



ABSTRACT

Road transport infrastructure development is very important in facilitating economic activities in every nation. This study paid attention to the impact of the Kaduna-Kano highway on poverty reduction for those engaged in economic activities in the Kura community of Kura Local government area of Kano state. A Structured questionnaire was used to generate the data used while simple descriptive statistics such as tables, graphs, and the Forster-Greer Thorbecke Poverty Index were used for the analysis. The study discovered that over 50% of the respondents were into farming, trading, artisan, drivers,

THE EFFECT OF KANO-KADUNA HIGHWAY ON POVERTY REDUCTION: STUDY OF KURA COMMUNITY IN KANO STATE-NIGERIA

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Introduction

According to Akinlolu & Maina, (2020) good transport system makes it possible for economic activity to reflect higher productivity and consequently led to economic growth. Gramlich (1994) was of the idea that road infrastructure development, economic growth, and poverty reduction are crucial in formulating appropriate economic policies. The provision of this road infrastructure can stimulate growth and reduce poverty by promoting rapid socioeconomic development in both developed and less developed countries. In Nigeria, the country has about 198,000 kilometers of roads, in which only about 20% of these roads are paved while over 65% of the roads are unpaved (Uche, 2011). The development of roads in many countries has assisted in increasing the level of movement of goods and services which has resulted in a better improvement in the division of labour, improved output, physical change, and an increase in incomes and job opportunities. Over 90 percent of the mobility of goods and services in Nigeria is done by road.

Most of the issues related to road infrastructure development and poverty reduction in Nigeria have not been properly addressed. Oladipo & Olomola (2015) asserted that even in the nations where attention has been paid to this subject, the direction of the relationship is still yet to be cleared. A large number of scholars are unsuccessful in providing a particular outcome related to addressing transport infrastructure development and poverty reduction. Some other groups of scholars were of the view that road transport can



Okada riders and private employment, petty trading, and public employment respectively was high. However, the study further revealed that over 86% of those engaged in economic activities in the study area were living above the poverty line. The study found out that the majority of these respondents about 48% owned the houses they are staying, 51% of them were living in houses built with cement blocks and 51.8% used a better sanitary condition system. In conclusion, the passage of the road in Kura community had a positive impact which also resulted in poverty reduction for community members engaged in economic activities. It was recommended that policymakers in Nigeria should start thinking of constructing the road in communities based on developmental rather than political purposes because road transport infrastructure development in communities serves as an economic agent in reducing poverty and insecurity.

Keywords: Economic Growth, Highway, Poverty Reduction, Kura Community and Multidimensional Welfare Index,

only reduce poverty when there is economic efficiency, thereby reducing the cost of goods and services and improving job opportunities in society. Interestingly, the availability of better road networks in an economy can indirectly result in growth that reduces poverty levels. Several other studies have revealed that road infrastructure development and economic growth have been given more attention by scholars when compared to that road transport and poverty reduction. On the other hand, contradictory result has been noted by the following; Sadananda (2006), Jiwattanakupaisarn et al. (2010), Keho and Echui (2011), Faridi et al. (2011) and Rudra and Tapan (2012)

In another different study conducted by Sadananda (2006), Niloy and Emranul (2005), Jiwattanakupaisarn et al. (2010) it was discovered that a uni-directional and bi-directional causality existed between economic growth and infrastructure development, while Faridi et al., discovered a completely contrary result which revealed no existence of causality. With these conflicting findings, it is very important to study further concerning the Nigeria case. Kura community is faced with underdevelopment challenges. To, what extent can the passage of Kaduna-Kano highway result in poverty reduction in the study area?

Therefore, the objective of the study was to examine the impact of the passage of the Kaduna-Kano highway on poverty reduction in Kura community of Kano State Nigeria. The outline of this study is as follows: The second section develops the theoretical literature and also the relevant empirical evidence. The third section explains the data issue and methodology. The fourth section presents the results, empirical findings, and the discussion. Finally, the fifth section is the recommendations.

Literature Review

Theoretical Framework

Ali & Pernia (2003) stated that the channel through which road infrastructure results in poverty reduction might be direct or indirect. Thus, it has a direct effect when it can create job



opportunities that give wages to the poor. However, when it influences the supply and prices of primary goods available to the poor, then it means it has an indirect effect. More emphasis was laid on the direct channel in this study since the other channels are less controlled by the poor, but by the few who greatly contribute to the infrastructure of economic growth who are usually prevented the gains meant for the poor. To attain the goal of poverty in line with Ali & Pernia (2003) defined it in terms of a household's real consumption per capita.

Besides, the direct outcome of infrastructure on poverty reduction depends on the changes in the enumerated causes. The provision of road infrastructure has helped to reduce costs for transit distance in kilometers spent by households. The effect of road development has resulted in employment opportunities, economic diversification, and increased income which consistently raises the households' real consumption per capita and good economic well-being as asserted by Ali & Pernia (2003), Gachassin et al., (2010) and Howe (2001). The assumption here was that households having access to major roads have assisted them in improving agricultural and non-agricultural opportunities, generating high household wages, and reducing poverty in society.

Transport Infrastructure and Poverty Theory

It has generally been noted that road accessibility in rural and urban areas can only moderately contribute to national income growth with a positive impact on the daily life of the poor engaged in any economic activities. It was observed that trunk roads, rail, and shipping are the inter-city transport modes that are very important for the growth and development of the national economy. These transport infrastructures are provided to stimulate and facilitate growth with an indirect impact on poverty reduction. According to Prud'homme, (2014) and World Bank (2004), it is very difficult to predict the link between the gains in transport infrastructure and policies resulting in an improved standard of living for the low-income group. Transport and infrastructure development can reduce transport costs as well as improve accessibility, and economic and job opportunities. A competitive transport-market structure reduces prices for the mobility of both passenger and freight with important predictable consequences. The provision of transport services will result in the construction and maintenance of transport infrastructure, which on the other hand creates demand for labour (usually unskilled) and serve as a means of income generation for the poor. Any transport scheme that creates job opportunities for the poor who are unemployed or underemployed usually results in poverty reduction. In most developing countries a well-developed transport sector serves as a means for promoting economic growth.

Poverty cannot be easily defined because of its complex nature and multi-dimensional impact. It has been observed that different regions of the world have different yardsticks for measuring the level of poverty, usually based on the people's ability to access their basic needs in life which include; food, clothing, and shelter. With these different yardsticks for measuring poverty worldwide, it mainly tends towards a poor standard of living and lack of basic things in life as a result of the definitions by different scholars. Nasir (2002), defined poverty in terms of socioeconomic and political deficiency with a heavy impact on persons or societies, leading to the absence of the necessities of life. A World Bank Report in 1990 viewed poverty as hunger, lack of shelter, existence of sickness and lack of access to school, unable to read or write properly, not having a job, fear of the future, a child lost to sickness from drinking water that is not clean,



helplessness, and lack of freedom. On the other hand, according to United Nations (1995), the sign of poverty includes a shortage of income and productive resources enough to guarantee sustainable livelihood, hunger and malnutrition and other basic services, homelessness, and an unsafe degraded environment among others. In the same vein, Ogunleye (2006) stated that the indicators of poverty include: problems facing one's literacy, health status, nutrition status, water satisfaction, and access to housing. Thus, poverty is the failure to meet up with one necessity of life.

However, some economists view poverty as a situation of low income and low consumption, which were usually used to determine the poverty lines. The income or consumption value is used further to determine the purchasing standard of goods and services and other necessities of life. In this regard, people are considered poor when their standard of living compared to their income and consumption are below the poverty line. The poverty line is usually used to distinguish between the poor and the non-poor. The income and non-income measurements of poverty are usually interwoven in society. Consequently, Chambers, (1995) sees poverty as the absence of the physical necessities of life, assets, and income experienced by an individual or group of individuals.

Road Transport Infrastructure and Poverty Reduction

Road infrastructure refers to installations and facilities that create access and facilitate industrial, agricultural, and other forms of economic growth and development. It is also very vital for public health, safety as well as quality of life. Road infrastructures serve as the physical amenities that aid the mobility of persons and goods through the various means of transport on the road. The road infrastructure comprises the following; thoroughfare, pedestrian amenities, the kind of drainage system, culverts (bridges and flyovers, streetlights, and traffic signs (Maiyaki, 2014)). Road transport infrastructure can aid in reducing poverty by shortening transiting distances in kilometers and reducing the amount spent by households, creating additional jobs and stimulating economic activities. In the area where these road infrastructures are developed, it can also improve access to key facilities which include health, education, and other basic services. The impact of road infrastructure on poverty reduction depends on the changes in the itemized causes (Akinlolu & Maina, 2020).

At the micro-level, it was observed that transport infrastructure positively contributes to poverty reduction with more impact on the income and non-income measures of poverty. In this aspect it was further observed, that income poverty and transport infrastructure can avail the poor the opportunities to boost their chances of increasing the limited resources they own (Gachassin, et al., 2010). Rural areas are the places where the majority of these poor live and farm, while their main source of income is from farming. Thus, the availability of transport infrastructure in such areas will reduce their cost of inputs and eases their access to credit, and extension services, and improve the market prices of their output. The presence of road infrastructure help in the commercialization of agricultural and non-agricultural activities which often leads to diversification from low-value food grains to more perishable, high-value agrarian products.

Theoretical Link between Poverty and Transport Infrastructure

Globally, it was observed that over 1.2 billion persons live below the poverty threshold of US \$1 per day (World Bank, 2019). With this statistic international agencies and developing, nations are now concerned with the methods of reducing poverty. Since the first objective of the millennium



development goals has been the eradication of extreme poverty and hunger. Bruce and Dwyer (1988) earlier noted that a larger amount meant for the infrastructure investment in most of the less developed countries was spent in the transport sector. Thus, policymakers as well as stakeholders must be able to identify the relationship between transport investment and poverty reduction at the start of any transport project.

Perhaps, considering the benefit of the transport project for the poor must be given the necessary attention (Demery and Square, 1996). Mostly, when the vulnerable poor are asked what will help to remove them from poverty, their answer was “having access to the basic necessity of life”. Transport projects must be designed in such a way that they can improve the economic benefit and social welfare of the poor in a country (Doki, 2012). The causes of poverty differ in countries, thus, good strategies and policies must be put in place by stakeholders and policymakers in minimizing the effects of poverty on economic development. The strategy of reducing poverty which is concerned with man's development perspectives has encouraged pro-poor growth in society.

Empirical reviews

In 2005 the Asian Development Bank conducted a study in India, Thailand, and China on rural transport improvements. It was discovered that whenever road transport is improved in an area, it contributes to generating more income, promoting non-farm activities, and increasing the wage chances of labour rate in the study areas. The study further found that road transport investments have significantly reduced the risk faced by poor individuals because such investment has helped to increase the provision and accessibility of education and health care services in these areas. Rayner, (2005) further observed that the poor in rural areas usually appreciate it more when the transport infrastructure in their communities is improved. On the other hand, Cook (2005) opined that poor and non-poor usually acknowledge the positive impact of the contribution of the availability of transport infrastructure around them.

Bakht & Koolwal (2009) examine the impact of road investments on the poverty level of rural individuals and other opportunities in Bangladesh. The study found that investment in rural roads has positively aided in reducing the multi-dimensional nature of poverty experienced in the country. In another study conducted by Dercon, Gilligan, Hoddinott, & Woldehanna (2009) in 15 different Ethiopian villages, it was discovered that villages with roads that were used in all-weather conditions reduced poverty by 6.9% and increased their consumption by about 16.3%. In a similar study conducted by Seetanah, Rammesur, & Rojid, (2009) in 20 different developing countries, the study discovered that most of the road development in urban areas of these countries had a direct effect on poverty reduction.

Some other studies examine the nexus between road transport infrastructure and poverty reduction. Shreds of evidence from developing countries such as Nigeria are limited, more prominently at the micro-level. Badham (1995) was able to investigate self-employment and poverty alleviation from the perspective of taxi drivers in Nigeria. The logistic regression model was employed for analysis. It was discovered that about 89% of school leavers engage in taxi driving in Nigeria earn above the national minimum wage.



Yusuf (2008) analyzed the poverty status of urban individual farmers in Ibadan Metropolis. The study then employed the poverty index and logistic regression model for analysis. The study revealed that 35% of farmers engaged in mixed farming and those who had access to good roads to move their produce to the market or urban center were living above poverty. To complement the findings above the logistic regression result discovered that crop farming and household size increase the odd ratio of being poor. However, the age of the farmers, education level, and years of experience in farming and livestock farming decrease the odd ratio of being poor. Ogun, (2010) examines the relationship between economic growth, investment in infrastructure, and poverty. It was discovered that investment in social infrastructure compared to physical infrastructure has shown a better poverty-reduction effect. Abdulkadir (2014) assessed the condition of the rural roads in Kwara State, where he then employed simple descriptive statistics to analyze the data generated. It was discovered that Kaiama LGA roads were the worse access, with very bad road network connectivity and poor transport services. Lack of good mobility has negatively affected the welfare of most of the people in the area.

On the other hand, Oladipo and Olomola (2015) surveyed the effect of road transport infrastructure on economic growth and poverty level in Nigeria where they used annual data from 1980 to 2012. A vector error correction mechanism model was employed to analyze the data. The result from the findings discovered road transport infrastructure and economic growth were the main sources of poverty reduction in the long run in Nigeria. In a similar study conducted by (Ali, Barra, Berg, Damania, Nash, & Russ, 2015) whereby they examined the relationship between road infrastructure and welfare in Nigeria. The findings revealed that lower transport fare yields important multi-dimensional benefits and also cut down the likelihood of being multi-dimensionally poor. Yusuf, Adesanoye & Awotide (2017) examined the poverty status of urban farmers in Ibadan Metropolis. The poverty index and logistic regression model were adopted for analysis in the study. The study discovered that about 50% of the crop farmers in the study area were experiencing a very high level of poverty. However, the result from the logistic regression model revealed that farmers engaged in crop farming increase the odd ratio of being poor. While the educational level and years of experience in farming and livestock farming decrease the odd ratio of being poor. On the other hand, the study further found that mixed farming and livestock farming are the solutions to poverty reduction among urban farmers in communities with a good transport system.

Aderogba, and Adegboye, (2019) used the panel data to investigate the influence of road infrastructure on poverty reduction in Nigeria. The study revealed that infrastructure development has a major direct impact on “within” households’ well-being. Alade, Olaseni, & Ilechukwu, (2019) explored the effect of transport on sustainable livelihood in Peri-urban areas of Lagos-Badagry. The study employed both inferential statistics and a sustainable livelihood framework (SLF) to analyze the data generated. The study discovered that the transport system had a significant and direct effect on the sustainable livelihood of the community members. Akinlolu & Maina (2020) examined the impact of commercial mass transit buses on poverty reduction in Yobe state. The study used the Tobit model to analyze the data generated. The findings from the study discovered that there exists a significant reduction in the poverty level among drivers and commercial mass transit buses in the state.



Methodology

Study Area

Kura is one of the Local Government Areas in Kano State, Nigeria, the Kaduna-Kano Highway (A2 highway) passes through this community. The local government headquarters is also located in Kura town. It has an area of 206 km² and a population of 144,601 at the 2006 census. It is located between latitude 11°43'21" N and longitude 8°24'51" E in the Sahel savannah zone of the country.

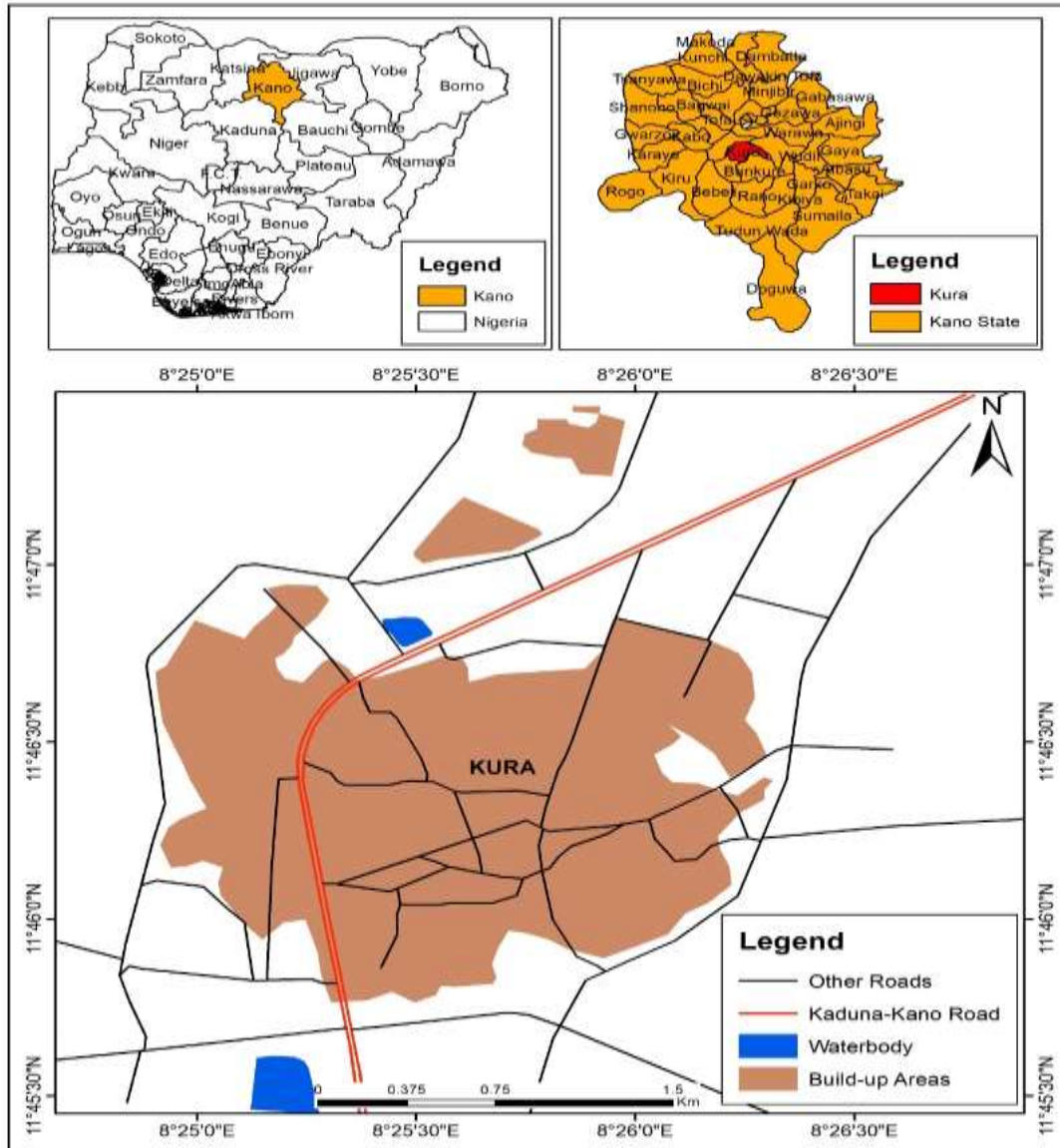


Figure 1: Kura Community

Source: Google Earth Image

Source of Data and Sampling techniques



The primary source was used to generate the data used for this study. Well, Structured questionnaires were administered to respondents in Kura community to get their perception of the kind of economic activities, the participation level of community members in these activities, and the level of income earned as a result of the passage of Kaduna-Kano Highway in Kura Local government area. A total of about 473 community members had registered and were engaged in different economic activities along the route (Market Head of Kura community 2020). The Yamane method was adopted and used to calculate the sample size used for this study. The mathematical illustration of the Yamane method is presented below

$$n = N / (1 + N(e)^2)$$

Where; n = Sample Size

N = Population under study

e = the margin error

$$n = 473 / (1 + 473(0.05)^2)$$

$$n = 473 / (1 + 473(0.025)^2)$$

$$n = 473 / 2.1825 = 218$$

From the above calculation, a total of two hundred and eighteen (218) questionnaires was administered. However, the study was able to retrieve only one hundred and ninety (190) questionnaires that were administered to the respondents in the study area.

Model specification

To estimate the impact of the passage of the road transport infrastructure on poverty reduction, individuals were assessed based on the income earned or generated from their economic activities. The World Bank standard for the international poverty line is (\$1.90 US dollars), in this study an individual engaged in economic activity that generates the sum of ₦693.50 (\$1.90)¹⁶⁰ and above means that the road infrastructure in that community has to reduce poverty for that individual or otherwise. Generating enough income to satisfy the expenditure of an individual engaged in any economic activity in the area shows that the individual is above the poverty line. Therefore, poverty reduction is a function of income generated from the economic activities due to the road transport infrastructure such as the income of petty traders, traders, farmers, grazers, employees (public), artisans, farmers, etc.

$$PVR = f(Pt, T, F, G, PE, A) \dots \dots \dots (3.1)$$

Where poverty reduction, *f* is the function of the income generated from the following activities in the study area; *P*, is Petty trading, *T*, is Trading, *F*, is farming, *G*, is grazing, *PE*, is the Employee (public), and *A*, is Artisan, etc., which are mostly activities that the road transport infrastructure in the community attracted. The majority of the people doing business or involved in economic activities in Kura community along the road are self-employed or wage-employed in line with Ianchovichina, and Lundstrom (2009). The analysis in this study was not limited only to the poor,

¹⁶⁰ The exchange rate of a dollar to the naira was ₦365.



but open to the different groups of labour force such as farmers, petty trade or business and other economic activities along the study area; Assume the income of an individual i is:

$$y_i \equiv p_1 E_{i1} - \phi_{i1} + \dots + p_j E_{ij} - \phi_{ij} \quad \dots \quad \dots \quad \dots \quad (3.2)$$

Where y is the income generated by the individual from each economic activity along the area, p_1 is (type of economic activity) an individual is involved in and E_1 is the average daily income of individuals from that economic activity in a community, ϕ_{ij} is daily expenditure on the same economic activities owned by the individual.

Forster-Greer Thorbecke (FGT) Poverty Index

In other to analyze poverty in the Kura community, the FGT P-Alpha poverty measures proposed by Foster, Greer, and Thorbecke (1984) were adopted. This approach is often used when the poverty level of individuals is to be measured. It’s a family of poverty indexes that is usually centered on a single formula that is capable of combining any degree of concern about poverty through the “poverty aversion” parameter, α . This measure is given as

$$P_\alpha = \frac{1}{n} \sum_1^n (Z - y_i / Z)^\alpha I(Z, y_i) \quad \dots \quad \dots \quad \dots \quad (3.3)$$

Where:

- Z is the poverty line,
- n is the total number of individuals in the sampled communities;
- y_i is the daily income earned by individual household heads that were engaged in different economic activities in the study area,
- while α takes on values, 0, 1, and 2.

The numbers in parentheses are the proportionate shortfall of daily income earned below the poverty line. This quantity is elevated to a power α . By growing the value of α , the aversion to poverty as measured by the index is also increased (Boateng, Ewusi, Kanbur, and McKay 1990). The P-alpha measure of poverty becomes headcount, poverty gap, and square poverty gap indices, respectively, when $\alpha = 0, 1,$ and 2 in that order.

RESULTS AND DISCUSSION

Participation level of Kura Community Members in Economic Activities

Table 4.1 below shows the extent of Kura community members’ participation level in different economic activities within the community.

Table 4.1 Kura Community Members’ Participation Level in Economic Activities

	High		Moderate		Low	
	Freq.	%	Freq.	%	Freq.	%
Petty Trading	171	90	19	10	0	0
Trading	98	51.4	73	38.6	19	10
Farming	181	95.7	9	4.3	0	0
Public Employee	108	57.1	76	40	6	2.9



Grazing	95	50	46	24.3	49	25.7
Artisan	176	92.9	11	5.7	3	1.4
Driver	174	91.4	16	8.6	0	0
Okada Rider	180	94.7	10	5.3	0	0
Private Employee	168	88.6	22	11.4	0	0

Source: Field Survey 2020

However, after the road was developed, out of 190 responses over 95%, 94%, 51%, 90%, 89% and, 55% of the respondents confirmed that the participation level in farming, okada riding, trading, driving, petty trading, artisan, private employment and public employment respectively was high in the community in line with Yusuf et al., affirmed that poverty can be reduced among farmers through good transport system.

For instance, the local government area headquarter is located in the community and has employed over eighty staff who are teaching and working in three public primary schools within Kura community as confirmed by the education secretary in the LGA. A police station, Sharia and customary courts, and the local government has employed over one hundred and ten staff, signifying a major increase in the number of public servants in Kura; while most of them affirmed that they were engaged in other economic activities such as farming, trading, tailoring, etc., which serve as an additional means of earning income for them due to the development of the road in the community.

On the contrary, about 25% of the respondents stressed that the community members' participation level in grazing activity was low after the road was developed. This is a result of keen competition in the demand for land use for other economic activities due to an increase in population growth in the community. Thus, it was discovered that the passage of the road had positively impacted the participation level of community members in different economic activities in Kura community which is following the findings of Yusuf et al., (2017).



Rice Milling Engine



Bags of Rice Stored



A trader of plastics



Traders of yams and sweet potatoes



An Aluminium or Tin-Can Shop



A Shoe Maker's Shop

Plates 4.1 show the different types of economic activities in Kura community

A look at plate 4.1 above shows some of the economic activities found in the study area due to the passage of the Kaduna-Kano highway in the community. These activities included rice milling; rice traders shoe making, etc., which further confirmed that the development of the road was the major factor that attracted most of them to the economic activities they were engaged in. Thus, this finding was similar to that of Alade et al., (2019) that affirmed that access to decent public transport boosts residents' ability to secure sustainable livelihoods.

Poverty Status Index Analysis

The FGT index was employed in the study where \$1.90 was used as the benchmark which was equivalent to ₦693.50 per day. So any individual who earns less than ₦693.50 per day in Kura community will be considered that the road has not reduced their poverty level. The FGT approach



was employed to analyze the poverty level of the individuals engaged in different economic activities in the Kura community. The analysis was based on daily income earned by individuals engaged in economic activities in the community. Further examination of the findings revealed that the road infrastructure in the community has resulted in poverty reduction for most of those engaged in economic activities.

Table 4.2 Mean of daily income earned from economic Activities and Poverty status

Community	Mean of daily income earned in (Naira)	Incidence of Poverty (Percent)	Poverty Gap (Percent)	Severity of Poverty (Percent)	Non-poor (Percent)
Kura	₦2, 132.03	13.2%	8.5%	11.3%	86.8%

Source: Researcher's survey (2020) using excel

Table 4.2 above revealed that the mean daily income earned by those engaged in economic activities in Kura community at the period of this study was about ₦2, 132.03, and the incidence of poverty in the community was about 13.2% (25) revealing that it is only 13.2 percent of those engaged in economic activities due to the passage of the road transport infrastructure are living below the poor live in Kura. The poverty gap was about 8.5%, while the severity of poverty was about 11.3%. In this community, the study further discovered that about 86.8% (165) of the individuals engaged in economic activities due to the availability of road infrastructure in this community were living above the poverty line. This implies that the road transport infrastructure in this community has positively impacted different economic activities in the community this is further affirmed by Aderogba and Adegboye (2019) that infrastructure development has a significant direct effect on well-being. Therefore, holding other variables constant the road infrastructure in Kura has assisted to reduce poverty for those engaged in economic activities. This study revealed that 86.8% (165) of those engaged in economic activities in the study area due to the road transport infrastructure in Kura were living above the poverty line. While only 13.2% (25) of them were living below the poverty line. The presence of road transport infrastructure in the community has significantly improved the daily earnings of most of those engaged in economic activities in the study area, which has led to an improvement in their standard of living, and welfare, and positively affected their livelihood. The study discovered that the prevalence of poverty was low while its severity was about 11.3%, which is a clear indication that the road has reduced poverty among community members who had participated in different economic activities in the study area. This finding was in line with (Oladipo and Olomola, 2015) that further affirmed that road development and economic growth could be seen as a useful policy that has the potential to contribute to the pace of poverty easing.

Multidimensional Welfare Index

The poverty analysis was complemented with the multidimensional welfare index, which has to do with other welfare variants such as; the types of homes the respondents staying, the nature of the homes, and the types of toilets used.



Types of Homes Respondents are Living or Staying In

Table 4.3 below shows the kind of homes the respondents are staying in. It further revealed that 48% (91) of them owned the homes they are staying in. 32.5% (62) of them affirmed that they were staying in family houses.

Table 4.4 Types of Home the Respondents are Staying

House	Freq.	%
Owned by you	91	48
Rented	31	16.1
Family	62	32.5
Staying for Free	6	3.4
Total	190	100

Source: Field Survey (2020)

The study further revealed that 16.1% (31) of the respondents were staying in rented houses. While 3.4% (6) were staying for free. The study found that most of the respondents were engaged in economic activities as a result of the road transport infrastructure owned by their houses. The study further revealed that the passage of the Kaduna-Kano highway through Kura community has boosted the volume of commercial activities which on the other hand, resulted in a majority of them being able to own the homes they were staying in.

Table 4.5 below shows the impact of income earned from the economic activities in the study area and the nature of the homes respondents were staying in. Out of 190 responses, 51% (97) of the respondents were staying in block cement-built houses. 30.7% (58) of the respondents were staying in cement mud houses with zinc roofs.

Table 4.5 Nature of the House you are staying

Nature of House	Freq.	%
Mud house with grass or mud roof	3	1.6
Mud house with zinc roof	26	13.9
Cemented Mud house with zinc roof	58	30.7
Block House (Cement)	97	51
Bungalow	5	2.2
Duplex	1	0.6
Total	190	100

Source: Field Source 2020

Furthermore, about 13.9% (26) of them were staying in mud houses with zinc roofs. About 2.2% (5) were staying in bungalows. On the other hand, 0.6% (1) were staying in a duplex house. The study further discovered that most homes in the community were cemented mud houses with zinc roofs. Table 4.6 shows the sanitary condition of the respondents which determined their living conditions; the study investigated the kind of toilet used in the study area. Out of 190 responses majority, 51.8% (98) of the respondents confirmed that they use water system toilets.

Table 4.6 Types of Toilet used by the Respondents



Kind of Toilet	Freq.	%
Open defecation	1	0.6
Open latrine	6	3.3
Pit toilet	85	44.3
Water System	98	51.8
Total	190	100

Source: Field Survey (2020)

On the other hand, about 44.3% (85) of them affirmed the use of pit toilets in their homes. 3.3% (6) of the respondents use the open latrine. While 0.6% (1) of the respondents concurred with the use of an open defecation system. The result of the Multidimensional Welfare Index revealed that the presence of the road transport infrastructure in Kura community has reduced the poverty level of those engaged in economic activities in the community. The study further discovered that the majority 48% of the respondents owned the houses they are staying, 51% of them were living in houses built with cement blocks and 51.8% used a better sanitary condition system (water system toilet). This revealed that there exists a positive nexus between road transport infrastructure and poverty reduction for those engaged in economic activities in the study area in line with (Oladipo and Olomola, 2015).

Conclusion and Recommendation

It is appropriate to conclude that after holding other variables constant the passage of the Kaduna-Kano Highway has a direct relationship with reduced poverty in Kura community. The participation level in economic activities by community members has shown a clear potential for poverty reduction in the study area. Thus, the poverty level of those engaged in economic activities in Kura was a reflection of how the road infrastructure development in the community has improved community members' livelihoods or standard of living.

By the results of the findings from this paper, the following policy recommendations were made to reposition road transport infrastructure as a vital tool for poverty reduction in Nigeria.

1. The state and local government should invest heavily in road transport because it opens up areas by creating a conducive environment for economic activities as a way of solving the problem of poverty reduction.
2. It was discovered that over 86% of those engaged in economic activities in Kura were living above the poverty line. The Federal, State and Local government authorities should help by providing them with SME's schemes that will boost their productivity in the community.
3. The job opportunity created was due to the passage of the road in the community. Thus, it is paramount for policymakers in Nigeria to start thinking of constructing the roads in communities for developmental purposes rather than for just political purposes, because road transport infrastructure development in communities serves as an economic agent in reducing poverty and insecurity.

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