Effect of Rural Roads Connectivity and Accessibility on Patronage of Periodic Markets: Case of Kogi West Senatorial District

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Abstract

This study examined the effects of rural road transport on the patronage of periodic markets in Kogi West Senatorial District. Owning to the problems of road transport affecting human activities especially marketing in the study area Five LGAs were purposely selected. The selected LGAs were Ijumu, Kabba/Bunu, Mopa/Amuro, Yagba West and Yagba East LGAs. The random table of random number(two contigency)was used for the selection rural markets to ensure fair, even distribution and void of bias. The rural village markets were arranged aphetically and 1/3rd which constitutes 34% of the total rural village markets was selected for the study. The random sampling method was used to select the respondents within each of selected periodic markets on market days using categorization of merchandise. The generated data were analyzed using descriptive and inferential statistics as the required data were qualitative and quantitative in nature. The spatial pattern of distribution of periodic markets was determined using Average Nearest Neighbor statistical tool in ArcGIS 10.1. The graph topological theoretical measure was used to calculate the road connectivity and accessibility of the area. The result shows that 49% of the roads are paved while 51% of the roads in Kogi West Senatorial District are unpaved and in deplorable conditions, rural roads to periodic markets in Kogi West Senatorial district are characterized by preponderances of pot-holes and saddle depressions, too narrow for effective movement at both season of the year and are fairly motor able during rainy season which affects the timely delivery of goods and services in the rural periodic markets in the State, periodic markets in Kogi west Senatorial District are randomly distributed. The calculated Nearest Neighbour Analysis shows an R_n of 1.84 for all the five LGAs of the study areas and the Beta index of all the sampled LGA is less than 1.50 which is not significant enough to promote any reasonable and a significantly rural market patronage in the study areas. It is concluded that the nature and characteristics of rural roads has affected the patronages of periodic markets in Kogi West Senatorial District. The study recommended improvement in rural road connectivity and accessibility in Kogi West Senatorial district.

Keywords: Accessibility and connectivity, Locational Patterns, Periodic Market, Rural Roads.

Introduction

Periodic markets are those markets that meet at interval of days for the exchange of both agricultural and manufactured goods from the urban centers exchange of services, innovations etc. The periodic markets provide a wide range of goods and services to the rural populace which are

sometimes scattered in space. The basic element of periodic market is that they serve as central places that provide goods and services to an area larger than itself. The range of services provided by each periodic market may be extensive or limited, but the function as a service centres is common to all. Most of the Nigerian rural settlements and towns are characterized by periodic markets that serve as useful points for collection and distribution of agricultural and non-agricultural commodities (Haruna, 2010). With effective and well-coordinated transportation, the periodic market facilitates the trading activities between the regions. The presence of good network of road transport is required to link the periodic markets and agricultural producing regions. Agricultural products/goods are traded in the rural villages at a specific interval within the week refers to as periodic market. Each village or clusters villages has a market at intervals of times, the frequency of meeting has provided the basis for classification of markets.

Periodic markets are marketing activities of rural villages which operates on a fixed day of the week. Marketing activities takes place at intervals of days which might be every four, five, six or seven days. The days and place for the market is unanimously determined and fixed by the community or villagers. Most of the days for rural periodic market tend to be fixed in a particular day when the community is free of any activity. Markets are held periodically to coincide with the existing institutions and local traders and consumers who are usually producers could not get to the market anytime (Good, 2003). The location of rural periodic market is sometimes strategically located and one may not be able to state categorically when the market actually comes into existence, most rural periodic markets are as old as the village itself.

The market meets periodically for exchange of goods and services and patronage comes from far and near rural and urban areas to sell and buy goods and services. The periodicity of the market is determined by the frequency with which the marketing activities occur at a given site. Udosen, (2006) in study of periodic market in Akwa Ibom State observed that eight and four day cycles are typical in the state and they serve the bulk-building point of palm kernel, palm oil and local craft. The nature and characteristics of rural roads in most rural villages affect the activities in the rural areas as most of the villages are not connected by paved roads and sometimes cut away completely from the existing rural and periodic markets. There is also acute shortage of road transport vehicles which might have affected the periodic rural markets that are widespread all over the rural villages in Kogi senatorial district.

Several studies such as Oyebanji (1981), Ogunsanya and Ojetola (1993), Aderamo (2007), Aderamo and Magaji (2010), Ayinde (2000), Ayanda (2001), Ibitoye (2010) and Omole (2009), focused on the impact of transport on socio-economic development. Most of these studies on market and periodic market/marketing were carried out in the northern, western and eastern Nigeria. Few studies if any had been conducted in Kogi West senatorial district. Most of the rural settlements are connected by minor and un - paved roads that are impassable during rainy seasons and the affected communities are alienated from other neighboring communities. The roads are un- paved/tarred surface narrow width, clad with pot-holes and improvised bridges of cut-tree trunk. Motorized transport costs are usually very high during rainy season because of poor roads and incessant breakdown of vehicles. As a result of the deplorable conditions of roads, a sizeable number of rural dwellers resort to head porterage, bicycles, pick-up vans and other forms. Marketing activities, movement of agricultural produce as well as urban goods and services are grossly affected, not timely delivery of goods into the rural periodic and urban markets. The cited studies only examine the rural roads and the impacts on marketing of agricultural products and

welfare of the rural dwellers. Therefore, the gap in knowledge identified which the study intends to fill is the impacts of rural roads connectivity and accessibility on patronage of periodic market.

The study addresses the questions of, what is the nature of roads linking rural periodic markets in the study area, what are the distributional patterns of rural periodic markets in the study area and what are the challenges facing the efficient operation of rural periodic market?

Description of Study Area

The Kogi West Senatorial District is located between latitude 7º 9' N and 8º 10' N of the equator and longitude 5º 30' and 6º 10' east of the Greenwich meridian. It is bounded in the North West by Kwara state; South West by Ekiti state and Ondo state, South East by Okehi local government area and North East by Lokoja Local Government Area (Fig. 1). The study area blessed with fertile agricultural land which allows for large scale production of both food and cash crops. The scope of this study is limited to Kogi western senatorial district; (Ijumu, Kabba/ Bunu, Mopa/Amuro, Yagba West and Yagba East LGAs).

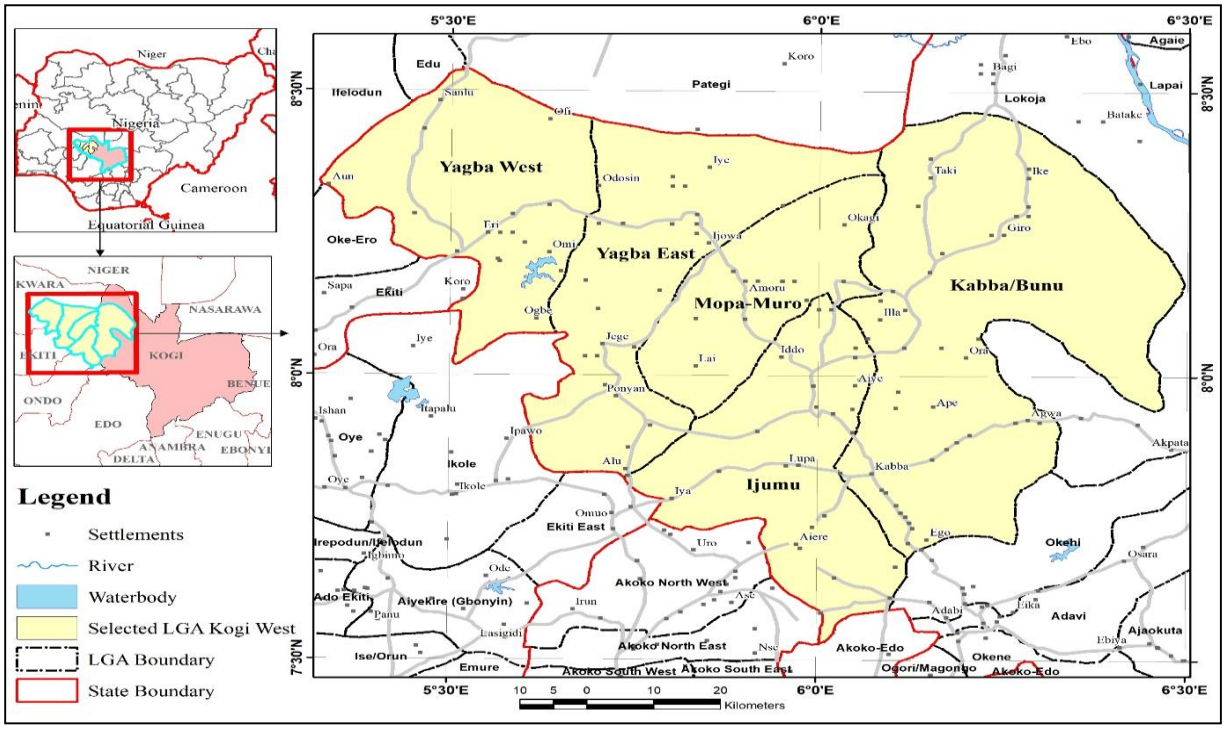

Figure 1: Kogi West Senatorial District Showing Road and selected markets

Materials and Methods

Data were collected through primary and secondary sources. The primary data was collected through structured questionaire which were administered on periodic market days to the buyers and sellers (patrons). The secondary sources from library, the archieves, text books, journals, conference papers and existing literatures complimented the primary data.

Sampling procedure

The random table of random number(two contigency)was used for the selection of rural village markets to ensure fair, even distribution void of bias. Churchil (2001) and Kerlinger (1968) opined that one- third of the total population can be obtained and used for any empirical research. The

rural village markets were arranged aphetically and 1/3rd which constitutes 34% of the total rural village markets were selected for the study**.** The random sampling method was used to select the respondents within each of selected periodic markets on market days using categorization of merchandise in rural periodic markets (Yusuf, 2006).

Sample Size

The sample size for this study was based on the population of estimated traders in Kogi West senatorial district. This was determined using Yamane (1967) formula for sample size

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

Ss = Sample size

N = Total number population of the senetorial district under study.

e =error margin = 0.05 or 5%

The total estimated population of the traders in the study area is 3,330 (Kogi State Ministry of Trade and Commerce 2018). A total of approximately 279 copies of the questionnaire was administered in all, number of questionnaire administered in the village market of each LGAs was proportional to the population

Analytical Techniques

The data were analyzed using descriptive and inferential statistics. The descriptive statistics involved the use of percentages, frequency table. The spatial pattern of period markets was analyzed by importing the geographic coordinates of periodic markets from the excel file into ArcGIS 10.1 environment which was overlaid on the geo-referenced and digitized satellite imagery of the study area then creating periodic market map. Also the spatial pattern of distribution of periodic markets was determined using Average Nearest Neighbour statistical tool in ArcGIS 10.1. The tool measured the distance between each feature and its nearest neighbour's location. It then averages all these nearest neighbour distances. The Average Nearest Neighbour Ratio is given as:

$$ANN = D_O/D_E$$

Where D_O is the observed mean distance between each feature (periodic markets) and its nearest neighbour

D_E is the expected mean distance for features (periodic markets)

The rural road and periodic markets was characterized in term of rural road connectivity and market accessibility by LGA. This was calculated using graph topological theoretical measure in order to make comparisons of selected local government areas over space. The graph theoretical measures are based on: Alpha index: $\propto = \{(E - V + G))/(2V - 5)\}$ 100, Beta index $\boldsymbol{\beta} = E/V$, Cyclomatic Number: C= E- V+ S and Gamma: $\boldsymbol{\gamma} = E/\{V - 1/2(V - 1)\}$.

The Shimble binary connectivity matrix was used to show the connectivity and accessibility of periodic markets by LGA. The selected periodic markets used as vertices and roads/links as edges.

The challenges of rural roads by respondents in the study areas was examined using a descriptive technique involving Relative Importance (RII) was used to examine the challenges of rural road users to periodic markets. Responses to the challenges were ranked using the formula: Relative importance index (RII) = Sum of the Weights (W1+W2 +W3 +.....Wn/A x N, where W =

Weights given to each challenge by respondents ranges from 1 to 5, A = highest weight (i.e 5 in this case), N= total number of respondents

Results of the Findings

Demographic Characteristics of Respondents

The demographic characteristics of the respondents such as, sex, age and marital status, religion and educational levels of the respondents in the study area were discussed.

Sex distribution of respondents

The sex distribution of the respondents is presented in Table 1
Table 1 shows that majority of the traders were females which accounted for 74.2% of the traders while 25.8% were males. Generally, in the study area marketing of agricultural commodities is largely carried out by females while males engaged in production.

The age distribution of respondents revealed that highest proportions of 70% were of age ranges of 31-40 years, followed by traders that were of age ranging from 41-50 years, 28% and least 2% were of ages of 21-30years. Majority of the traders are found within the middle age and are still active to participate actively in productive activities. This might likely accounts for the reason why traders attend two or more periodic markets within the study area.

Table 1: Sex Distribution of Respondents

LGA	Male	Percentage (%)	Female	Percentage (%)	Total
Ijumu	15	21	42	20	57
Kabba/Bunu	18	25	52	25	70
Mopa/Amuro	12	17	33	16	45
Yagba East	14	19	41	20	55
Yagba West	13	18	39	19	52
Total	72	100	207	100	279

Source: Field Survey, 2018

Nature of Existing Rural Roads Linking Periodic Markets

There are several roads connecting rural villages and periodic markets in the study area. The classes of roads identified in the study area are motor able paved roads, motor able un- paved earth roads and foot paths. The motor able paved roads connect the settlement, headquarter, big or organized period market among these roads are Ayetoro- Ayegunle, Iyara – Iyamoye, Okoro – Ayetoro, Kabba –Ayede, Okebukun – Kabba, Egbe – Isanlu, Isanlu – Oke eri. The un tarred/earth roads include Okoro –Ayeh, Odokoro – Iyara, Amuro – Okedayo and Iluke Akutupa among others. These classes of roads are not motor able throughout the year and connect interior villages to the existing rural markets. The third class of roads is the footpaths that connect rural settlement and passable to motorcycles and bicycle. They include Ayeh- Ayede, Agrigbon – Araromi, Otu egbunbe – Kabba. There are several other minor foot paths that link the settlements to farms. The total length of roads in kilometers by LGA is shown in Table 2

Table 2: Total length of Existing Paved and Unpaved Roads in kilometers by LGAs

LGAs	Total Length	Length of Paved	%	Length of un-paved	%
Ijumu	145	103	71.0	42	28
Kabba/Bunu	202	30	14.9	172	85
Mopa/Amuro	107	48	44.8	59	55.2
Yagba East	147	109	74	38	26
Yagba West	131	69	52	62	47
Total	732	359	49	373	51

Source: Field Survey, 2018

Table 2 reveals that 49% of the roads are paved while 51% are unpaved roads. The Table 2 revealed disparities in the level of road provision and development. The implication of the disparities in development affects the patronage of periodic markets. Settlement and periodic markets linked with paved roads (Yagba East and Ijumu) are likely to be patronized by traders and commuters because of connectivity and accessibility than those linked with unpaved roads.

Spatial Distribution of Periodic Markets

The study analyzed the spatial distribution of periodic market importing the geographic coordinates of periodic markets from the excel file into ArcGIS 10.1 environment which as was overlaid on the geo-referenced and digitized satellite imagery of the study area and the periodic market map was created as shown. The imported geographic coordinates were used to calculate the Nearest Neighour analysis for the study areas. The Nearest Neighbour technique was used to calculate the distributional patterns of periodic markets in order to determine whether the markets are clustered, random or regular.

Composite Nearest Neighbor was calculated for the area, the result show an R_n of 0.60 and Z-score of -2.94 for all the five LGAs of the study area (Table 4). This implies a tending toward random distribution of periodic markets in the study area. The finding of this study is in line with that of Mulaiamani (2000) in Raich District of India using the Nearest Neighbor analysis and obtained R_n value of 1.74. The study area is characterized by dispersed isolated settlements lined by secondary unpaved roads and dominated by primary activities of farming. Therefore, the random distributions of market is as a result of physical and socioeconomic characteristics of the study area. Since places are not equally endowed in term of resources, economic activities tends to developed in areas of better opportunities of resources which had accounted for the random distribution.

Table 5.: Composit Nearest Neighbour Analysis

Observed mean Distance	Expected mean distance	Nearest neighbor ratio	Z-score	P-value	Study area in Km^2
6771.9409	11241.3435	0.602414	-2.945831	0.003221	75820.6825

Source: Field work 2018

Rural Road Network connectivity in the study Area

The road network connectivity and accessibility over space for the five Local Government Areas viz Ijumu, Kabba/Bunu, Mopa/Amuro, Yagba East and Yagba West was analyzed and comparison on the connectivity and accessibility was made. The graph theoretical technique was used to measure and compare the network connectivity and accessibility of the sampled LGA. The topological map of each LGA was produced to calculate the Alpha, Beta, Gamma and Cyclomatic index by LGAs. The maps are shown in Figures 3 – 7.

The road network connectivity of Ijumu LGA show a total number of 14 vertices and 13 edges, Kabba/Bunu with 13 vertices and 12 edges, Mopa/Amuro has 9 vertices with 10 edges. The Yagba East LGA had 13 vertices and 15 edges while Yagba West indicates 10 vertices and 10 edges. The connectivity for each LGA was calculated using the Alpha, Beta, Gamma and Cyclomatic Index as depicted in Table 6.

Table 6: Road Network connectivity by LGA

LGA	Alpha Index	Beta Index	Gamma Index	Cyclomatic Index
Ijumu	0.56	0.93	0.35	1
Kabba/Bunu	0.61	1.0	0.39	1
Mopa/Amuro	0.73	1.10	0.45	1
Yagba East	0.76	1.23	0.48	2
Yagba West	0.80	1.20	0.50	1

Source: Field Survey, 2018.

Table 6 shows the road network indices of the LGA in the study area, using the Beta index the most connected LGA is the Yagba East with 1.23 while the least connected is Ijumu LGA with 0.93. In Cyclomatic index of road connectivity Yagba East recorded the highest of 2 while others recorded 1 each.

According to United Nation Center for Human Settlement (UNCHS) that stated that rural road network with Beta index of at least 1.50 is capable of supporting consistent development. The Beta index of all the sampled LGA is less than 1.50. Therefore, the beta index for the LGA is not significant enough to promote any reasonable and a significantly rural market patronage in the study areas. It is therefore necessary to develop and promote rural roads throughout is sampled LGA of Kogi West Senatorial District.

Connectivity and Accessibility of Rural Periodic Markets

The road network connectivity was used to produce the market connectivity and accessibility to periodic market for each LGA. The Shimble binary matrix was used for the periodic markets in the five LGAs, markets denoted with vertices and road to the markets as edges. The Shimble binary matrix indicated that if there is connection between markets it is marked **1** and non-connection is **0.** The road connectivity for each LGA is analyzed as follows.

The binary connectivity of Ijumu LGA was constructed using 14 periodic markets of Iyara, Ogidi, Eggedda, Ekirin Adde, Iyamoye, Odokoro, Okoro, Ayeh, Ayegunle, Iyah, Ayetoro, Iluhagha and Iluafon periodic markets. The binary matrix for the LGA revealed that the periodic markets of Iyara, Iyamoye, Ayegunle and Ayetoro were found to be more connected and accessible to

traders. The result also reveals that 29% of the periodic markets have direct links with three (3) other markets, 57% have direct links with two (2) markets while 14% have one (1) direct links with other markets. This may probably reflect on the patronages of the periodic markets in the LGA. This is in line with Christaller's principle and Fasakin, (2017) stated that the node with the highest number of markets connected is said to be most connected, accessible and patronized. The markets connectivity and accessibility of Kabba/Bunu LGA, thirteen (13) periodic market of Kabba, Okebukun, Ayegunle Igun Ayede Opa Olle, Igbo Iluke Ofere, Ihale, Taki, Suku, Ayetoro Kiri and Ike. The binary connectivity matrix was used with **1** stand for connection and **0** if no connection between two village markets. The result of the connectivity matrix shows that 23% of the markets are directly linked to three (3) other markets followed by 50% of the periodic markets have two (2) links with other markets while 23% have one (1) link each with other markets. The markets of Olle, Iluke and Ofere are the most connected and accessible markets in Kabba/Bunu LGA. The least connected and accessible markets are the periodic markets of Ayegunle Igun, Taki and Ike. Therefore, in Kabba/Bunu LGA of Kogi West Senatorial District, Olle, Iluke and Ofere markets are the most connected and accessible and are likely to be the most patronized periodic market in the LGA with equal ease and opportunity of movement traders/consumers aim to minimize distances travel to obtain good and services.

The connectivity matrix of markets of Mopa/Amuro LGA was considered using ten (10) periodic markets of Mopa, Ayedayo, Takete idde, Okagi, Ayede Amuro, Ijowa, Okega Illah and Otafun. The result revealed that 22% of the markets have 4 links with other periodic markets, 56% have links with 2 other periodic markets while 22% have links with 1 periodic market each. The periodic markets of Okagi and Ayede Amuro have the highest connectivity index of 4. Therefore, Okagi and Ayede Amuro markets are the most connected and accessible. The least connected and accessible periodic markets in the Local Government Area are Illa and Otafun markets. These may likely be the most viable and accessible route to traders in terms of patronages and movement of goods and services to markets.

A total of thirteen (13) periodic markets were used for market connectivity matrix of East Yagba LGA. These markets are Alu, Oranre, Ifeolukotun, Poyan, Ejuku, Jege, Takete shu, Ogbomo, Ogga, Idofin, Mokutu Isanlu, Aye and Odogbo periodic markets. The connectivity matrix for the LGA revealed that 8% of the periodic market have 4 links with other markets, 15% have link with 3 other periodic markets while 77% have link with 2 other markets. The connectivity matrix revealed that the market of Jege is the most connected and accessible market in Y/East LGA. The result also reveals that there is no market in the LGA with less than one (1) link to other markets. The markets are 5days, 7days cycle as well as estimated patronages of markets which are likely due to high connectivity and accessibility of the markets. The connectivity road network is shown in figure 6.

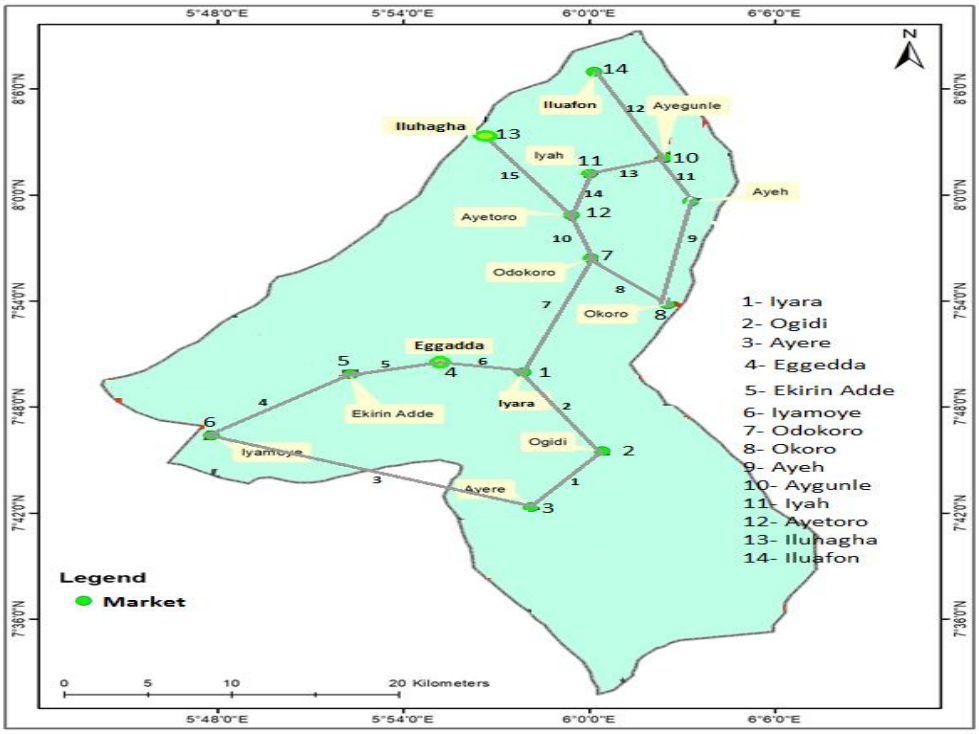

Figure 3: Road connectivity Graph of periodic markets in Ijumu LGA

Source: Field Survey, 2018

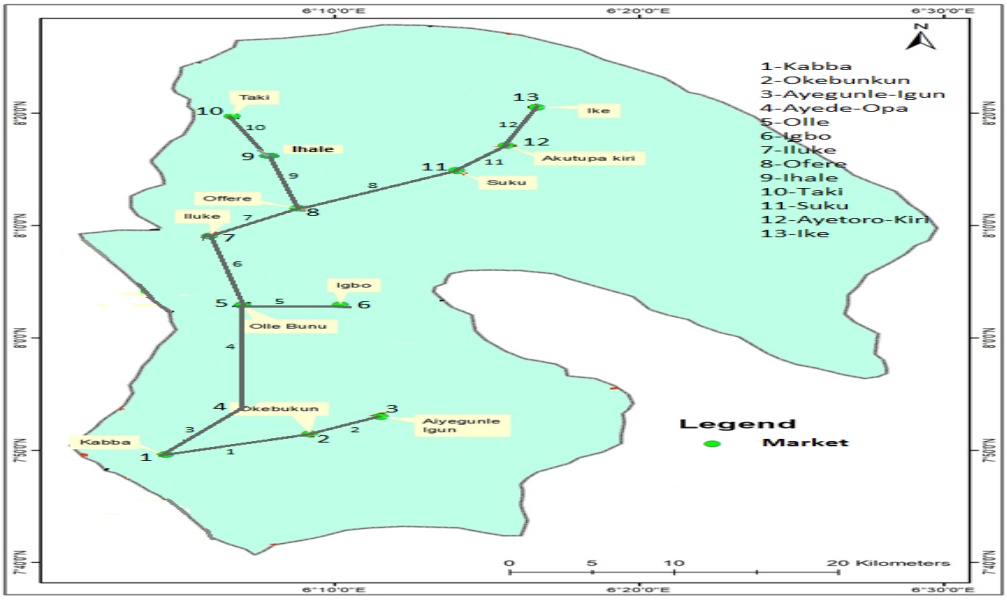

Figure 4: Road connectivity Graph to periodic markets in Kabba/Bunu LGA

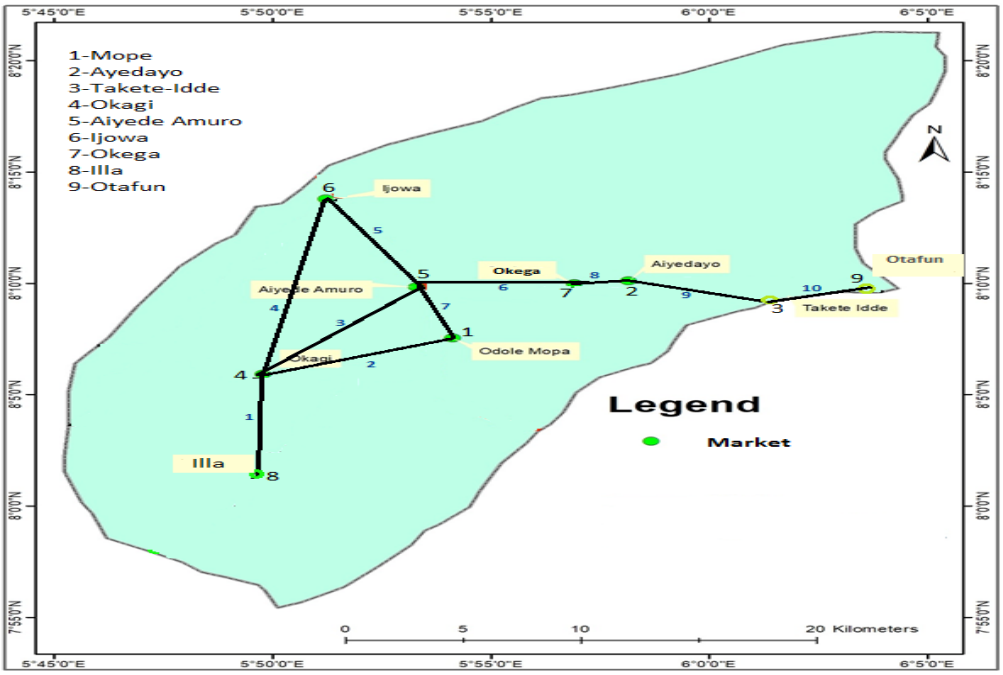

Figure 5: Road connectivity Graph of Mopa/Amuro LGA
Source: Field Survey, 2018

A total of thirteen (13) periodic markets were used for market connectivity matrix of East Yagba LGA. These markets are Alu, Oranre, Ifeolukotun, Poyan, Ejuku, Jege, Takete shu, Ogbomo, Ogga, Idofin, Mokutu Isanlu, Aye and Odogbo periodic markets. The connectivity matrix for the LGA revealed that 8% of the periodic market have 4 links with other markets, 15% have link with 3 other periodic markets while 77% have link with 2 other markets. The connectivity matrix revealed that the market of Jege is the most connected and accessible market in Y/East LGA. The result also revealed that there is no market in the LGA with less than one (1) link to other markets. The markets are 5days, 7days cycle as well as estimated patronages of markets which are likely due to high connectivity and accessibility of the markets. The connectivity road network is shown in figure 6.

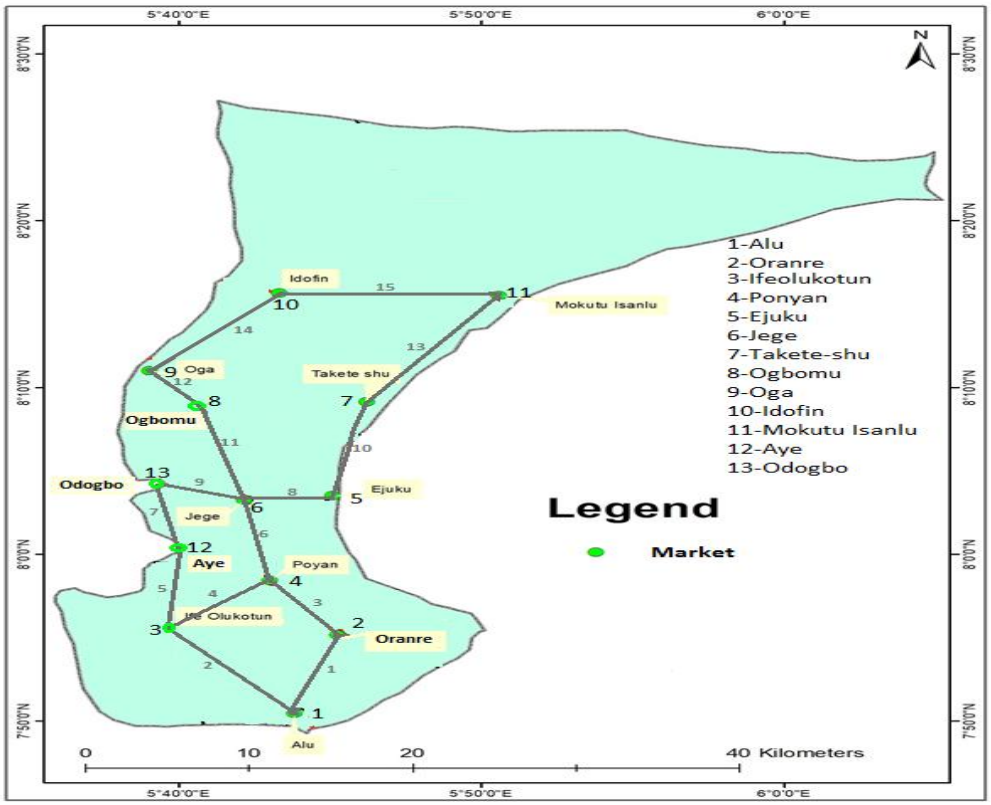

Figure 6: Road connectivity Graph of Yagba East LGA
Source: Field Survey, 2018

The ten (10) functional periodic markets used for connectivity matrix are Egbe, Okuran Odo Ere, Iyamerin, Gbaruku, Ogga, Ejiba, Odo Eri, Okoloke and Isanlu for Yagba/ West LGA. The total number of vertex/nodes used for the connectivity matrix was 10 which revealed that 30% of the periodic markets have 3 links with other markets, 40% have 2 links with other markets while 30% have 1 link with other periodic market. The markets of Odo – Ere, Odo – Eri and Gbaruku have the highest connectivity matrix indices of 3 these markets are the most connected and accessible markets in Yagba West LGA. These markets are likely to be the most patronized by traders in the LGA. The connectivity road matrix for the LGA are shown in figure 7.

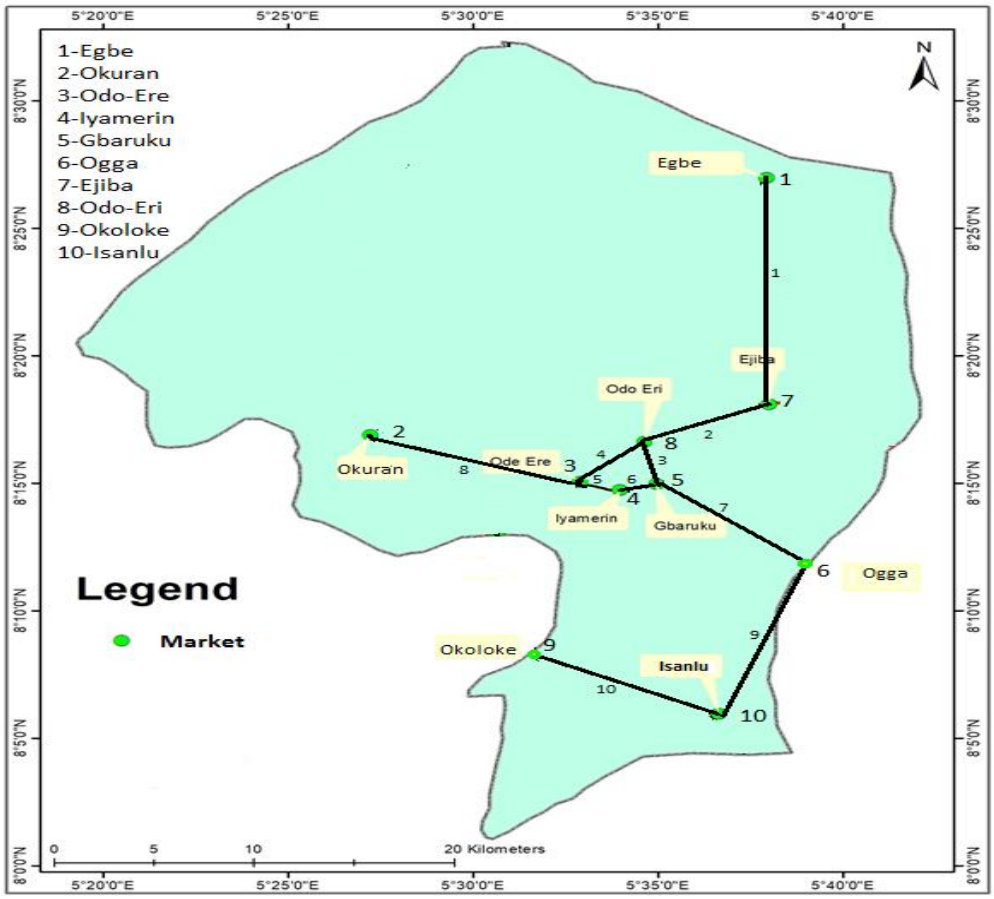

Figure 7: Road connectivity Graph of Yagba West LGA
Source: Field Survey, 2018

Patronage of periodic Markets by traders

Periodic markets in the study area are patronized by traders (sellers) from the surrounding villages that attend markets to dispose their agricultural produce as well as buyers from within and outside the local government or outside the state. This is shown analysis by LGAs in given in Table 7.

The patronage of the periodic markets by traders in each of the sampled LGAs that make up Kogi West Senatorial District were analyzed as in Table 7 the analysis shows that Mopa/Amuro have the highest members of traders 42% that attend the periodic markets from the surrounding villages of the settlements where markets are located. Also, Yagba East with 42%, Yagba West 41.2%, kabba/Bunu 39% and Ijumu local government with 37%. The attendance of periodic market in the sampled local government is 40% of the attendances of rural periodic markets come within the surroundings villages due to poor accessibility. The data also revealed that 29% of patrons are within the LGA, 19% attendance comes from outside the local government while 13% patrons come from outside the state. The study shows that connectivity and accessibility of the sampled LGA markets are low less than 1.50 that could encourage patrons into the markets. After all, region that is richly endowed in resources may be poorly developed if it is not close to other areas in term of efficient transport to market its produce (Rapu, 2002).

Table 7: The Patronage of periodic Markets by traders

LGAs	Surrounding villages	Within LGA	Outside LGA	Outside State	Total
Ijumu	21(37%)	13(23%)	12(21%)	11(19%)	57
Kabba/Bunu	27(39%)	21(30%)	20(29%)	2(2%0	70
Mopa/Amuro	19(42%)	13(29%)	10(2%)	3(7%)	45
Yagba East	23(42%)	16(29%)	9(16%)	7(13%)	55
Yagba West	21(41%)	18(35%)	3(6%)	11(21%)	52
Total	111(40%)	81(29%)	54(29%)	27(10%)	279

Source: Questionnaire Survey, 2018

Challenges of Traders in Patronizing Periodic Markets

Traders faced a lot of problems in patronizing the rural periodic markets in Kogi west senatorial district; problems encountered by traders in attending the rural periodic markets as depicted in Figure 8.

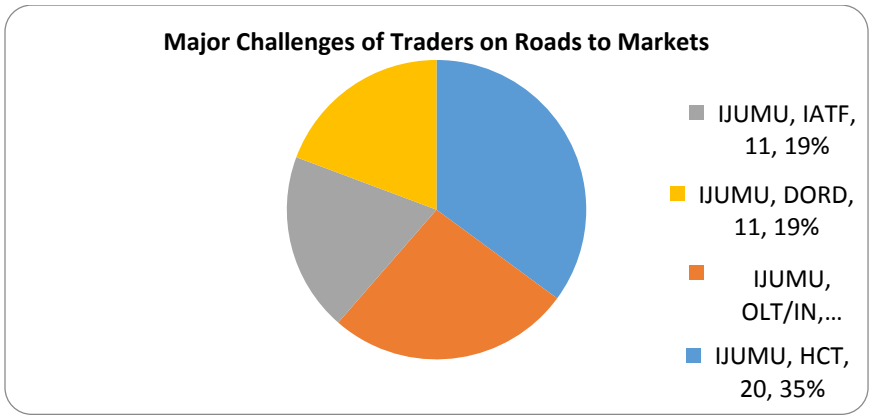

Figure 8: Major challenges faced by traders in attending periodic markets
Source: Field survey, 2018

KEY
High cost transport (**HCT**), Overloading/ inconvenience / condition of roads (**OLT/IN,** Inadequate means of transport facilities (**IATF**), Delay of Roads/ Breakdown of vehicles (**DORD**).

Figure 8 reveals that the major challenges of the traders in attending the periodic markets in the study are High cost transport, Overloading/inconievence/condition of roads, Inadequate means of transport facilities and Delay of Roads/ breakdown of vehicles. High cost of transport accounted for 35% of the problems faced, Overloading/ inconvenience / bad condition of roads accounted for 27% while inadequate means of transport facilities and Delay of Roads/ breakdown of vehicles. High cost of transport accounted for 19% respectively. This means that in Kogi West Senatorial District traders pay very high to attend the periodic markets.

Conclusion

From the findings, the study shows that there are evidences of deplorable conditions of unpaved rural roads, low patronages, connectivity and accessibility of rural Periodic markets in Kogi West Senatorial District. Therefore, it can be concluded that the nature and characteristics of rural

roads has affected the patronages of periodic markets in Kogi West Senatorial District. Therefore, there is need for improvement in rural roads network of Kogi West Senatorial District in order to facilitate patronages of rural periodic markets which will help to promote living standard of the agrarian communities and tap the rural resources efficiently.

Recommendations

Based on the findings of the study, the following recommendations are made;

i. The patronage of rural periodic markets in Kogi West Senatorial district can be improved with the more connectivity and accessibility of the periodic markets.

ii. The rural markets with feeder and minor roads should be connected with paved roads. This should be handled by both communities and Local Government Department of works as accessibility of the markets will increase patronages of the markets and enhance the marketability of rural resources.

iii. The Local Government Areas should embark on Rural Mass Transit (**RMT**) and encourage the use of Intermediate Means of Transport (**IMT**) by farmers to move produce within rural markets at cheaper rates. The Government assisted Rural Mass Transit will enhance more flow of passengers from the headquarters periodic market to the isolated periodic market in the villages.

iv. Private – Public participation should be involved in the Construction/ reconstruction, rehabilitation and maintenance of rural roads connecting settlement and periodic markets in Kogi West Senatorial District.

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