

Influence of Rural Road Transportation on Farming Activities in Baruten Local Government Area, Kwara State, Nigeria

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ABSTRACT: Rural road transportation is critical for enhancing agricultural productivity and improving the livelihoods of rural farmers. This paper examines the influence of rural road transportation on farming activities in Baruten Local Government Area (LGA) of Kwara State, Nigeria. Baruten, known for its significant agricultural potential, faces several challenges due to inadequate transportation infrastructure. The study explores the relationship between road access and agricultural productivity, market access, and overall rural development in the region. Using both primary and secondary data, the paper analyzes how improved rural road transportation can support agricultural growth by reducing post-harvest losses, enhancing market linkages, and boosting income levels for local farmers. This research adopts a mixed-methods approach, utilizing both quantitative and qualitative data to analyze how rural road transportation influences farming activities in the region. The findings suggest that improving rural road transportation would enhance agricultural productivity, reduce poverty, and foster economic growth in Baruten. The study recommends strategic investments in rural infrastructure to promote sustainable agricultural development and to equally improve rural road infrastructure to enhance farming activities in Baruten LGA.

Keywords: Agricultural productivity; Baruten; Farming activities; Kwara Stat; Road transportation; Rural.

I. INTRODUCTION

Rural transportation infrastructure plays a pivotal role in promoting sustainable agricultural development, particularly in regions heavily dependent on farming. Baruten Local Government Area (LGA) of Kwara State is a rural agrarian area with substantial agricultural potential, producing

crops such as maize, yam, and cassava. However, poor road networks and transportation systems hinder agricultural productivity and market accessibility. This paper aims to examine the influence of rural road transportation on farming activities in Baruten LGA by analyzing the relationship between transportation access and agricultural output, market linkages, and socio-economic development generally.

The movement and exchange of goods and services is an obligatory feature of modern life (Umoren, et al., 2009). Road as a key factor in the transportation of people and materials from one place to another have spread like veins and arteries throughout the country and brought substantial development. Rural road transportation plays a crucial role in promoting agricultural productivity in rural areas.

The history of transportation in Nigeria dates back to the pre – colonial era. Within this period, transportation facilities such as roads, railways, air transport facilities were really non-existent with emphasis then on the bush path. At present, the modes of transport in Nigeria include road, railways, airways, inland waterways, coastal waters, the deep sea, and the pipeline (Usman et al. 2013). The potential significance of rural 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 productivity. Productivity of any region is highly dependent on the efficiency of its transport system to move people, goods and services between multiple origins and destinations.

The overall development of agriculture depends on various supportive rural infrastructural facilities (Usman et al. 2013). Efficient and

effective rural transportation serves as one of the channels for the collection and exchange of goods and services, movement of people, dissemination of information and the promotion of rural economy (Usman et al. 2013). It is also clear that development of rural infrastructure generally contributes significantly to agricultural practices and improves socio-economic well being of rural dwellers.

II. STATEMENT OF RESEARCH PROBLEM

Road has been described as the life blood of human civilization. Social interaction and economic prosperity in space have been shaped by the road both in intra and inter regional units. Transportation and road facilities are important to physical and economic development of towns and cities all over the world (Aderamo and Magaji, 2010). The poor condition of rural transportation has frustrated rural development efforts in the country and this has resulted into series of challenges such as the cutting off of many rural areas in Nigeria from neighboring larger settlements from which they could access higher order socio-economic services thereby, indirectly affecting farming system in Baruten LGA. This has also resulted in low productivity, low income and a decrease in the standard of living of rural residents as well as high rate of poverty (Aderamo and Magaji, 2010).

Rural road transportation plays a pivotal role in the development of agricultural activities, especially in rural areas where farming is the primary economic activity. In Baruten Local Government Area (LGA) of Kwara State, farming is a significant livelihood for the majority of the population. However, the condition of rural road infrastructure often presents challenges for farmers in accessing markets, transporting agricultural inputs, and managing their produce.

The lack of adequate and reliable road transportation may hinder farmers from maximizing their productivity and profitability. Poor road conditions can lead to increased transportation costs, delays in delivering farm produce to markets, and post-harvest losses due to the difficulty of moving perishable goods. Furthermore, it limits access to essential farming inputs like seeds, fertilizers, and modern equipment, which are critical for improving yields. In the case of Baruten LGA, the rugged terrain and seasonal variations add to the difficulties faced by the farming population.

Despite the crucial link between rural road transportation and agricultural development, there is limited research on how the current state of road infrastructure in Baruten LGA affects farming activities. Understanding this relationship is essential for policymakers and development planners to address transportation challenges and improve agricultural productivity in the area.

This research, therefore, seeks to investigate the influence of rural road transportation on farming activities in Baruten Local Government Area of Kwara State, focusing on the extent to which transportation challenges affect farm productivity, market access, and the overall well-being of the farming community.

III. RESEARCH QUESTION

- i. What is the impact of rural road transportation on farming activities in the study area?

IV. AIM AND OBJECTIVE

This research examined rural road transportation and its effects on farming and trading with particular reference to Baruten Local Government Area of Kwara State.

To achieve the stated aim, the specific objective set is to:

- i. examine the effects of rural road transportation on farming in the study area;

V. LITERATURE REVIEW

A. Rural Road Transportation and Agricultural Development

Research shows that rural road infrastructure is critical to agricultural growth, particularly in areas where farming is the primary source of livelihood (Odoh & Eze, 2022). Improved transportation networks reduce travel times and costs, making it easier for farmers to access inputs, labor, and markets (Ahmed & Ali, 2023). Studies conducted in similar regions of Nigeria, such as Oyo and Niger States; indicate that better road access leads to increased agricultural productivity, reduced post-harvest losses, and higher farmer income (Ibrahim et al., 2021).

Rural road transport infrastructure plays a crucial role in agricultural development by facilitating the movement of agricultural inputs, products, and services. It enhances accessibility to agricultural inputs, including fertilizers, seeds, and machinery. Well-connected roads enable timely and efficient delivery of inputs to farmers, reducing dependency on distant suppliers and minimizing the risk of input shortages. Rural road transport infrastructure has also been found to contribute to

productivity enhancement in agriculture by enabling efficient transportation of produce to markets. It reduces post-harvest losses, ensures timely delivery, and allows farmers to capitalize on market opportunities.

The availability of well-developed rural road transport infrastructure opens up new economic opportunities, promotes rural entrepreneurship, and facilitates value chain development. Another study by Oyekale and Adepoju (2018) demonstrated that improved rural road connectivity led to increased engagement in off-farm activities, such as agro-processing and retailing, contributing to diversified income sources and improved livelihoods for rural households. Moreover, better road access attracts agribusinesses and investment in rural areas, creating employment opportunities and further boosting income generation.

B. Challenges of Rural Road Transportation in Nigeria

In Nigeria, rural areas often face poor road conditions, insufficient infrastructure maintenance, and seasonal accessibility issues, which impede economic activities (Eze & Nnamani, 2023). For instance, during the rainy season, many roads in rural regions become impassable, isolating farmers from markets and inputs. This leads to reduced production capacity and increased poverty among rural populations. Baruten LGA is not exempt from these challenges, with reports of high transportation costs, poor road networks, and inadequate maintenance negatively affecting agricultural practices (Adeyemo et al., 2022).

Rural road transportation in Nigeria is fraught with numerous challenges that severely impact economic development, accessibility to essential services, and the overall well-being of rural populations. Below are the key issues:

Poor Rural Roads Conditions (PRRC). Significant proportion of Nigeria's rural road network is in deplorable condition. According to the World Bank, around 87% of Nigeria's rural roads are in bad shape, rendering only 40,000 km of the country's approximately 200,000 km of rural roads usable. This severely limits the mobility of goods and people, making it difficult for rural communities to access markets, healthcare, and education. The poor state of these roads also increases vehicle operating costs and travel time. World Bank, (2023)

Lack of maintenance and funding. One of the core issues exacerbating rural road conditions is the lack of sustainable maintenance structures.

Government initiatives often focus on road construction without ensuring adequate funds and systems for maintaining these roads. As the World Bank has pointed out, even with new projects like the Rural Access and Agricultural Marketing Project (RAAMP), significant gaps remain in terms of fiscal sustainability and the availability of local road maintenance agencies (World Bank, 2023).

Impact on agricultural and economic activities. Nigeria's rural economy is heavily reliant on agriculture, with rural roads serving as the primary means of transporting produce to urban markets. The poor state of these roads not only increases the cost of transportation but also contributes to post-harvest losses, as perishable goods often cannot reach markets in time due to transportation delays. This weakens the agricultural supply chain and limits economic opportunities for rural communities (IJNTER, 2018)

Limited accessibility to services rural road transportation is critical for access to services such as healthcare, education, and social amenities. The lack of adequate road infrastructure in rural Nigeria restricts rural populations from accessing these essential services, exacerbating poverty and underdevelopment. As researchers have observed, accessibility and mobility in rural areas are directly linked to the quality of life, and improving transportation would enhance socio-economic outcomes for rural residents (African Scholar Publications, 2020).

High construction costs and bureaucracy is another problem. The financial burden of constructing and maintaining rural roads is significantly high. In addition to high costs, bureaucratic inefficiencies and corruption can delay or derail road development projects. For instance, despite government efforts through initiatives such as the Directorate of Food, Roads, and Rural Infrastructure (DFRRI), many rural areas remain poorly connected due to inadequate execution of plans and insufficient funding. The challenges facing rural road transportation in Nigeria are multifaceted, involving poor road conditions, insufficient funding, weak maintenance frameworks, and negative impacts on agriculture and economic activities. Addressing these issues requires more coordinated efforts, better institutional structures for maintenance, and sustained investment in infrastructure to improve the socio-economic conditions of Nigeria's rural populations (IJNTER, 2018)

VI. METHODOLOGY

This study adopts a mixed-methods approach, combining qualitative and quantitative data. Primary data were collected through surveys and interviews with farmers, traders, and local government officials in Baruten LGA. A total of 400 respondents were randomly selected across five rural communities, focusing on their experiences with road transportation, farming activities, and market access. Secondary data were obtained from reports, academic articles, and government publications on rural infrastructure and agricultural productivity.

A. Sampling Frame, size and Procedure.

The population size of the research work covered population of the entire four (4) major districts in Baruten Local Government Area in Kwara State. Baruten has an approximate total population of 209,459 (Census, 2006). In selecting the sample size for the study, 2006 population data was projected to 2020 using annual growth rate of 2.7% in Kwara, Nigeria, as contained in the Kwara State National Population Commission (NPC). The projected population served as the basis from where the sample size was drawn.

$$P_c = P_o (1+r)^t$$

P_o = present population

R = growth rate

T = time

$$P_c = 209,459 (1+0.027)^{14}$$

$$P_c = 209,459 (1.03)^{14}$$

$$P_c = 209,459 (1.51)$$

$$P_c = 316,283.$$

Yamanes formula was adopted as expressed by Mertler and Vennatta, (2005):

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

Where:

N = sample size

N = population

E = significant level (95%)

$$n = \frac{316283}{1+316283 (0.05)^2}$$

$$n = \frac{316283}{1+790.70}$$

$$n = \frac{316283}{791.70}$$

$$n = 400$$

The total number of four hundred (400) respondents was selected (sample size) for representation.

To ensure that all the members of the population have equal chance of being selected, stratified Radom sampling technique was adopted. Each district has similar economic characteristics, occupation, and mode of transportation but peculiarities exist in terms of accessibility and economic trend vis- a- vis socio-economic development.

Table no1: Classification of Communities in each distric Based on the Nature of their Road.

District	Group A: Communities along Trunk A road	Group B: Communities along other roads
Okuta	Kenu, Boriya, Shiya, Teu, Beru, Temidire, Funfu, Tenge, Wondu, Alafiaru, Bankubu and Okuta	Taberu, Bushiru, Bushikparu, Bushiru, Ajuba, Korobani, Daamu, Sunfidi, Gbanaguru, Kpanlu, Tembonu, Donoru, Kenuboko, Makarakpo, Gbangbareru, Wesaru, Nikikparu, Sinasebu, Yanbereku, Yakparu, Ayokpo, and Wobero.,
Ilesha	Shinau, Bukaru, Tebeteberu, Alafiaru, Subayo and Ilesha	Bode, Tunbuyan, Naanoru, Agbankan, Babani, Yakinbeteru, Kpakotoru, Gbedeberu and Gongekparu
Gwanara	NIL	Kpora, Ayo, Kpana, Agurege, Wonkoru, Suroo, Beteru, Kontobaru, Gorobani, Yakiworu, Yakiru, Ganmoru, Dunkere, Borobiye, Gbongboru, Koro, Biogberu, Bwen, Bukuro, Dameru, Kobiaru, Nigurumi, Gbabe, Kiyenru 1, KiyenruDonweru, Budoaiki, Kiyayeru, Gobo, Kubure, and Gwanara.
Yashikuru	Kosubosu, Yanri, Gure, Chikando, Kuburufu, Shinatukoru, and Yashikuru	Tuka, Moshi, Keroni, Gbasura, Sunubwa, Kenikeni, Kura, Kpaberu, Bwerekuru, Gwane, Kpanlu, Busakperu, and Bweru,

Source: Authors compilation, 2024

In order to properly assess the influence of rural road transportation rural socio-economic development, all settlements in each of the districts were clearly dichotomized into the groups as shown in Table 1. The four (4) districts that make up local government are characterized with rural socio-economic structure such as scattered and sparsely populated settlement with indigenous occupation like farming, hunting, craftwork, local industries, transport providers and household heads were considered. The communities were divided into subgroups or strata based on road classification (Trunk A and other). Thereafter, samples were systematically taken from each stratum. Stratified sampling method was adopted by classifying the communities that are along Trunk A/federal government roads as the first group termed group A while community that are not along federal government roads are the second category called group B as indicated in Table 1.

In order to have a reliable representation six (6) communities from each group were selected to make twelve (12) communities from Okuta district being the most populated among the districts. Ilesha and Yashikuru in line with their population, five (5) communities were selected each group for Ilesha and Yashikuru respectively. By implication Ilesha and Yashikuru had ten (10) communities each for representation while Gwanara with the least population had eight (8) communities from group B since all the communities in Ilesha district falls in Trunk B road as indicated in Table 1.

Overall, forty (40) communities cutting across the four (4) districts formed the basis of selection for the study. To gain insight in the study, a total number of four hundred respondents were chosen from the local government area as representation of the study among household heads who could be transport provider, business partner, artisan or civil servant.

Systematic sampling technique was adopted to administer 400 questionnaires to households, selecting members of the sampled population at regular intervals (every nth item). In Nigeria, the average household size is 5, according to the National Population Commission. For instance, in the town of Okuta, with a projected population of 9,981 in 2020, the total number of households would be 1,996 ($9,981 \div 5$). This number was subjected to systematic sampling (N/n). Since Okuta required a sample size of 40, the interval was determined to be 50 ($1,996 \div 40$). Therefore, every 50th house in Okuta was selected until 40 households were chosen for the sample.

This similar process was repeated for all the settlements to determine the sample size for each. Systematic sampling is particularly suitable in this context because it ensures uniform coverage at specific intervals, minimizes bias, and provides a predictable and reproducible method of sampling. Moreover, it is efficient and capable of producing representative samples, making it valuable for various research and practical applications.

B. Methods of Data Analysis

Data collected were analyzed using descriptive and inferential statistical methods of data analysis. The descriptive (percentage, count, tabulation, charts) and inferential statistics (multiple regression) modes of data analysis was simultaneously employed,

The following technique was used to analysis the stated specific objective:

Objective: to determine the influence of rural road transportation on farming activities in the study area. Multiple regression was used to analysis the stated objective. This statistical technique was applied to establish how rural road transport affects farming activities particularly farming in the study area.

The regression model is expressed as: while Y stands for farming.

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + \dots + b_{10}x_{10} + e$$

The regression model is expressed as:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + \dots + b_{10}x_{10} + e$$

Where:

Y = is the dependent variable and X is the independent variable

Y = Total Annual yield from Farm (in Naira)

X₁ = Farming Experience (in years)

X₂ = Age of the respondent (in years)

X₃ = proximity of settlement to main road (in kilometers)

X₄ = Education level of household head (No formal Education = 0, primary = 1, secondary = 2, tertiary Education = 3)

X₅ = Ownership of Intermediate Means of transport in household

X₆ = Distance to major markets (in kilometers)

X₇ = Category of road to settlement (Route Access Index = 0-5)

X₈ = Means of transport to farm (By foot = 1, public transport = 2, personal vehicle = 3)

X₉ = Farm size (in hectares)

X₁₀ = Transport cost to farm (in Naira)

X₁₁ = Distance to farm (in kilometers)

X12 = Household size (number of household members)

e = error terms

X1, X2, X3, X4, X5, X6, and X12 are explanatory variables.

A is a constant, b1x1, b2x2, b3x3 bnxn are the demographic characteristics

VI. RESULTS AND DISCUSSION

A, Impact of Road Infrastructure on Farming Practices

The study found that over 65% of farmers in Baruten LGA rely on rural road networks for transporting farm inputs such as seeds, fertilizers, and tools. Farmers in areas with better road access were more likely to use modern farming techniques, which led to higher productivity. In contrast, those in areas with poor road conditions reported difficulties in accessing agricultural inputs, resulting in lower yields (Ahmed & Ali, 2023).

Majority of the respondents virtually produce more than two crops and the level of production varies considerably. Prominent among crops produced are Yams, Maize, Guinea corn, Beans, Ground nut, Cassava, Soya Beans, and Cashew with few

farmers going into vegetable plantation. Evidence from the study area shows that most remote areas with large farm plots are far from motorable roads thereby, impeding agricultural growth and development. Some of the remote settlements are far from major roads. They includes Gbanaguru, Kenu, Bushiru, Bushikparu, Ajuba, Sunfidi and Tembonu (Okuta district); Bode, Tunbuyan, Naanoru, Agbankan, Babani, Yakinbeteru and Kpakotoru (Ileahadistrict); Kpora, Ayo, Kpana, Agurege, Wonkoru, Suroo, Beteru, Kontobaru, Gorobani, Yakiworu, Yakiru, Ganmoru, Dunkere, Borobiye, Gbongboru, Kooro, Biogberu, Bwen, Bukuro, Dameru, Kobiaru, Nigurumi, Gbabe, Kiyenru 1, KiyenruDonweru, Budoaiki, Kiyayeru, Gobo, Kubure, and Gwanara (Gwanara district); Tuka, Moshi, Keronsi, Gbasura, Sunubwa, Kenikeni, Kura, Kpaberu, Bwerekuru, Gwane, Kpanlu, Busakperu, and Bweru in Yashikiru District.

In short, least accessible villages recorded higher agricultural output contrary to the assumption that good roads enhance agricultural productivity (Usman, et. al, 2013). There is no doubt that poor transportation has negative impact on agricultural productivity in terms of potency and cost.

Table no2: Analysis of Satisfaction in the Transportation of Farm Produce

Variable	Code	Characteristics	Frequency	%	Average	SD	RI	Remark
Transportation of farm product using Buses	1	Highly Unsatisfactory	133	33.7	2.14	1.118	0.84	Low
	2	Unsatisfactory	145	36.7				
	3	Fairly Satisfactory	67	17.0				
	4	Satisfactory	30	7.6				
	5	Highly Satisfactory	20	5.1				
Transportation of farm product using Taxes	1	Highly Unsatisfactory	127	32.2	1.89	0.758	0.75	Low
	2	Unsatisfactory	194	49.1				
	3	Fairly Satisfactory	64	16.2				
	4	Satisfactory	10	2.5				
	5	Highly Satisfactory						
Transportation of farm product using Pick up Vans	1	Highly Unsatisfactory	112	28.4	2.03	0.865	0.80	Low
	2	Unsatisfactory	184	46.6				
	3	Fairly Satisfactory	76	19.2				
	4	Satisfactory	20	5.1				
	5	Highly	3	.8				

		Satisfactory						
Transportation of farm product using Commercial motorcycles	1	Highly Unsatisfactory	21	5.3	4.04	1.331	1.59	High
	2	Unsatisfactory	72	18.2				
	3	Fairly Satisfactory	0	0.0				
	4	Satisfactory	80	20.3				
	5	Highly Satisfactory	222	56.2				
Transportation of farm product using Trucks	1	Highly Unsatisfactory	46	11.6	2.90	1.264	1.14	High
	2	Unsatisfactory	134	33.9				
	3	Fairly Satisfactory	94	23.8				
	4	Satisfactory	56	14.2				
	5	Highly Satisfactory	65	16.5				

Transportation of farm product using Wheel barrows	1	Highly Unsatisfactory	20	5.1	3.94	1.328	1.56	High
	2	Unsatisfactory	80	20.3				
	3	Fairly Satisfactory	0	0.0				
	4	Satisfactory	99	25.1				
	5	Highly Satisfactory	196	49.6				
Transportation of farm product using Personal bicycle/motorcycle	1	Highly Unsatisfactory	46	11.6	2.90	1.264	1.14	High
	2	Unsatisfactory	134	33.9				
	3	Fairly Satisfactory	94	23.8				
	4	Satisfactory	56	14.2				
	5	Highly Satisfactory	65	16.5				
Transportation of farm product using Private vehicles	1	Highly Unsatisfactory	159	40.3	1.83	0.828	0.72	Low
	2	Unsatisfactory	161	40.8				
	3	Fairly Satisfactory	59	14.9				
	4	Satisfactory	16	4.1				
	5	Highly Satisfactory	0	0.0				
Transportation of farm product using Foot	1	Highly Unsatisfactory	129	32.7	2.16	1.197	0.85	Low
	2	Unsatisfactory	171	43.3				
	3	Fairly Satisfactory	30	7.6				
	4	Satisfactory	34	8.6				
	5	Highly Satisfactory	31	7.8				
		Total	395	100.0	2.53	0.443	1.00	

Source: Field Survey 2021. Sample size = 395. SD = Standard Deviation. RI = Relative Index.

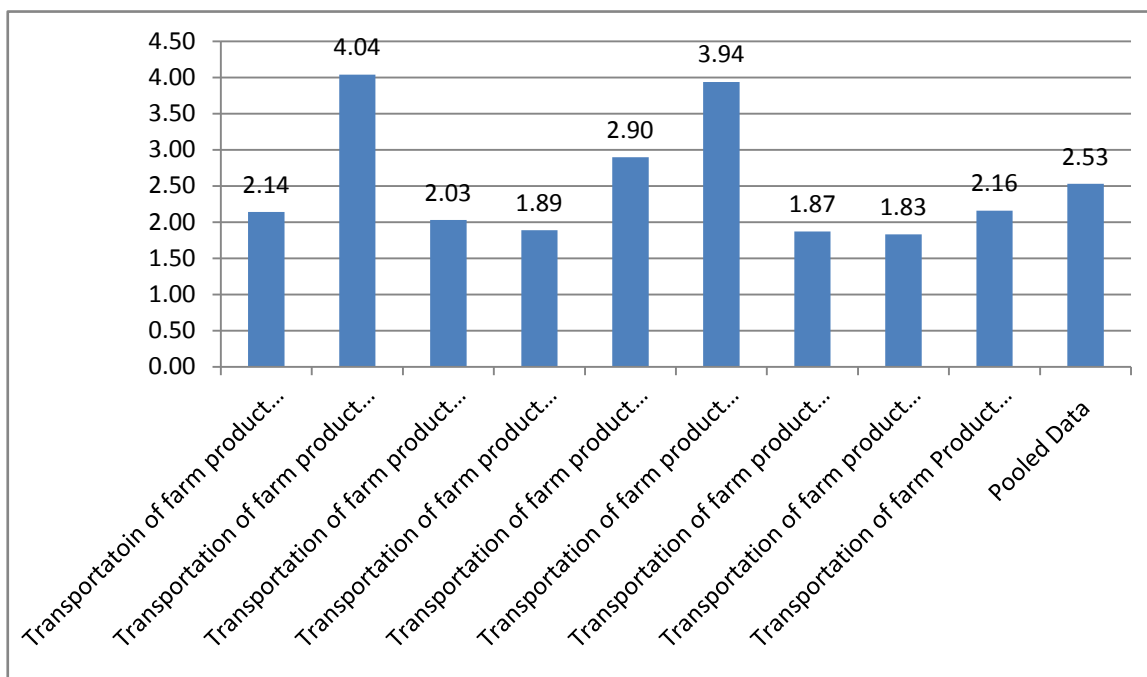


Figure 1: Satisfaction in the Transportation of Farm Produce using Mean Response.

Multiple Regression Analysis on the Influence of Rural Road Transport on Farming Activities in the Study Area.

MODEL: FARMING ACTIVITIES

Table no3: Multiple Regression Coefficients (Full Model)

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics VIF
	B	Std. Error	Beta			
(Constant)	94590.711	955.956		98.949	.000	
Farming Experience (X1)	95.988	68.442	.167	2.745	.018	1.109
Age of respondents (X2)	-85.361	55.538	-.157	-2.051	.036	1.136
Proximity of settlement to main road (X3)	56.625	163.163	.054	.347	.729	1.944
Education level of household head (X4)	-47.092	49.941	-.048	-.943	.346	1.014
Ownership of Intermediate Means of transport in household (X5)	-25.351	47.323	-.031	-.536	.592	1.288
Distance to major markets (X6)	208.148	192.040	.177	4.084	.007	1.989
Category of road to settlement (X7)	103.058	139.517	.171	3.237	.033	1.276
Means of transport to farm (X8)	98.821	83.530	.169	3.123	.016	1.128
Farm size (X9)	94.116	119.112	.165	2.735	.022	1.122
Transport cost to farm (X10)	-85.842	76.722	-.159	-2.119	.032	1.085
Distance to farm (X11)	-60.464	75.153	-.063	-.805	.422	1.115
Household size (X12)	84.185	71.879	.144	1.943	.041	1.074

Dependent Variable: Total Annual yield from Farm (Y1)

R = 0.718
R Square = 0.516
F-value = 9.776 (p = 0.001<0.05)

The model result reveals goodness of fit index $R^2 = 0.516$ (51.6%) indicating model fit is significant at $F = 9.776$ ($P < 0.05$) significant level. Hence the model is acceptable for further analysis. To investigate the impact of independent variables on the Total Annual yield from farm, multiple regression analysis method is used. Total Annual yield from farm represents the dependent variable while X_1 = Farming Experience (in years), X_2 = Age of the respondent (in years), X_3 = proximity of settlement to main road (in kilometers), X_4 = Education level of household head, X_5 = Ownership of Intermediate Means of transport in household, X_6 = Distance to major markets (in kilometers), X_7 = Category of road to settlement (Route Access Index = 0-5), X_8 = Means of transport to farm (By foot = 1, public transport = 2, personal vehicle =3), X_9 = Farm size (in hectares), X_{10} = Transport cost to farm (in Naira), X_{11} = Distance to farm (in kilometers), and X_{12} = Household size represent the independent variables. The result of the analysis reveals that the following independent variables have significant

influence on total annual yield from farm; Farming Experience, Age of the respondent, Distance to major markets, Category of road to settlement, Means of transport to farm, Farm size, Transport cost to farm, and Household size at $t = 2.745, -2.051, 4.084, 3.237, 3.123, 2.735, -2.119, 1.943$, since ($p < 0.05$), respectively. The results are supported by the variance inflation factor (VIF) which suggests that there is no evidence of multi collinearity among the varying independent variables, since values are less than 5. Further, based on the standardized Beta coefficients, Distance to major markets and accessible road network have the greatest significant influence on Total Annual yield from farm with 0.177 (17.7%) and 0.171 (17.1%). This implied that an increase in Distance to major markets and accessible road network will cause a significant increase in total annual yield from farm by 208.148 (20814.8%) and 103.058 (10305.8%), respectively. The abridged model is given based on the significant variables in the full model:

Table no4: Multiple Regression Coefficients (Abridged Model)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics VIF
	B	Std. Error	Beta			
(Constant)	94212.403	827.771		113.815	.000	
Farming Experience (X1)	83.772	67.493	.134	3.649	.037	1.085
Age of respondents (X2)	-89.497	55.317	-.158	-4.076	.023	1.134
Distance to major markets (X6)	279.623	144.824	.204	6.931	.004	1.138
Category of road to settlement (X7)	144.081	127.025	.181	5.347	.009	1.063
Means of transport to farm (X8)	97.042	82.930	.162	5.170	.011	1.119
Farm size (X9)	76.743	114.162	.103	3.059	.039	1.037
Transport cost to farm (X10)	-90.436	76.296	-.160	-4.185	.018	1.079
Household size (X12)	87.798	71.277	.135	3.671	.033	1.062
Dependent Variable: Total Annual yield from Farm (Y1)						
R = 0.735						
R Square = 0.540						
F-value = 10.891 (p = 0.001<0.05)						

The significant regression model is given as: $Y1 = 94212.403 + 83.772X1 - 89.497X2 + 279.623X6 + 144.081X7 + 97.042X8 + 76.743X9 - 90.436X10 + 87.798X12$

The model implied that a unit increase in X1, X6, X7, X8, X9, and X12 will increase total annual yield from farm by 83.772 (8377.2%), 279.623 (27962.3%), 144.081 (14408.1%), 97.042 (9704.2%), 76.743 (7674.3%) and 87.798 (8779.8%), respectively while a unit increase in X2 and X10 will reduce total annual yield from farm by 89.497 (8949.7%) and 90.436 (9043.6%), respectively. When all the variables are controlled, total annual yield from farm grows by N94212.403. Some smallholder farmers around the four major districts face poor marketing linkages. Additionally, the farming practices are characterized by low productivity due to dependence on family labour, lack of access to affordable capital, resources and inputs such as seeds, fertilizers, irrigation equipment and machinery.

Rural road transportation significantly affects farmers' access to markets. The study revealed that 78% of farmers in communities with poor road networks face challenges in reaching local markets, leading to high post-harvest losses and reduced income. Farmers who had better road access were able to sell their produce at competitive prices and expand their market reach beyond the local region, boosting their incomes (Ibrahim et al., 2021).

VII. CONCLUSION

Rural road transportation plays a crucial role in the agricultural development of Baruten Local Government Area, Kwara State. Improved road infrastructure facilitates access to farm inputs, enhances market linkages, and boosts the socio-economic status of rural farmers. Therefore, a concerted effort to improve rural transportation systems is essential for promoting sustainable agricultural growth in Baruten LGA.

The study examines the influence of rural road transportation on farming activities in Baruten L.G.A. in Kwara State. The work adopted a systematic approach whereby rural road transportation is viewed via- a- viz the farming activities in the study area. It is disheartening to note that Baruten LGA have poor road surface conditions characterized with potholes and poor drainage system. Agricultural and business activities can be improved by adequate development of rural road transportation. Since improving rural road transportation can lead to

lower cost for farm inputs and lower transport for marketed output, thus increasing the margins and incentives for the farmers to raise agricultural production and improves business outlets. Better access to roads and transport services were found to have positive impact on level of physical access to basic facilities, patronage and better rural socio-economic development. Just like low accessibility might discourage the farming activities and low attendance as well. The result further revealed that smaller villages that are located in the interiors of the four (4) main districts possess fertile agricultural lands with high agricultural productivity characterized with very poor road facilities. Apart from distance to periodic markets, cost of transportation is an impending factor to economic development.

VIII. RECOMMENDATIONS

There is no doubt that provisions of functional and adequate rural road transportation have positive impact on agricultural productivity, physical growth and socio-economic development of regions in general.

On the basis of the findings, the following recommendations were put forward:

Improvement in rural road transport will lead to better knowledge application for good practice, reduced crop wastage, higher yields, enhanced production, development of local agro-industry which can improve food security and improve business/investments.

It will also promote rural employment and economic development with more self-reliant rural communities. Close cooperation and mutual understanding of the business activities, agricultural and rural transport sectors will be a vital factor to stimulate the needed increase in food security and global food production. Specifically, rural areas in Nigeria requires in depth understanding of the locality and situations in different areas.

Both the State and Local Government should pay serious attention to rural roads. Priority should be given to rural roads that suffer neglect in terms of construction and proper maintenance of existing roads. Consequently, the present state of performance and contribution of local government councils in provision and maintenance of rural infrastructure in the state is not encouraging. It is therefore recommended that the local government council should be sufficiently made autonomous in execution of assigned functions.

Coordinated efforts across the sectors are required so that road construction continuous to

have a pride of place in the firmament of transport policy options and public expenditure in support of economic progress and quality of life. It brings government and her agencies closer to rural communities with the zeal to understanding and change rural problems into opportunities. A deliberate involvement of rural communities goes a long way in solving problems that are peculiar to their own localities.

The rural poor have not had the accessibility or resources to take advantage of the opportunities afforded by better transport infrastructure. Future sector investments must be more focused to avoid further impoverishing poor people. The provision of all-season rural access through serviceable roads will unlock the opportunities for the poor to escape their past disconnection. In terms of infrastructure, transport sector investments tend to be concentrated on the main road networks.

Significant improvements in rural transport infrastructure and transport services need to be improved to allow these substantial challenges to be met. Effective and more resilient rural transport infrastructure and services will be the essential 'enabler' for agricultural production and other rural activities.

Current financing levels and management approaches are clearly not adequate to achieve required affordable and sustainable expansion of rural road transportation system as well as the preservation of existing rural road networks.

Stakeholders Partnership and real commitment from them based on awareness of the characteristics and key role of the sector are essential to enable rural transport to deliver the vital support for the 2030 Sustainable Development Goals (SDG) attainment.

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