DISTRIBUTION OF SETTLEMENTS AND COMMERCIAL AREAS ALONG ZARIA – SOKOTO HIGHWAY, NIGERIA

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ABSTRACT

This study examined the pattern of distribution of Settlement and Commercial areas along Zaria – Sokoto Highway, Nigeria**.** Primary and secondary sources were used to elicit for information from respondents using questionnaire and direct field observation using the purposive sampling method to administered 300 copies of questionnaire in the survey settlements and commercial areas. Descriptive and inferential statistics were used to analyse the information. The study revealed that 38% of the respondents are engage in farming activities. Results also showed that 52% of the respondents had migrated alone to Zaria – Sokoto highway. Sixty – eight percent (68%) of the settlements grew as a result of road maintenance of the 400km Zaria – Sokoto highway around point where facilities and activities like markets, road junction, trading and commercial areas were located The main reasons for expansion of these settlements along the highway includes natural population increase, migration, increasing social activities and commerce. The result revealed that Settlements and commercial areas pattern of distribution are linear. The P – value is less than 0.05, which implies that there is significant differences on the role of road maintenance and rehabilitation on commercial activities and growth of settlement in North Western part of Nigeria. It was therefore recommended that social welfare facilities and more security should be provided to enhance quality of live and protect properties of people along Zaria - Sokoto highway.

Keywords; Change, Commercial activities, Maintenance, Growth, Distribution, Highway and Settlements.

INTRODUCTION

Transport development is a catalyst to socio-economic growth and development, which plays an important role in territorial administration; and socio-political integration. The major road transport infrastructure in Nigeria covered up to 32,000 km of Federal highways including seven major bridges across the Niger and Benue Rivers, the Lagos ring road, the third mainland axial bridge; 30,500 km of state roads; and 130,000 km of local roads (Buhari, 2000). A good network of rural roads is very important to rural development. This is because without roads, the provision of other infrastructure becomes extremely difficult, if not impossible. Once a road is provided, other facilities are likely to follow.

In Nigeria, rural settlements are areas having less than 10,000 people, deprived of transport and other infrastructural facilities compared to the urban areas (Akinola, 2007). Good road lowers the cost of transport, and invariably the lower the cost of goods and services distribution. It also reduces the time of moving goods and services to where they can be used more efficiently, road development add value and spurs growth. A good road network results in increasing the size of markets which is a precondition for realizing economies of scale. Good road projects clearly contribute to poverty reduction by improving the living conditions of people and by augmenting the opportunities available for trade and employment (Clement, 2009).

Highway is reported by Gerald and Kathleen (2005), as any public street, road, or canal which any member of the public can use, guided by laws and a license to operate a vehicle. Highway construction and rehabilitation are highly capital intensive projects that can depicts the financial resources of government. Investment on highways has usually been thought of as a quick way of strengthening the economy, as well as increasing political and administrative control of a region (Wong and Luk, 2003). Highway development however; remains a very important component of rural access. Commerce is interactions, exchanges, interrelated activities, and movements back and front, for example, travelling, social connection, or conversation of trade and economic activities between persons or peoples (Tiendung, Carlos, Edward, and Micheal,, 2009).

The economic development of Nigeria has reflected the development on the transport systems. This is particularly true of the road transport system, which is by far the most widely used mode of transport in the country. The vast majority of transportation in Nigeria is by road. Today, road transport accounts for more than 90% of the country's goods and passengers movements. This was further reaffirm by Onakomaiya (2012), that of all commodity movements to and from the sea-ports, at least two-thirds are now handled by road transport, while up to 90% of all other internal movements of goods and persons take place by roads.

The potential significance of road development for investment, trade, growth and poverty alleviation has long

been recognized. Not only does road transport infrastructure facilitate the direct provision of services to consumers, it also provides intermediate inputs that enter into the production of other sectors and raise factor productivity. As such, its role toward enhancing economic growth and diversification cannot be underestimated.

The Directorate of Food, Road and Rural Infrastructures (DFRRI), (PTF) and Federal Road Maintenance Agency (FERMA) were established in Nigeria to construct, upgrade and resurface roads to connect settlements and activity places. These strategies used for development of road provide tangible and intangible advantages to people and settlements existing along the corridors of road in and outside Nigeria (Musa *et al*., 2012). Highway development can be viewed as an integral part of the national transportation system, so various hierarchies of routes and movement patterns (either rural-rural or rural-urban) are identifiable. Although highway is essentially a federal road, the assumption in this study is that it should have some effect on settlement growth, the economy and the cultural life of the rural communities adjacent to the road.

The development of road (Trunk, A, B and C) as an infrastructure in Nigeria remains a priority because of its effect on people and settlement growth. The Abuja-Sokoto highways permits movements of major volume of traffic, petroleum and related industrial products and agricultural produce. Isa and Falola, (2011), examined road transportation and development of which they reported to have significant effects on the surrounding environment in several ways

Musa (2007) studied the role of improved road development on agricultural produce marketing in greater Zaria, Northern Nigeria, correlation was used to test the significant

relationship between distribution and cost of transportation, road condition and delivery time.

Usman (2006) examined rural response to road development: a case study of Kaduna – Abuja expressway. The study addressed occupation of the people, pattern, size and location of settlements, commerce and security.

Zaria – Sokoto road have been in existence over fifty - two (52) years. In 1997, Zaria to Sokoto Way was rehabilitated and Improved at different time period to become major highway in Nigeria linking the South and Eastern part of Nigeria to Northwest. The linkage has brought lots of changes in settlement growth and pattern, commerce, agricultural marketing, migration and population growth. This is a motivation for the conduct of a research of this nature. Thus, this study is set out to explore the distribution of settlement and commercial areas along Zaria – Sokoto Highway, Nigeria.

The Study Area

The study was carried out on federal road located in North West geopolitical zone of Nigeria between latitude $8^0.0"$ N and $13^0\, 0'$ N and longitude $4^0\, 0'$ E and $11^0\, 0'$ E. Figure 1. The Zaria-Kaduna- Abuja is a dual carriage highway while Zaria – Funtua - Gusau-Sokoto is a single carriage highway. The route passes through Niger, Kaduna, Katsina, Zamfara and Sokoto states respectively as shown in Figure. 1.

The Zaria - Sokoto single carriage way is a Federal Trunk A road which run from Sokoto through Zamfara, Katsina, Kaduna, Niger state respectively, to Abuja, the Federal Capital. The length of Sokoto-Zaria is 400Km. The maintenance of the roads was completed in 1997. The Zaria - Sokoto highways have become one of the busiest roads with high traffic in the nation. Products such as grains, tomatoes, onions and cattle are transported from this region to the east and southern part of Nigeria

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This road from Sokoto pass through Kaduna both political capital of the north and also a huge economic centre of its own and Abuja doubles as both the Federal Capital City and the political nerve centre of Nigeria.
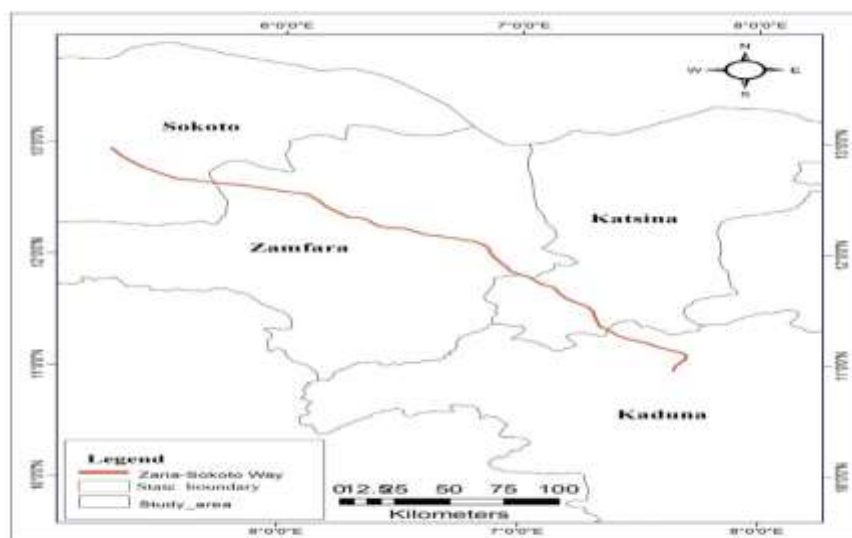

Fig. 1: Study area

Source; Modified from Administrative Map of Nigeria (2018).

The Zaria-Sokoto Highway, the area of study, stretches into both the high density zones at the Kaduna end and the low density zones of the Federal Capital territory. It is important to note that the Federal Capital territory is a latter development due to the development of the capital city of Abuja.

The North West Highway falls within the central High Plains of northern Nigeria. The North Central Plateau reaches its highest peak in Jos Plateau, which is above 1800 meters above sea level. Most of the rivers draining this region lying north of the Niger-Benue Trough. The central highland is a land of contrast, of open flat valley sections alternating with gorge section in the case of Kaduna river.

The highways passed through four (4) states in North West Nigeria, namely; Kaduna, Kastina, Zamfara and Sokoto States, with a total population of 22851408 (NPC, 2009). Some of the major ethnic groups and their homelands have been identified and located. Population densities are not evenly spread either. There are three areas of high population densities.

The dominant economic activity of the area of study has been agriculture. Agriculture is part of the mainstay of the Nigeria economy. The extent of farming, mostly traditional agriculture, evident in the quantity of both food and commercial crops produced in this region. Food crops such as maize, millet, beans, rice, sweet potatoes, yams are abundantly available. Cash crops such as groundnuts, ginger, sugar cane, vegetables, cassava, and the like are equally abundantly available. Fishing, hunting and cattle rearing are also other economic activities that are found in the region. Pottery and weaving are two important activities that are dominated by women in this region.

The most widespread of the people inhabiting the region are the Fulanis and Hausas. The rural settlements along the highways are separated with farmlands and fuel stations. In the state capitals of the region, increasing demand for farmlands has led farmers who have intention for cultivation of farmlands which may be at a distance in kilometre from the town. These have given rise to building of houses and construction of modern farms where animal husbandry and cultivation of crops such as; cereals, legumes, fiber, root and tubers and vegetables are done on the lands.

METHODOLOGY

A reconnaissance survey was carried out to acquaint the with the study area. During the exercise observation were made on the commercial areas as well as the commercial activities taking place in the study area. Twelve settlements and commercials areas were identified along Zaria – Sokoto highway. They are Samaru, Mil – Goma, Shika, Giwa, Funtua, Mairuwa, Sheme, Tsafe, Kwatarkwashe, Maru, Talata Mafara and Dange were used for this tudy.

The types of data used include administrative road maps of Nigeria to show the positions road and information of major commercial areas such as periodic, major markets and retail points, settlements locations from the road. The exercise involved the use of structured questionnaire that contain both open and close-ended questions to elicit information from the respondents. The researcher administered three hundred (300) copies of questionnaires to respondents, purposive sampling method was used to administer twenty five (25) copies of questionnaires in each of the settlement and commercial areas. Equal number of questionnaires were administered purposively in each area because the population figure was not available at the time of this study. The questions asked include; the socio-economic characteristics of the people, social infrastructure available in the area; background information of the study area, changes that have

occurred in the area before and after the road was constructed, focusing on changes in settlement expansion, agricultural production marketing, commercial activities and social infrastructure.

Also an in-depth interview of the Heads of household and mai Ungwans was carried out to ascertain the present condition and status of their infrastructures, commercial activities and settlement growth. Inventory of business activities and socio-economic infrastructure such as farm produce selling, provision shops, trading in local crafts, tailoring activities, saw mill, fuel wood selling. An inventory of socio-economic infrastructure which includes schools, hospitals, health centres, cinemas, viewing centres, police stations, courts, and fuel stations were documented.

The secondary data were obtained from relevant government ministries and agencies. The ministries concern are Ministry of Lands and Housing, Ministry of survey Ministry of Works and Transport, Secretariat of the concern local governments. Other relevant information were sourced from published and unpublished texts, books, conference papers, articles, journals, internet, publications from World Bank, National Institute for Social and Economic Research (NISER). Information gotten from these sources was used to develop, improve, support literature reviewed and field data for this study.

The non – inferential statistical tools such as tables, pie charts and bar graphs were used to summarise information obtained from the field using Micro Soft Word, Micro Soft Excel 2013 and descriptive method was used in explaining the result. To map commercial areas and settlements along the study area, personal hand held Global Positioning System was used to record the point coordinate locations. This information was change to the format that was recognised in excel file. Arc GIS 10.0 was used to produce the maps.

RESULT AND DISCUSSION

The male is not only the explorer but also known to always want to subdue his environment. He is seen to be dominant in the quest for knowledge and even in the game of risk taking. In the African culture and many cultures of the world too, the male are more engage in commercial activities than female. More because they can stay outside late and have the ability to engage in agricultural produce marketing and patronized periodic markets that are located far away from their residents using different means of transport available on the highways. Figure 2 present the gender distribution of respondent in the study area
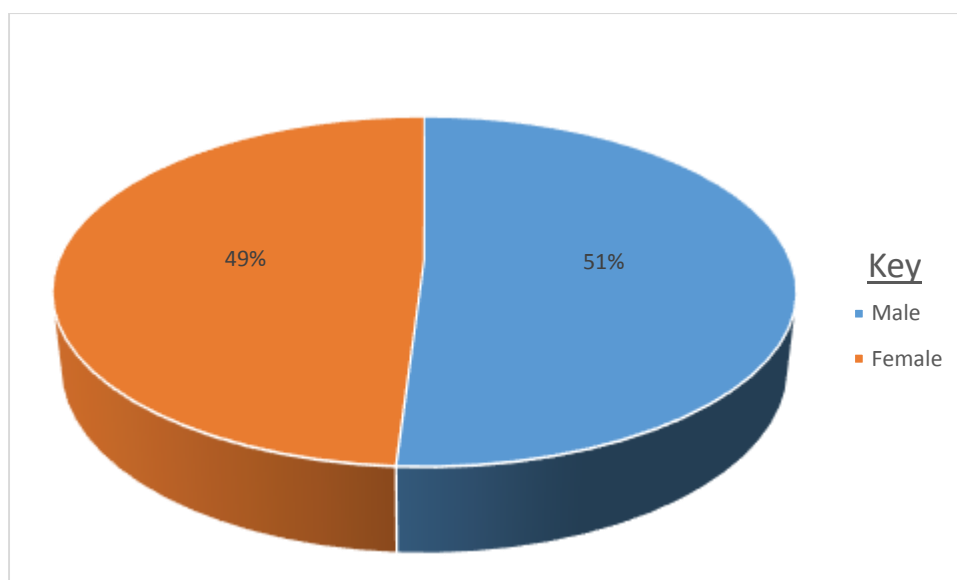
Fig. 2. Gender Distributions
Source: Author's Analysis (2018)

The male respondents were readily available to answer the questions asked across the settlements due to some religious and ethnic believe of the respondents in this part of the country, Figure 2.The male is recognized as the head of the house unless were dearth has taken the man or separation and/or divorce is involved and the female will be seen to play the leadership role. The female who responded to the questions were the singles, widowed and non -natives of the area from oral interview. This is in line with the work of (Usman, 2006) which revealed that majority of respondents are male.

Educational Level of Respondents

The respondents living along Zaria – Sokoto settlement and commercial areas had different levels of educational attainment. Table 1.

Table 1: Distribution of respondents by Educational Attainment

Level	Frequency	Percentage
Islamic	85	28
Primary	55	18
Secondary	93	31
Tertiary	47	16
Others	20	7
Total	300	100

Source; Author's Analysis (2018)

From Table 1, it revealed that 31% of the respondent had obtained secondary school certificate while 7% of the respondent obtained other form of educational qualification. This implies that respondent along this road have some level of educated. . This is in line with the work of Gyoreng (1991) findings which report that attaining some level of education make it easy for communication and making daily transactions easy.

Table 2: Occupation of Respondents

Occupation	Frequency	Percentage
Farming	115	38
Wood Selling	31	10
Trading	44	15
Hand Work	23	8
Commercial Motorcycle	87	29
Total	300	100

Source; Author's Analysis (2018)

Occupation of Respondents

People who indicated different activities as their main occupation has changed since the Zaria - Sokoto highways. It is important to point out that some respondents engage in more than one occupation as farming is the main activity found in some settlements that are rural areas. Some respondents farm during the raining season and operate commercial motorcycle, wood selling when they return from the farm or during the dry season

The results indicated that Individuals engage in other occupation to support their main primary occupation. 38% of the respondents engage in farming activities while 8% of the respondents are engaged in hand work. A new dimension of variety of occupation that had been introduced into these settlements were hawking in petroleum products and the sale of firewood and/or charcoal. This is in consonance with a report by Kaduna Agricultural Development Project (KADP) (2011) which states that people depend on agricultural activities as supplement to main occupation for food and increase their income.

Migration of respondents to the Road side
Migration is the major process that has increased population and growth along the road under study. Movement of human being from one location to another for the purpose of finding farmlands, trade and or dwelling place is an old age practice (Usman, 2006). People move for various reasons. Some people move to find safety, others for economic reasons and yet others for spiritual or aesthetic values. A summary of the nature of movement to the road is presented in Figure 3
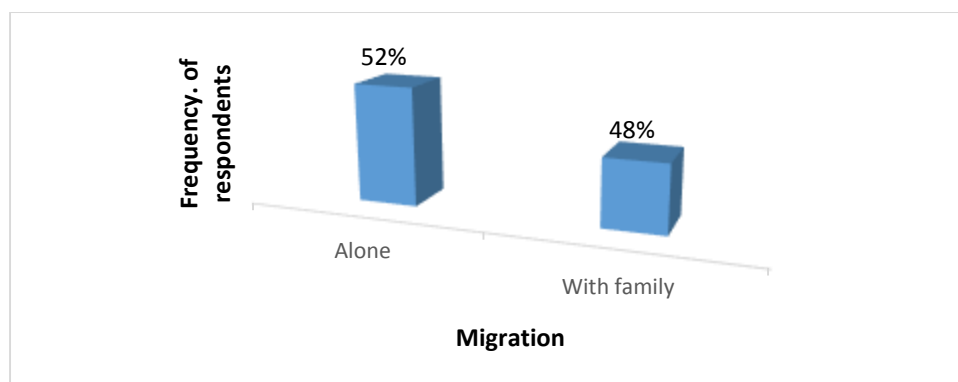

Fig. 3. Migration of respondents to the road
Source; Author's Analysis (2018)

In figure 3, 52% of the respondents indicated that they are migrants who came alone, while (48%) of respondents are migrants who came along with their family to the road corridor. The road dualisation and rehabilitation had drawn movement and settlements to corridor of the highways. It also encourages development of transport infrastructure such as motor parks which brings revenue to local and state governments. Some respondents explained that when they first arrived, they did not have enough resources to build the kind of houses they would have loved to live in.

After the road rehabilitation, the economy improved, as a result of good accessibility, increased agricultural yields, new trades and so the need for better accommodation was addressed. People also migrated from their isolated hamlets to the road side to form the new settlements which results to growth of settlements that emerge along the road. The results of this study is in conformity with the findings of (Musa, et al., 2012) work revealed that 62.8% of the people living in present settlements along the Katsina-Maradi trans-border road have migrated from old settlementsthat people migrate from old settlement to the road side.

Commercial Areas and Settlements along the Study Area
Commerce is the exchange or buying and selling of commodities on a small or large scale between different people, places or communities. The commodities, goods and items of trade in settlement along Zaria - Sokoto Highways includes: Maize, Millet, Beans, Rice (local), Yam, Irish/sweet Potatoes, Sugar/milk, Cosmetics / Drugs, Soap, Detergents, Plastics, Ceramics, Communication Products, Ply-wood, Furniture, Fuel-wood, Agro chemicals, Cement,

Vehicular Spare parts, Sheep, Goats, Cattles and Belgium Vehicles
Continuous movement of people increases the commercial activities and patronage of people with towns along the road. The type of commercial products or trade posts carried out along the study area at market places, leventies stores, super stores, road side plazas, bus stops, under or by the side of overhead bridges and by T-Junction to major towns as shown in Figure 5.
Movement of people, goods transported by heavy duty vehicles along this road on daily basis had made the emergence of commercial areas, Figure 4. Some of these areas such as, Kwangila serve as 'rest point' for travellers. As a result of this, food canteens, restaurants, guest houses and hotels are availability at the rest points in question contributing significantly to increase in commercial activities and more settlements are built to accommodate the growing population of the area.
In all the locations identified, motor parks have been made available which had created job opportunities for people, revenue generation for Local Government and making it possible for transporters to have organization such as, Road Traffic Unions Workers. The Settlement and Commercial distribution have made accessibility easy and increase patronage of large periodic markets, such as; Giwa, Mairuwa, Sheme, Tsafe and Talata Mafara, for trade within North West, North West to South East, South and South Western part of Nigeria on agricultural products such as grains, cereals, cattle sheep and goats.
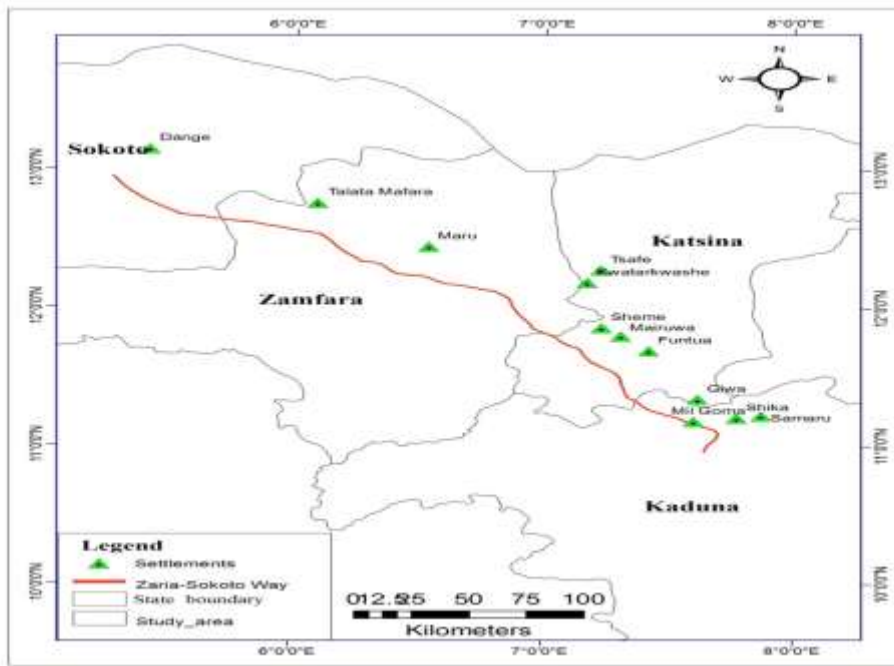
Fig. 4: Settlement/commercial area distribution
Source; Modified from Administrative map of Nigeria (2018)

The effects of road construction, development, maintenance and rehabilitation have positive effects on employment, trading in agricultural commodities, manufactured goods, and movements of people, beef animals and increase the number of settlements along its course. From Figure 4, it revealed that the pattern of distribution of commercial activities along Zaria – Sokoto Highway is a linear pattern.

Growth of Settlements

Increase in number of residential houses and social infrastructures contribute to growth of Settlement in an area. Figure 5 illustrated the increase in settlement growth along Zaria – Sokoto Highways after the rehabilitation, Figure 5.
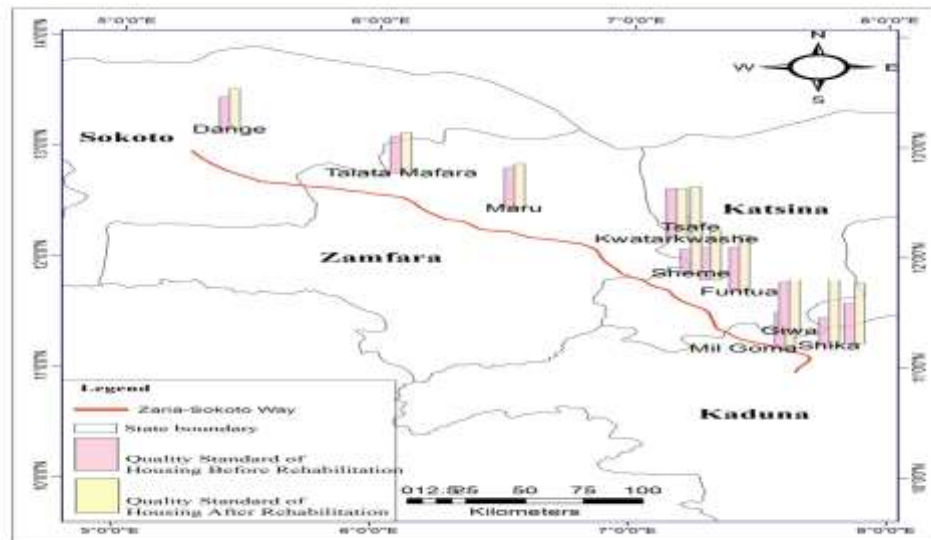

Fig.5: Settlement growth Zaria – Sokoto Highway
Source; Modified from map of Nigeria (2018)
In Figure 5, the settlements are distributed in a linear pattern along the study area

Table 3. Increase in Settlement after Road Rehabilitation

Settlement	Before Road Rehabilitation	After Road Rehabilitation
Samaru	03	22
Mill Goma	13	12
Shika	10	15
Giwa	07	18
Funtua	11	14
Mairuwa	07	18
Sheme	13	12
Tsafe	10	15
Kwarkwashe	12	13
Maru	01	24
Talata Mafara	03	22
Dange	05	20
Total	**95**	**205**
Percentage	**32**	**68**

Source; Author's Analysis (2018)

The survey on the growth of settlement along the study area revealed 68% of respondents acknowledged that the settlements had increased after the rehabilitation of the roads, while 32% of respondents disagreed, Table 3. This is in line with the report of Usman, 2006 that the development of road infrastructure attract emergence of settlement along roads and also in conformity with the findings of Musa, et al., (2012) who revealed that settlements grew as a result of development of the 80km Katsina- Maradi trans-border road around point were facilities and activities like markets, road junction, trading and commercial points were located. The T – test value is 0.001454 at 0.5 level of significance.

CONCLUSION

This study examined distribution of settlement and commercial areas along Zaria – Sokoto highway, Nigeria. This work adopted an integrated approach whereby, road transport is viewed as consisting of the available roads, commercial activities and settlements. This study also used a Participatory Appraisal technique whereby, 68% of the respondents acknowledged that there was an increase in settlements, commercial activities had also increased. Road network connectivity and level of road accessibility were found to be very poor in the single carriage highway, Zaria - Sokoto highway. However, spatial variations of commercial activities were found to exist in the area. The overall settlements in the study area had increase both in size and population.

In addition oral interviewed revealed that there are inadequate transport services and other highway challenges faced by residents in the study area, include that of poor road surface conditions, high cost of transport, overloading and incessant highway robberies. It was recommended that governments at all level should provide social welfare facilities, there should be routine rehabilitation of the road after every ten (10) years, more security to enhance quality of life and protect properties along this highway

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