

Road condition and accessibility of agricultural produce to markets: The case of farmers in Oke-Ogun Area of Oyo State

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ABSTRACT

The study was conducted to examine the effect of road condition on accessibility of agricultural produce to market by the farmers in Oke Ogun area of Oyo State, Nigeria. Three: Orelupe, Iwajowa and Kajola of the ten local government areas in Oke Ogun were purposively sampled. Using simple random sampling technique, 428 farmers were selected across two seasons (dry and raining). With the aid of a pre-tested interview guide, data were collected on respondents' socioeconomic characteristics, condition of roads in the study area, access to transport and constraints in transporting farm produce to markets. Data were analysed using descriptive (frequencies, mean and percentages) and inferential (Chi-Square) statistics. Results show that 63.6 % of the farmers were male with mean age of 44 years, mean household size of 6 persons, while 47.7 % had no formal education. The condition of road was said to be very bad by 73.1% of the respondents in the rainy season which led to lack of access to transportation as perceived by 68.7 and 78.9 % of the respondents in the dry and raining seasons, respectively. A significant relationship existed between the condition of roads and accessibility to transportation ($\chi^2 = 432.58$; $P \leq 0.05$). In view of these, an improvement on the overall road network and conditions in the areas was recommended.

Keywords: Rural transportation, Market accessibility, Road networks

INTRODUCTION

Transport relates to the means of conveyance, which enhances people's access to the means of their livelihood. Rodrigue et al (2006) defined transport as that part of economic activity, which is concerned with increasing human satisfaction by changing the geographical position of goods or people. In other words, transport creates time and place utilities, it comprises routes, media and traffic (of persons, goods and services). Rural transportation may thus be defined as short distance movement between an urban centre and the surrounding rural areas, between two rural settlements or between a rural settlement and the farmland that belongs to it.

Klatze (2000) stated that farm transportation play a key role in the agricultural and economic development of many nations as it provides access for extension agents to transfer new and improved agricultural technologies to the rural and farming communities, timely delivery of inputs to the farm and evacuation of harvest to the urban areas where they are mostly demanded. These ensure improvement in agricultural production, food availability in urban areas and improvement in the economy of the rural communities. Distance to markets, and the lack of roads is a central concern for rural poor, they need access to competitive

markets not just for their produce but also for inputs, assets and technology, consumer goods, credit and labour (Rural Poverty Report, 2001).

The need to travel and transport goods to and from the field is an essential task associated with the agricultural activities of rural households. The role of road network in agricultural production and marketing reflects the strength of the household's agricultural links with the wider economy. Agricultural systems are dependent on the quality of road access for the delivery of farm inputs to local communities and for the evacuation of produce from the local area to market centres. Poor accessibility to transport in rural areas often slows down diffusion of new technologies and techniques, increases production and marketing cost, reduces spatial interaction and limit access to education and health facilities. It also constrains mobility and aggravate isolation (Burningham and Stankevich, 2005).

Although there have been a general improvement in the number and type of road network connecting the study area to various part of the states, evacuation of agricultural produce from the farm to the major roads is still a problem. There are either no roads at all or just bad roads. The cost of transportation of raw materials is high and accident rate is equally high. Perishable commodities suffer

extensive deterioration and spoilage as a result of long haulages on bad roads and in non-refrigerated trucks. Prices of agricultural products are usually very low especially during the peak season since farmers do not have good storage facilities or processing unit to keep the value of the excess till the off season.

The quality and quantity of raw materials reaching the market centres is therefore reduced. Oke-ogun is known as the food basket of Oyo State due to the volume of agricultural activities taking place in the area. Awujoola (2003) observed that 80% of the inhabitants are farmers producing major food crops such as cassava, yam, vegetables and maize among others which are marketed in the urban centres of the state. It is worthy to note that the road network in this area is critically poor and thus increases cost of production limiting farmers income.

In venturing into this study, the following research questions came to mind:

1. What is the condition of roads in the study area?
2. How accessible is transport to farmers in the study area?
3. How accessible is the farms in the study area?
4. Do farmers face any constraint in transporting farm produce?

Hypothesis of the study

H₀₁: There is no significant relationship between the vehicle accessibility and condition of roads.

METHODOLOGY

Oke-Ogun is located in the Northwestern part of Oyo State. It lies within the tropics between Longitude 3° 20' E and Latitude 8° 40' N of the Greenwich Meridian. Oke-Ogun region is purposively chosen for this study because of its rural nature and the fact that the highest percentage of the food consumed in Oyo State, Lagos and its environs is produced from Oke-Ogun region (Awujoola, 2003).

The study population consists of all the farmers in Oke-Ogun Area. Multistage sampling procedure

was used in selecting the respondents for the study. The first stage involved a purposive selection of 30% out of the 10 local government areas in OkeOgun to give three LGAs because of the intensity of farming in the area. The LGAs selected were Orelupe, Iwajowa and Kajola. The numbers of villages in each LGA were 148, 380 and 279, respectively. (Oyo State ADP, 2000). Ten percent of the villages in each LGA were randomly sampled. These gave 15, 38 and 28 villages, respectively making a total of 80 villages. Selected villages had 4,273 households (Oyo State ADP, 2000) out of which 10% (427 households) was randomly sampled. From each household, one member was interviewed using a structured questionnaire. The sample size was therefore 427 farmers.

RESULTS AND DISCUSSION

Socioeconomic characteristics

Data in Table 1 shows that the respondents' mean age was 44 years indicating that majority of respondents were within the economically active age category (FAO, 2000). Yinusa (1999) observed that this age bracket contains the innovative, motivated and adaptable individuals. The vast majority of these respondents were male (63.5%) compared with about 36.5% that were female. Almost all the respondents sampled were married (82.9%), 5.3% were widows and the remaining 11.2% were single. This should be expected because most of the respondents did not have formal education, there is a tendency to marry early in order to have extra hands to work on the farm.

The mean household size was 6.41 persons. The size of the household is also a determinant of their farming size and extent of involvement in farming since large household size means more mouths to feed and more hands to work on the farm. Reardon (1997) observes that family size affects the ability of a household to supply labour to the farm sector. He argues that families with multiple conjugal units supply more labour to the non-farm sector, as sufficient family members remain in the home or the farm to meet labour needs for subsistence.

Almost half (47.66%) of the respondents had no formal education. The proportion of primary school leavers' was 24.77%, the proportion of those with secondary school education was also 18.69%.

Table 1: Distribution of respondents by socioeconomic characteristics

Variables	Frequency	Percentage	Mean
Age			
25 – 34	52	12.15	44
35 – 44	136	31.78	
45 – 54	156	36.45	

Variables	Frequency	Percentage	Mean
55 – 64	80	18.69	
65 – 74	04	0.93	
Sex			
Male	272	63.55	
Female	156	36.45	
Marital status			
Married	355	82.94	
Single	48	11.21	
Widowed	25	5.34	
Years of farming experience			
1 – 5	180	42.06	6.41
6– 10	220	51.40	
11 – 15	20	4.67	
16 – 20	08	1.87	
Educational attainment			
No formal education	204	47.66	
Adult education	22	5.14	
Primary education	106	24.77	
Secondary education Tertiary education	80	18.69	

Respondents’ perceived condition of roads in the study area

From Table 2, in the dry season, 69.86% of the respondents claimed that the road in the area was generally very bad, 23.36% said the roads were bad while only 6.78% said the roads were good. In the rainy season, the situation became worst, higher percentage claimed that the road was very bad. Most of the roads become un-passable for vehicles, especially those leading to the farms and since this is the period when farming activities is at the intensive level, farmers face a lot of hardship in getting to their farms and in taking their farm produce to the market centres. In fact, some vehicle owners or drivers are always careful and tends to avoid some roads during this period, so that their vehicles will not get stuck. This is in line with the findings of Daramola (2005), who asserted that the state of Nigeria infrastructure is parlous especially roads and power.

According to Hilling (1996), the majority of the population lives a spatially circumscribed local socioeconomic system and relatively static state in which immobility and poverty are clearly related. Immobility perpetrates poverty; thus, where poor quality of roads impedes mobility, the cost of transport would be high. And in an agrarian economy, marketing of agricultural products and the income accruing to the farmers will be limited. Perhaps the most important component of the transport infrastructures in the rural area is the condition of roads from the home to the farm and to the market. The World Bank (2000) submitted that improving rural infrastructures is an essential requirement for the modernization and growth of agriculture. Better market incentive to farmers will be blunted if the physical barriers and economic costs of transporting goods to and from local markets are too high.

Table 2: Distribution of respondents by perceived condition of roads

Road condition	Dry season		Rainy season	
	Frequency	Percentages	No. of people (Frequency)	Percentages
Very good	00	0.00	00	0.00
Good	29	6.78	05	1.17
Bad	100	23.36	110	25.70
Very bad	299	69.86	313	73.13
Total	428	100.00	428	100.00

Perceived accessibility to transport by farmers

Table 3 presents information on the accessibility of households to transport services in the area. It was found that 68.7% of the people did not have access to transport facilities in the dry season because of the poor roads, while the lack of access increased to 78.9 percent in rainy season. In addition to this, few

vehicles were available for transport services to cities and even from villages to the farms both during the dry and rainy seasons. This could be due to the fact that movement of passengers is low in the area, which is further aggravated by the poor access roads leading in and out of the villages. According to Hine (1982), new road investment can alter the pattern of transport and distribution in

a particular area. If a bus operator believes that there is a good chance that his vehicle will suffer serious delays when using a particular road, then he will try to keep the number of trips on that road to an absolute minimum. However, if the road is improved and the chance of delay lessened, then he may respond by increasing his journey frequency.

Rural accessibility has been defined in terms of physical access to employment, services and facilities in rural areas. It is the ability of rural residents to get to or be reached by the activities or services, which are relevant to them. Olanrewaju

(1992) observed that villages with limited accessibility face severe difficulties in marketing their agricultural produce. In turn, this marketing constraint limits potential level of agricultural production. Villagers also experience great difficulties in gaining access to vital services such as education, medical care and agricultural services. In order to promote rural industrialization in developing countries, efforts at promoting rural development have to cope with the immediate and major limitations of poor access before progress is likely to be made with economic and social conditions.

Table 3: Distribution of respondents by perceived accessibility to transport

Accessibility	Dry season		Rainy season	
	No. of people	Percentage	No of people	Percentage
Accessible	134	31.31	93	21.03
Not Accessible	294	68.69	338	78.97
Total	428	100.00	428	100.00

Perceived accessibility to the farms by rural farmers

The findings also reveal that 76.64% of respondents claimed that the roads to farms were not accessible to vehicles (Table 4) and so could not easily have access to transportation to their various farms in the dry season. In the rainy season

however, the situation is worse because 82.74 percent of the respondents claimed that the road to the farms were not accessible to transport during the rainy season. Unfortunately, this is the period of the year when the farmers need the roads to transport both the farm inputs to the farm and the produce to the markets or their various homes.

Table 4: Distribution of respondents by perceived accessibility to the farms

Accessibility	Dry season		Rainy season	
	No. of people	Percentage	No. of people	Percentage
Accessible	100	23.36	76	17.76
Not-accessible	328	76.64	352	82.24
Total	428	100	428	100.00

Constraints faced in transporting farm produce

Apparently, rural communities faced and continue to face a myriad of transport problems. In terms of gravity of transportation problems, all the respondents identified poor physical condition of road, weather, the exorbitant cost of transport coupled with the poor quality and inadequate feeder roads as serious problems confronting the movement of freight and passengers in the study area. The constraints imposed on rural households by their lack of mobility have a number of repercussions on the daily lives including their performance in agriculture. In sub-Saharan Africa, transport is found to be a second order constraint to agricultural developments (Barwel, 1998). For example in Zambia, Barwel (1998) found that roads were in better conditions and transport services were much more widely available than in Burkina

Faso (the Kaya area) where they have poor road infrastructure and few transport services.

The study revealed that the several constraints faced by the respondents affected them at different levels; bad roads, weather condition, high transport costs, unavailability of vehicles and inadequate feeder roads, all have a major effect on the respondents as indicated by the higher percentage of the respondents. Irregular transport was also identified as a major constraint by 61.68% of the respondents, while 36.48% claimed that it was a minor problem. Breakdown of vehicles was a minor problem to 79.44% of the respondents, while 23.36% felt it was not a constraint. Losses during transportation (61.6%) and poor loading (74.64) were identified to pose no constraints to higher percentage of the respondents.

Table 5: Constraints faced in transporting farm produce

Constraints	Major	Minor	Not A constraint
Bad roads	389 (90.87)	39 (9.11)	0(0.00)
Weather / season	368 (85.98)	60 (14.02)	0(0.00)

Constraints	Major	Minor	Not A constraint
High transport cost	352 (82.24)	76 (17.75)	0(0.00)
Poor quality feeder roads	366 (85.51)	62 (14.49)	0.(0.00)
Irregular transport	264 (61.68)	156 (36.45)	8 (1.87)
Breakdown of vehicles	340(79.44)	44(10.28)	100 (23.36)
Losses during transport	24 (5.61)	140 (32.71)	264 (61.68)
Unavailability of vehicles	66 (15.42)	70 (16.36)	292 (68.22)
Poor loading	20 (4.67)	80 (18.69)	328 (76.64)
Spoilage of produce	0 (0.00)	23 (5.37)	405 (94.63)

Figures in parenthesis are percentages

Test of Hypothesis

A Chi-square analysis was carried out to ascertain the relationship between the level of farm accessibility and the condition of roads in the area. It was found that there was a significant relationship between the condition of roads in the area and farm accessibility. This is in agreement

with the findings of Barwell (1996) in his village-level studies where he found that proximity to an active local urban road access has a positive influence on the level of household income. He also discovered that the highest agricultural incomes were concentrated to a statistically significant degree in the villages with the best road access.

Table 6: Chi-square analysis of farm accessibility and road condition

Variables	χ^2	Df	P	Decision
Farm accessibility /road conditions	432.58	6	0.000	Sig.

CONCLUSION AND RECOMMENDATIONS

The study has attempted to demonstrate that the problem of poor rural transport facilities is a major problem in the study area. Some of the problems implicated are bad road conditions, poor accessibility to transport and poor accessibility to the farms.

It is therefore recommended that:

Road transport plans in the area should be afforded much emphasis than they have received in the past.

There is the need for a reappraisal of the overall route network in the area in such a way as to ease mobility and accessibility problems of rural inhabitants as well as ensuring route connectivity providing rural road links has to be complimented with policy of providing public transport that can convey the farmers to the farm and their farm produce to the market centres comfortably.

The private transport operators can also be encouraged by the government to ply the roads by giving them indirect government subsidies.

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