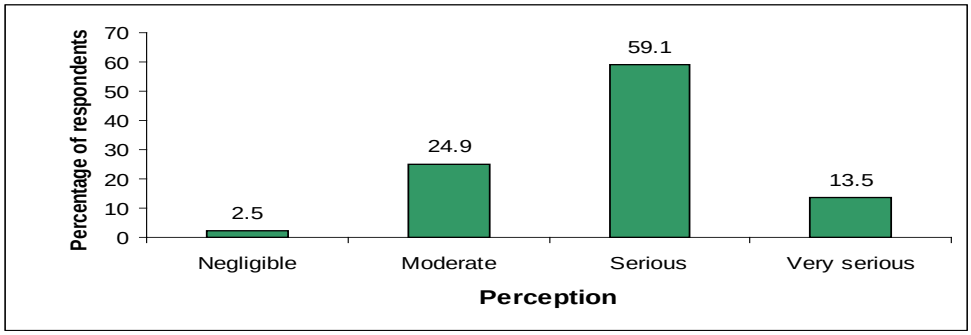

Figure 5: Respondents' perception of problem of inadequate transport services

Table 7: Respondents' perception of rural road transport problems in the sampled LGAs

Bad roads	Ekiti LGA (Kwara South)	Ilorin East LGA (Kwara Central)	Kaiama LGA (Kwara North)
Negligible	0.2	6.8	0.0
Moderate	26.2	58.0	9.8
Serious	30.0	23.2	29.0
Very serious	43.6	12.0	61.2
Total %	100	100	100
Inadequate transport services			
Negligible	4.6	1.0	0.0
Moderate	17.0	36.2	30.4
Serious	62.6	56.0	55.2
Very serious	15.8	6.8	14.3
Total %	100	100	100
High cost of transport			
Negligible	0.0	0.0	0.0
Moderate	3.4	4.8	4.5
Serious	22.2	16.4	22.0
Very serious	74.4	78.7	73.4
Total	100	100	100
Problem of overloading			
Negligible	3.6	8.7	0.0
Moderate	36.8	56.0	19.2
Serious	48.2	33.8	41.3
Very serious	11.4	1.4	39.5
Total %	100	100	100
Poor condition of vehicles			
Negligible	10.0	20.3	0.0
Moderate	52.8	53.1	26.9
Serious	34.6	24.6	37.8
Very serious	2.6	1.9	35.3
Total %	100	100	100
Unnecessary Delays on the Road			
Negligible	7.2	12.6	2.8
Moderate	60.0	74.4	30.1
Serious	26.6	11.6	35.0
Very serious	6.2	1.4	32.2

Total %	**100**	**100**	**100**
Highway robbery/banditry			
Negligible	**8.2**	**20.3**	**0.0**
Moderate	**67.6**	**58.5**	**15.0**
Serious	**20.6**	**21.3**	**47.2**
Very serious	**3.6**	**0.0**	**37.8**
Total	**100**	**100**	**100**
Other problems			
Yes	**10.0**	**11.1**	**10.1**
No	**90.0**	**88.9**	**89.9**
Total %	**100**	**100**	**100**

Source: Field survey, 2011

High cost of transport

High cost of transport seems to be a general problem in rural areas of Kwara State as 75% of the respondents consider this a very serious problem (Figure 6). As indicated in Table 7 high cost of transport is regarded as a very important problem in all the sampled LGAs. For instance, this is considered a very serious problem by not less than about 75% of the respondents in each of the sampled LGAs. Considering the high rural poverty rate in Kwara State put at 85.4% in 2004 (NBS, 2006), high transport charges likely constitutes an important obstacle to adequate access to social and marketing facilities in the state. Therefore, while mobility and physical distance are very important, high transport charges at times constitute the greatest obstacle to access to basic facilities in rural areas (Ellis 1997). High transport cost may also make farm products from an area uncompetitive in the market thereby, discouraging higher production (Ajiboye and Afolayan, 2009).

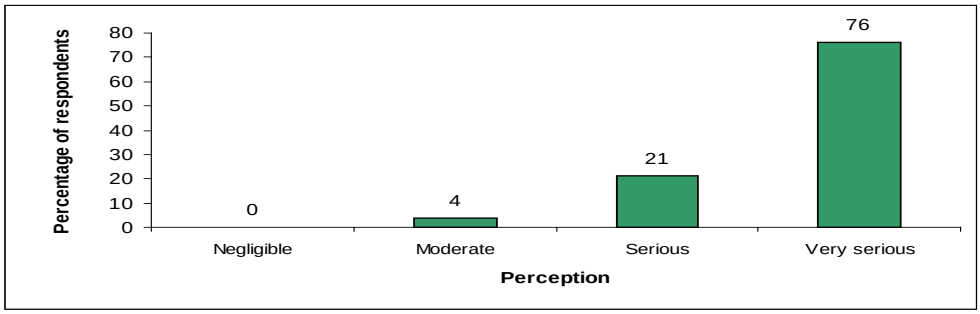

Figure 6: Respondents' perception of high cost of transport

Overloading

Overloading which has to do with travelling comfort and conveniences is also viewed as an important problem in the study area. As a result of insufficient supply of vehicles buses and trucks are usually overloaded with people and their agricultural produce especially on market

days. According to Figure 7, a total of 17.4% of the respondents consider this as very serious problem while another 43.2% view it as a serious problem.

Rural residents in Kaiama are also more exposed to this problem than those in the other LGAs. As shown in Table 7 a total of 39.5% in Kaiama LGA view this as a very serious problem compared to only 1.4% in Ilorin East LGA. This is not surprising considering the remoteness of the area from other parts of the state and the very poor road conditions in the area. Apart from constituting serious road safety risk overloading cause inconveniences to travellers and often cause damages to fragile farm products thereby resulting in losses to farmers.

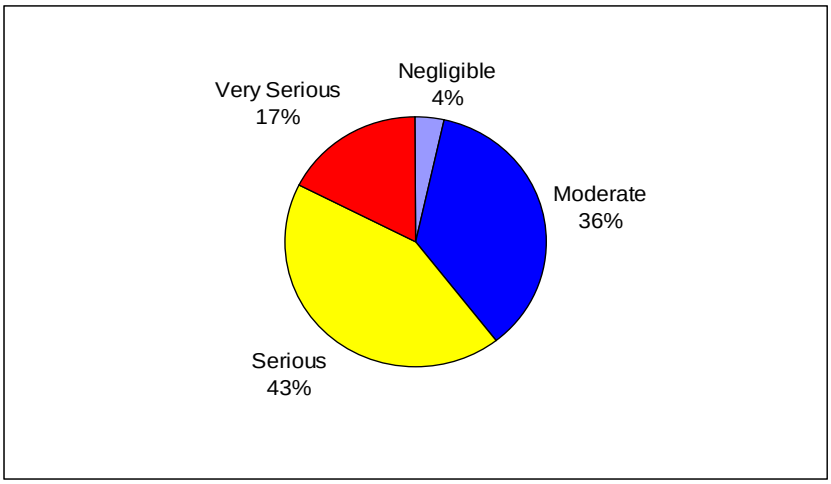

Figure 7: Respondents' perception of problem of overloading

Poor condition of vehicles

Another problem identified by the respondents is that of old transport fleet resulting in incessant breakdown of vehicles, delays and other inconveniences. The few vehicles that are available in the area are mostly in very poor conditions, being mostly vehicles found to be inadequate for use in the urban areas. About 12% of the respondents regard this as very serious problem while another 33.4% view it as a serious problem (Figure 8). This problem is least important in Ilorin East LGA where only 1.9% regard it as very serious problem. As seen in Table 7 this problem is also most prominent in Kaiama LGA where as high as 35% of the respondents consider it as being very serious, with another 37.8% regarding it as a serious problem. The poor condition of rural roads in the country makes vehicle maintenance very expensive. Cost of repairs and maintenance are very high in Africa due to poor road surface conditions, inadequate vehicle backup service and routine maintenance (Ellis 1997).

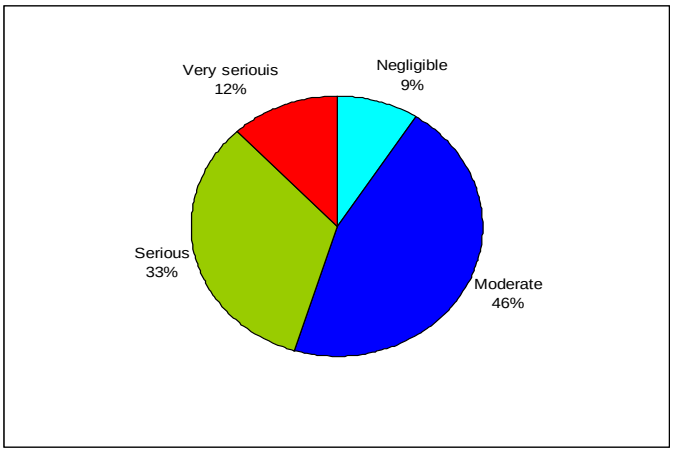

Figure 8: Respondents' perception of problem of poor condition of vehicles

Unnecessary delays on the road

This problem has to do with the activities of Officers of the Nigerian Police and the Federal Road Safety Commission, Vehicle Inspection Officers, Local Government Revenue Officers and Transport Union Officials among others. Their actions sometimes result in delays and consequent extension of travel time. As indicated in Figure 9, 12.7% of the respondents consider this as a very serious problem with another 25.9% regarding it as a serious problem.

This is also a very important problem in Kaiama LGA where 32% respondents see it as a very serious problem. Another 35% also consider it a serious problem in the area. This is however, not a very important problem in Ekiti and Ilorin East LGAs. For instance, only 1.4% classified it as very serious in Ilorin East LGA (Table 7). Unnecessary delays result in extension of travel time and high cost of operation which are passed to passengers as high transport charges.

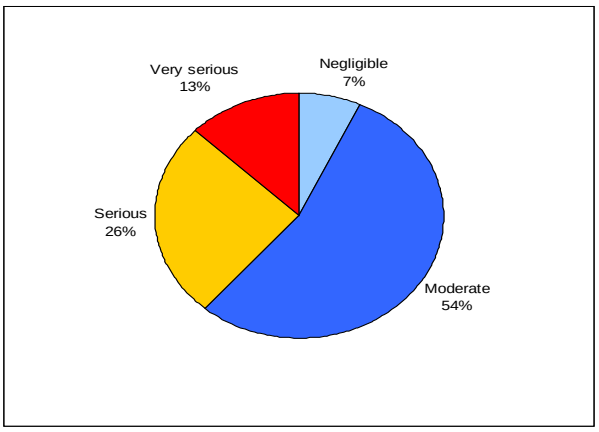

Figure 9: Respondents' perception of problem of unnecessary delays on the road

Highway robbery

Highway robbery was also identified as a road transport problem in the study area. As shown in Figure 10 a total of 12.7% of the respondents view this as a very serious problem while another 28.4% consider this as a serious problem. The magnitude of this problem is also greater in Kaiama than in the other sampled LGAs. Thus, while 37.8% of the respondents in Kaiama consider this as a very serious problem, only 3.6% categorized it as a very serious problem in Ekiti LGA (Table 7). On the other hand none of the respondents view highway robbery as a very serious road transport problem in Ilorin East LGA. Rural dwellers are not spared from the incessant highway robberies and banditry which has become a common thing in Nigeria. Robbery incidents are most prominent on market days when the volume of traffic is higher and when many people travel with huge sums of money. The high rate of robberies and other crimes in the country has been attributed to the high level of poverty and unemployment (Arinze, 2010).

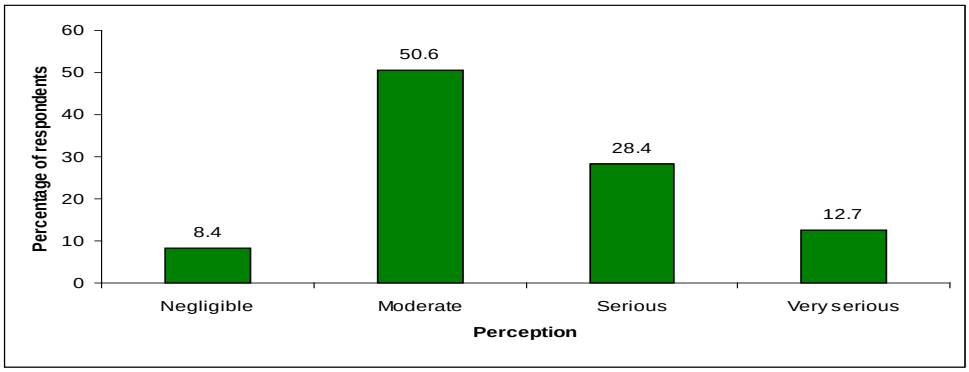

Figure 9: Respondents' perception of problem of highway robbery

Other rural transportation problems in the area

Various other transportation problems were identified by the people in the study area. For instance, a total of 10.3% (Ekiti, 10%; Ilorin East, 11.1%; Kaiama, 10.1%) of the respondents identified other road transportation problems (Table A1). These include the problems of high cost of vehicles and spare parts, high cost of fuel and high cost of vehicle maintenance. Some of the respondents further emphasized the implication of shortage of vehicles resulting in overloading and constant damage to their products. This normally results in great losses to the farmers since such products eventually attract lower prices at the market. This is also in line with the findings of Ajiboye and Afolayan (2009) that identified inadequate supply of transport services, high cost of acquiring vehicles and high fuel price as some of the rural road transport problems in Nigeria.

Conclusion And Recommendations

This study examined the road transport situation in rural areas of Kwara State, Nigeria. This work adopted an integrated approach whereby, rural road transport is viewed as consisting of the available roads, transport services and Intermediate Means of Transport (IMT). This study also used a Participatory Rural Appraisal technique whereby, the people identified the types and magnitude of transportation problems they encounter.

Overall, road network connectivity and level of road accessibility were found to be poor in the area. Also, transport services are generally poor and inadequate in rural areas of Kwara State. However, spatial variations were found to exist in the area. Kaiama was found to have the least level of road accessibility and road network connectivity among the sampled LGAs. Kaiama LGA is also the poorest in terms of availability of transport services. This implies that there is a greater restriction on mobility with attendant negative effects on the economy and general wellbeing of the people in the area. In addition to inadequate transport services other road transport problems faced by rural residents in Kwara State include that of poor road surface conditions, high cost of transport, overloading and incessant highway robberies. Based on the result of this study, various policy options for improving rural road transport conditions in Kwara State are hereby suggested.

There should be conscious efforts on the part of governments at all levels in the country to allocate adequate funds for the improvement of roads in the country. Priority should be given to construction of new roads and reactivation and improvement of existing roads especially in rural areas where majority of Nigerians reside.

Also, improving access in rural areas require clear understanding of local situations in different areas. It is therefore, very important to always incorporate the ideas and perceptions of the rural dwellers on their transport needs and problems into transport planning. The rural dwellers should also be involved in implementation and maintenance of transport improvement programmes. Community oriented approach to development helps to develop a sense of ownership among the people. This will ensure programme success and people's interest in the maintenance of transport infrastructure and help improve lifespan of roads.

In addition, there is the urgent need to introduce interventions that will improve the provision of rural transport services. This can be achieved through the provision of credit and extension of the current government palliative measures in the transport sector to rural transport service operators. Programs should also be designed for training and improving the skill levels of local artisans and technicians to be able to respond to the needs of the

rural transport sector. This will ensure sufficient back-up services and supply of simple vehicle parts at reduced cost.

References:

Adeniji, K. (1983) Nigerian Municipal Bus Operators. *Transportation Quarterly*, 37 (1): 135-143

Aderamo, A. J. (2007) "Transport and Socioeconomic Development in Kwara State, Nigeria". *The Nigerian Journal of Economic and Social Studies*. (49) 1: 27-44.

Aderamo, A. j. and Omolaran, O. I. (2006) "Accessibility Problem and the Incidence of poverty in Nigerian Rural Environment: A Case of Offa Local Government Area of Kwara State". *Geostudies Forum*. Publication of the Department of Geography, University of Ilorin (3) 2: 45-56.

Aderamo, A. J. and Magaji, S. A. (2010) "Rural Transportation and the Distribution of Public Facilities in Nigeria; A Case of Edu Local Government Area of Kwara State". *Journal of Human Ecology*. (29) 3:171-179.

Adesanya, A. (1997) "Transportation Development" in Adedotun, A. O. And Titilola, S. J. (eds.) *Nigeria in 2010*. Nigerian Institute of Social and Economic Research (NISER), Ibadan. Pp 181-193.

African Development Fund (2007) Federal Republic of Nigeria: Rural Access and Mobility Project Appraisal report. Infrastructure Department, Transport Division. 1. http://www.afdb.org/eadmin/uploads/afdb/document /project/NG-2007-038-EN-ADF-BD-WP-NIGERIA-RURAL-ACCESS-AND-MOBILITY-PROJECT-PDF

Ajiboye, A. O. and Afolayan, O. (2009) The impact of transportation on agricultural production in a developing country: a case of Kolanut production in Nigeria. *International Journal of Agricultural Economics and Rural Development.* 2(2): 49 – 57.

Akinola, S. R. (2007) "Coping with Infrastructural Deprivation through Collective Action among Rural People in Nigeria". *Nordic Journal of African Studies.* (16) 1: 30-46.

Ali-Nejadfard, F. (2000) Rural travel and transport and economic development: Problems and prospects – examples from Malawi and Zimbabwe in Kaumbutho, P. G; Pearson, R. G. and Simalenga, P. G. (eds.) *Empowering Farmers with Animal Traction*. Proceedings of ATNESA Workshop, September, 1999, Mpumelanga, South Africa. http://www. atnesa.org Accessed on 22/01/2012

Anderson, J. (1995) Rural Accessibility Problems in Developing Countries. In Blackey, G. (ed.) *New World Transport*. London, Starlings Ltd.

Arinze, P. E. (2010) An Evaluation of the Effects of Armed Robbery on Nigerian Economy. *Journal of Research in National Development*. 8 (2)

http//:www.transcampus.org/JORINDV8Dec2010/journalsV8No2Dec20104.html

Asian Development Bank (2007) *Rural Accessibility in the Asia and Pacific Region.* ADB Transport Strategy Final Report, January, 2007. IT Transport Limited. Ardngton.

Barwell, I. (1996) *Transport and the Village: Findings from African Village Level Travel and Transport Surveys and Related Studies*. World Bank Discussion Paper, no. 344.The World Bank. Washington, DC.

Ellis, S. D. (1997) *Key issues in rural transport in developing countries*. TRL Report no. 260. Transport Research Laboratory, Crowthorne.

Ellis, S. D. and Hine, J. L. (1998) The Provision of Rural Transport Services. Approach Paper. SSATP Working Paper No. 37. Africa Region, Word Bank. http://www.rhd.gov.bd/Documents/ExternalPublications/WorldBank/TransSectPub/contents/documents/B54.pdf

Federal Republic of Nigeria, Official Gazette (2009) *Legal Notice on Publication of 2006 Census Final Results.* Federal Government Printer. Abuja

Filani, M. O. (1993) Transport and Rural Development in Nigeria. *Journal of Transport Geography*, 1: 248-252

Filani, M. O. (2001) "Transport and Nigeria's Development" in Abumere, S. I. and Soyibo, A. (eds.) *Development Policy and Analysis*. Development Policy Centre. Daybis Ltd. Ibadan. Pp. 9-25.

Hilling, D. (1996) *Transport and Developing Countries*. Routledge. London.

IFAD (2001) *Assessment of Rural Poverty in Western and Central Africa.* Project Management Department, International Fund for Agricultural Development (IFAD) Western and Central Africa Division, Project Management Department. Palombi. Rome. Available at http://www.ifad.org. Accessed on 14/8/10.

National Bureau of Statistics (2006) *Nigerian Living Standards Survey*. NBS. Abuja.

National Institute of Social and Economic Research (NISER) (2001) *NISER Review of Nigerian Development, 2000: The State in Nigerian Development.* NISER. Ibadan.

Ogunsanya, A. A. (1987) "Road Accessibility Problems and Human Resource Development". *Journal of Rural Studies* (3) 2

Olomola, A. S. (2003) "Understanding Poverty in Nigeria: Highlights from NISER Review of Nigerian Development". In *NISEREEL* , the magazine of the Nigerian Institute of Economic and Social Research, No. 4&5, December, 2003. Ibadan.

Oni, S, I. and Okanlawon, K. R. (2006) "Nigeria's Transport Infrastructural Development: An Integral Part of National Economic Empowerment and

Development Strategy (NEEDS)." *Journal of Social and Policy Issues* (3) 2: 7-13

Onokerhoraye, A. G. and Omuta, G. E. D. (1977*) Urban Systems and Planning*. Geography and Planning series, University of Benin. Benin City.

Oyebanji, J. O. (2000) "Kwara State" in A. B. Mamman, J.O. Oyebanji and S. W. Petters (eds.) *Nigeria: A People United, A Future Assured, Volume 2, Survey of States*. Federal Ministry of Information. Abuja.

Starkey, P. Ellis, S. Hine, J. and Ternell, A. (2002) *Improving Rural Mobility Options for Developing Motorized and Nonmotorized Transport in Rural Areas*. World Bank Technical Paper No. 525. World Bank. Washington, DC.

Starkey, P. (2005) *Methodology for the Rapid Assessment of Rural Transport Services.* Seminar on Sustainable Access and Local Resource Solution, 28th 30th November, 2005, Bangkok. http://www.docstoc.com/doc/43488005/26-paul-starkey