



Lapai Journal of Science and Technology, Vol. 9, No. 1 (2023)

THE ROLE OF ROAD TRANSPORTATION MODE ON THE MARKETING OF AGRICULTURAL PRODUCE IN LAPAI LOCAL GOVERNMENT AREA OF NIGER STATE, NIGERIA.

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ABSTRACT

The study assessed the role of road transportation modes on marketing of agricultural produce in Lapai Local Government Area of Niger State. The research was conducted in the year 2021 and the duration was three months only. Multistage random sampling technique was used to select a sample of ninety (90) respondents for the study. Primary data were collected with the aid of a structured questionnaire. Analysis of the data was through the use of descriptive statistics and Chi-square analysis. The results revealed the mean age of the respondents was 45 years, mostly male, married and less than half (31%) had formal education. The mean of marketing experience was 27 years while the mean of household size was 7 persons. Marketing was considered as full-time occupation (71%) with agricultural produce ranging from melon (31%), maize (28%) to rice (22%) as the major agricultural produce marketed. The mean annual income was ₦40,272:22k and vehicle (60%) was considered to be the main road transportation mode. Also, the constraints associated with the use of road transportation mode were lack of good road, high cost of transportation and poor knowledge of market situations. The result of Chi-square analysis indicated a significance association between cost of road transportation and price of agricultural produce. The recommendations offered includes: Government should maintain and repair the existing roads, built market close to agricultural producing areas to reduce the cost of transportation and the marketers should form Cooperative Society to monitor the market situations through information sharing.

Keywords: Road, Transportation, Mode, Marketing, Produce, Lapai



INTRODUCTION

According to Ade (2004), transportation is the “means by which goods and people are carried from one place to another”. With transportation, raw materials are brought to the factory for processing, while the finished goods are delivered to the wholesalers, retailers and the final consumers. Distribution of agricultural produce between town, state and nations is made easy and smooth because of transportation system. The earliest means of transportation was foot. People trekked from one place to another carrying their loads on their heads or their shoulders. Animals were also used as a means of transportation. However, great technological advancement has been made overtime in all forms of transportation. These advancements have enabled all types of goods as well as people to move from one place to another (Eyitera, 2005). Marketing and transportation are very relevant and basic functions of management in agricultural production process. The essence of transportation and marketing agricultural produce is to create added value of place and time utilities. Marketing and transportation also make agricultural commodities and services available at locations of needs and at desired time and form required (Nwauwa, 2012).

Udoh and Akpan (2007) stated that roads are found in virtually all countries of the world. Road however, vary in quality from one part of the world or locality to another. Thus, there is foot- paths suitable for non-mechanized use as well as major high-ways designed for rapid moving traffic. Road transport has some advantage over others; for example, there is flexibility of service and directness since many routes and destinations are possible within a small area. Furthermore, it is cheaper, more rapid and carries a wide range of goods over a short distance. Finally, roads transport offers maximum access along their line- sides compared with others such as railway and air routes.

The road in Nigeria can be grouped into four major categories on the basis of the authority responsible for their construction. Firstly, there are the trunks roads which are Federal inter-state highways. They form the grid framework on which the rest of the roads system is built.



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They also provide the links between the major centers and frontier posts. A number of major routes make up the trunk system roads in Nigeria (Ilesanni, 2005).

In Nigeria food security is critically dependent upon effective transportation system. This means that a wide variety of Nigerian food would not be available to the consumers without the complex transportation network system. Therefore, it became obvious that transportation is the live wire of economic development of every nation. However, the problem relating to rural inaccessibility has continued to hamper food availability in Nigeria's cities (Barnabas, 2017). In view of the above discussions, the study seeks to examine the role of road transportation modes on the marketing of agricultural produce in Lapai Local Government Area of Niger state, Nigeria. The study describes the socioeconomic characteristics of the marketers in the study area, identify the types of road transportation modes, examine the types of agricultural produce marketed and know the constraints associated with road transportation modes.

MATERIALS AND METHODS

The study Area

The study was carried out in Lapai Local Government Area of Niger State, Nigeria. The area lies between latitude 6.2⁰E and longitude 8.2⁰N, it is situated at 75kms to the state capital (Minna). It has border with Paikoro and Agaie Local Government Areas to the West, Kogi State to the South, Federal Capital and Gurara Local Government to the East. Area has a total population of about 53,687 and occupies a total area of about 3,730km² (National Population Commission, 2006). It comprises of eleven Districts and each of the districts is headed by a district head. The two major languages are Nupe and Dibbo. However, some minority tribes are found at different locations scattered in the area. Also, the Local Government has two distinctive seasons namely: wet and dry seasons. The wet season commences from April to October while the dry season commences from November to



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March respectively. The annual rainfall distribution pattern shows a maximum of 1300mm rainfall and minimum of 900-1000mm. Mean maximum temperature remains high throughout the year. The average minimum temperature is about 21.1°C. The people are mostly farmers and marketers. The main crops cultivated in the area includes: rice, sorghum, maize, cassava, sesame and melon. The major means of transportation are the road transport system (Niger state bureau of statistics, 2017).

Sampling Technique and sampling size

The sampling frame for the study consists of Lapai market, the local Government headquarters. Multi-stage sampling technique was used to collect the respondents in the study area. In the first stage, Lapai market was purposively selected to form a block for the study because of its large size and availability of marketers during markets days. In the second stage, the market was divided into three places (A, B and C) to form cells. In the third stage, ten villages (10) represented in the market were selected in each of the cells. In the final stage, three (3) marketers were randomly selected from each of the selected villages to make a total of ninety (90) sample size for the study.

Method of Data Collection

Primary data were collected with the aid of questionnaires which was administered by the researcher on market days while secondary information was obtained from books, journals, literature review and other publications or research works relevant to the study.

Measurement of Study Variables

The variables in this study are: Marketers, Socio-economic characteristics, the road transportation modes, agricultural produce marketed, the cost of transportation and the price of agricultural produce and the problems of road transportation.



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Socio-Economic Characteristics

Age: This is the number of years that have been spent from children to adulthood by the marketer. It was measured in the following categories: < 25 years, 25-30 years, 31-36 years, 37-42 years and > 42 years

Gender: This could be male or female in nature. It was measured as dummy variable with 1 = Male and 2 = Female

Household size: This refers, to the number of individuals living together in a household. It was measured in the following ways: < 2 persons, 2-4 persons, 5-7 persons, 8-10 persons and > 10 persons.

Educational Status: This was measured on the basis of years spent in formal school: Quranic education = 1, primary education = 2, Secondary School = 3, Tertiary Education = 4.

Occupation: This refers to the respondent's major source of income or livelihood. It was measured as a dummy variable with 1 = Marketers as primary, 2 = Marketers as Secondary occupations.

Marketing Experience: This refers to the number of years a marketer was engaged in marketing of Agricultural produce. It could be: < 5 years, 5-10 years, 11-16 years, 17-22 years, > 22 years.

Agricultural Produce Marketing Enterprises

Marketing Enterprise: This refers to whether the respondent's market mostly arable agricultural produce or non-arable agricultural produce. It was measured as Arable crops, Non-arable crops.

Types of Agricultural Produce Marketed: This requires the listing of agricultural produce marketed like: Maize, Rice and Melon.



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Pricing of Agricultural Produce: This refers to the determinant of price of agricultural produce in the market. It was measured as: Season, Transportation cost, Demands and Scarcity.

Price measurement: This shows how the agricultural produce are measured. This could be: by Mudus, by Bags or by both Mudus and bags.

Market visit: This shows the number of times the marketer visited market on market days in a year. This is to be measured by: 10 times, 15 times, 20 times, 25 times, > 25 times.

Road Transportation Modes

Road transportation modes: This refers to the use of road transportation modes to convey the agricultural produce to the market. This is to be measured by Yes or No.

Types of transportation modes: This refers to the listing of road transportation mode like: Vehicles, Train and Animals.

Pricing of road transportation modes: This shows what determine the price of road transportation modes: Distance, Number of Bags, Road, Season etc.

Market visit: This shows the number of times the marketer visited market on market days in a year. This is to be measured by: 10 times, 15 times, 20 times, 25 times, > 25 times.

Problems of Road Transportation Mode

This refers to the problems encountered by the marketers in transporting agricultural produce to the market. This is to be determined using the following: Lack of good roads, Lack of vehicles, Long distance to the market area, etc.

Method of Data Analysis

The data obtained for the study were analyzed using descriptive statistics (such as frequency, percentage and mean) to achieve the specific objectives while and inferential statistics (chi-square analysis) was used to test the hypothesis of the study.



Model Specification

The model used for the study was Chi-square analysis

Chi-Square Analysis

Chi-square model is specified as follows:

$$X^2 = \sum \frac{(O-E)^2}{E}$$

Where:

X^2 = Chi-square;

\sum = Summation

O = Observed value of variable; and

E = Expected value of variable.

When X^2 calculated is greater than X^2 tabulated, null hypothesis (H_0) is rejected.

RESULTS AND DISCUSSION

Socioeconomic Characteristics of the Respondents

The marketers in the study area were between the ages of 20-60 years with the mean age of 45 years (Table 1). This implies that the respondents were in the middle or active age group. The result of the study agreed with findings of Owolabi (2012) that reported that this age group (30-45 years) tends to be very active and productive. The table also, indicates that 84% of the marketers were male. This implies that marketing of agricultural produce is strenuous activities that can be handled better by men. Musa (2010) asserted that physical labour productivity depends on their socioeconomic characteristics namely: age, sex and health status.

It was revealed that 90% of the respondents were married (Table 1). This implies that married was considered as the way of life. This will also, served as a way of getting more hands to assist in family labour and marketing of agricultural produce. Married people are involved in marketing activities to cater for family welfare. The table also, indicates that the



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respondents had the mean household size of 7 people. Ogunbameru *et al.* (2008) found a significant relationship between household and family labour.

It was also revealed that 69% of the respondents were having Qur'anic education (informal education) while 31% had formal education (Table2). This implies that the marketing activities were conducted by less educated people in the study area. This means the new methods of marketing through internet or online may not be easily applicable as it requires sound education and computer literacy. Markers in the study area will continue to operate on the local methods of marketing. This will retard the economic growth of the marketers.

Results in Table 1 reveals that 71% of the respondents were full-time marketers. This implies that majority of the respondents depends on marketing for their daily meals and family welfare. Marketing therefore, is a way of reducing the menace of unemployment. Marketing is a self-employment mechanism. This further implies that, in this present situation where employment was difficult with small capital one can easily engage in agricultural marketing to earn a living for the family.

Table 1 reveals that the marketing experience of the respondents in the study had a mean of 27 years. The number of years acquired in marketing will help them learn new ways of marketing with the little education. The table also, shows that the respondents had the mean income level of ₦40,272:22k. This implies that the marketers were operating a local or rural market. This will not exposure the marketers to the real marketing procedures globally. As such, the economic growth of the marketers and the entire area will be retarded economically.



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Table 1: Distribution of Respondents' Socioeconomics Characteristics (n = 90)

Variable	Frequency	Percentage	Mean
Age (years)			
20-30	10	11.1	45 years
31-40	22	24.4	
41-50	29	32.2	
51-60	17	18.9	
>60	12	13.3	
Sex			
Male	76	84	
Female	14	16	
Marital Status			
Single	8	9	
Married	81	90	
Widow	1	1	
Household Size (persons)			
1-5	37	41	7 persons
6-10	32	36	
11-15	11	12	
16-20	2	2	
Educational Level			
Qur'anic Education	62	69	
Primary Education	20	22	
Secondary Education	8	9	
Occupation			
Full-Time Marketer	64	71	
Part-Time Marketer	26	29	
Marketing Experience (years)			
< 10	10	11	27 years
10-20	16	18	
21-30	22	24	
31-40	32	36	
>40	10	11	
Level of Income (#)			
<20,000	8	9	N40,272:22k
20,000-30,000	12	13	
31,000-40,000	16	18	
41,000-50,000	23	26	
>50,000	31	34	

Source: Field survey, 2021



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Types of Transportation Mode

The present study shows that 60% of the respondents' uses vehicle, 27% uses motorcycle and 13% uses wheel barrow respectively (Table 2). This implies that vehicles were the major transportation mode used in the area. This will not be unconnected with the fact that agricultural produce is bulky and perishable. Using vehicles will enable the produce to be conveyed as whole and quickly to the market within a very short period before the deterioration of the produce.

Table 2: Distribution of Transportation Mode (n=90)

Variable	Frequency	Percentage	Mean
Vehicle	54	60	
Motorcycle	24	27	
Wheel barrow	12	13	

Source: Field survey, 2021

Types of Agricultural Produce

Agricultural produce is presented in Table 3. It shows that 31% of the respondents marketed melon, 28% maize, 22% rice, 11% yam, 6% sorghum and 2% millet. This implies that the respondents marketed melon most. This could be as a result of its use as cash crop to earn a living for their family.

Table 3: Distribution of Agricultural Produce (n=90)

Variable	Frequency	Percentage	Mean
Melon	28	31	
Maize	25	28	
Rice	20	22	
Yam	10	11	
Sorghum	5	6	
Millet	2	2	

Source: Field survey, 2021.



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Constraints Associated with Transportation Mode

The constraints associated with transportation mode are presented in Table 4. It was elucidated that 21.1% of the respondents were lack of good road, 15.7% long distance to the market, 13.6% transportation cost, 13.6% arm robbery, 13.3% arm banditry, 7.9% low price of agricultural produce and poor knowledge of market situation and 3.3% lack of vehicle were the constraints to road transportation in the study area. This implies that the agricultural produce price will be increased to cover the cost incurred to the market. The constraints encountered by the marketers were monetized to be paid by the consumers. This resulted to high price of agricultural produce even at harvesting period.

Table 4: Constraints of Road Transportation Mode (n =90). *Multiple responses

Variables	Frequency	Percentage	Mean
Lack of good road	70	21.1	
Lack of vehicles	11	3.3	
Long distance to the market area	52	15.7	
Transportation cost	45	13.6	
Arm banditry	14	13.3	
Arm robbery	45	13.6	
Low price of Agricultural produce	26	7.9	
Low patronage of Agricultural produce	12	3.6	
Poor knowledge of Market situations	26	7.9	
	*331		

Source: Field survey, 2021

Chi-square Analysis

The Chi-square analysis of association between the cost of transportation and the price of agricultural produce in the study area is represented in Table 5. The table further shows that the calculated value 197.318 is greater than the p-value of 0.324. This means there is a significant association between the cost of transportation and the price of agricultural produce. This implies that marketers in the study area depend on the cost of transportation



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to determine the price of agricultural produce. The production cost and transportation cost usually increase rapidly with poor road transportation system due to bad roads and distance between villages and markets (Word Bank, 2014).

Table 5: Chi-square Analysis of the Association between cost of Transportation and price of Agricultural Produce

Variable	Value	Df	Significance
Pearson Chi-square	197.318*	189	0.324
Likelihood Ratio	129.164	189	1.000
Linear-by-Linear association	448	1	0.503
N of Valid Cases	90		

Source: Field survey, 2021.

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