



ROAD TRANSPORTATION, FOOD INFLATION AND UNEMPLOYMENT IN THE RURAL AREAS OF THE FEDERAL CAPITAL TERRITORY IN NIGERIA

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ABSTRACT: *This study focused on the impact of road transportation on food inflation and unemployment in the rural areas of the Federal Capital Territory in Nigeria, with the main objective of seeking to proffer policy recommendations through which road transportation can be used positively to improve the standards of living of the rural populace in the study area. Primary data was utilised from a sample of Four hundred and twenty respondents selected from twenty rural settlements. Five attributes of road transportation were studied as independent variables, while two variables/proxies of were analysed as dependent variables, using the Statistical Package for Social Science (SPSS) software. The study employed descriptive and other quantitative techniques in the analysis and employed the Ordered Logistic (OL) model to test the hypotheses. The test of hypotheses revealed that the Null hypotheses were rejected in the two tests carried out and the Alternative hypotheses were accepted, meaning that the state of road transportation impacted on food prices and level of employment of rural dwellers in the Federal Capital Territory of Nigeria. The study recommended that there the Area Councils should rehabilitate roads by improving the earth and gravel-coated ones that are predominant in their respective Area Councils; that the unemployment situation can be improved through renovation, construction and rehabilitation of rural roads through direct labour; and that that the Area Councils should establish the equivalent of the Federal Roads Maintenance Agency (FERMA) in their Area Councils and fund them appropriately to tackle the menace of worsening rural roads.*

KEYWORDS: Road transportation, food inflation, unemployment, Ordered Logistic Model, rural areas, Federal Capital Territory.



INTRODUCTION

Transportation is crucial to the prosperity of regions as it increases productivity of existing inputs and decreases transport and production costs; making the regions more attractive for investors. (Badalyan, Herzfeld, & Rajcaniova, 2014). Road transportation investments represent important political, economic, and social assets that increase national wealth, enlarge markets and lower trade barriers. The different modes of transportation, which include air, road, railway, water and pipelines, are all instrumental in one way or the other in bringing about development in an area (Isa & Siyan, 2016).

Road transportation is unique compared to other modes of transportation because of its ubiquitousness and flexibility (Njoh, 2012). On a continental level, it has been estimated that three in five of Africa's poor are chronically poor, suggesting that poverty in Africa remains deeply structural, with approximately four out of five of Africa's poor (82 percent) living in rural areas (Christiaensen & Hill, 2019). Most of the world's poor that live in rural areas are isolated by distance and terrain, away from employment, economic opportunities, markets, healthcare and educational facilities (Starkey & Hine, 2014). Despite the importance supposedly placed on agriculture and rural development by various levels of governments in Nigeria over the past years, the rural areas in Nigeria still exhibit what Falade (1990) has aptly described as the 3Ds namely: depression, degradation and deprivation.

The major economic activity in the rural areas, where majority of poor people in Nigeria reside, is primary production, particularly agriculture, fishing and animal husbandry. Agriculture has always been the traditional mainstay of the Nigerian economy and is unarguably the most prominent economic activity in the rural areas (Olayiwola & Adeleye, 2005). Evidence from the literature suggests that the share of agricultural sector in Nigeria's Gross Domestic Product has continuously declined from about 56% in the 1960-1964 period, to about 35% in 2008 (National Bureau of Statistics, 2004), with further decline to 21% in 2018 (Food and Agriculture Organisation, 2018). Despite the importance of agriculture to the rural economy, the sector's productivity limitations, predispose the rural farmers to severe income and poverty challenges (Odoh, Nwibo, Eze, & Igberi, 2019).

Investment in transportation, especially road transportation, is deemed critical to advancing agricultural productivity, which still remains the pillar of the Nigerian predominantly rural economy, and to human welfare and development, including the delivery of health and education services to the rural poor. The various multiplier effects of activities in road provision, upgrades and maintenance, can themselves serve as stimuluses for development and productive employment in rural Nigeria. The provision of safe, reliable and affordable rural transportation is essential to facilitate rural access to markets, services, enterprise and employment opportunities (Ugwu, Agunbiade, & Auta, 2025).

Over the years, food inflation has become a major challenge in developing and emerging economies. Nigeria, being one of the largest economies in Africa, is extremely exposed to unique challenges of food price trends with significant impact on the nation's economy. According to data from the National Bureau of Statistics (2024), there was a drastic increase in food prices, with cost of food in Nigeria increasing by 37.77 percent in September of 2024 over the same month in the



previous year. Food Inflation in Nigeria averaged 13.72 percent from 1996 until 2024, reaching an all-time high of 40.87 percent in June of 2024 and a record low of -17.50 percent in January of 2000 (National Bureau of Statistics - NBS, 2024). The Food and Agriculture Organization - FAO (2021) has noted that food commodity prices in May 2021 rose at the fastest monthly rate in more than a decade.

Higher food prices makes it very difficult to achieve most Millenium Development Goals (MDGs) targets. Food price increase affects food consumption, quality of people's diet, access to social services, and sometimes the quality of care for infant and young children. Scholars maintain that escalating food prices have the potential of eroding household purchasing power, exacerbate poverty levels, and highten income inequalities (Adegboye, Adekunjo, & Adesina (2020). Despite the huge financial investments made by the federal, state and to some extent, local governments in the provision of rural roads, most of these roads are characterised by very poor condition, as a result of inadequate maintenance or even total neglect. It has been estimated that 30% of federal roads and 40% of state roads respectively in Nigeria are in bad condition while for rural roads the percentage is more than 75% (World Bank, 2012).

The unemployment rate in Nigeria stood at 5.3 percent in the first quarter of 2024, representing a third consecutive increase since the second quarter of 2023. (Nigerian Economic Summit Group – NESG (2025), However, the underemployment rate fell from 12.3 percent in 2023Q3 to 10.6 percent in 2024Q1. Consequently, Nigeria's misery index - the sum of unemployment and inflation rates - rose to 36.9 percent in 2024Q1 from 30.5 percent in 2023Q3. Nigeria has one of the world's highest misery indexes, with many Nigerians experiencing a cost-of-living crisis and weak purchasing power due to rising inflation.

According to the Nigerian Economic Summit Group – NESG (2025), the formal sector accounts for only 7.3 percent of employment opportunities, presupposing that many Nigerians are exposed to vulnerable employment (representing over 70 percent of total employment), non-paid or low-paid jobs, and poor working conditions, characterising the informal sector. Also concerning is the issue of the “working poor”, as 84 percent of the employed are engaged in non-paid jobs.

The undesirable development indices like poverty, unemployment, illiteracy, poor productivity, poor health, inequality and want are most prevalent in the rural areas in Nigeria. Therefore, it becomes imperative to study the impact of rural road transportation on inflation and unemployment; towards identifying policy areas for improving the situation. This research on the impact of road transport on food inflation and unemployment in the rural areas of the Federal Capital Territory (FCT) is unique in several ways.

This study seeks answers to the following research questions:

- i. What is the impact of road transportation on food prices in the rural areas of the Federal Capital Territory of Nigeria?
- ii. What is the impact of road transportation on the level of employment in the rural areas of the Federal Capital Territory of Nigeria?



The specific objectives of the study are to:

- i. Determine the impact of road transportation on food prices in the rural areas of the Federal Capital Territory of Nigeria.
- ii. Investigate the impact of road transportation on the level of employment in the rural areas of the Federal Capital Territory of Nigeria.

Based on the above objectives, the hypotheses are expressed in Null form:

- i. H_{01} : There isn't any significant impact of road transportation on food prices in the rural areas of the Federal Capital Territory of Nigeria.
- ii. H_{02} : Road transportation hasn't significantly impacted on the level of employment in the rural areas of the Federal Capital Territory of Nigeria.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Conceptual Review

Road Transportation

The simplest way to identify roads based on morphology is paving, that is, roads may be paved or unpaved. Paved roads have their surface covered with concrete, tarmac or any other form of sealant, that makes the road more durable and gives an all-weather surface (Dissanayake & Himanshu, 2016). Unpaved roads lack a top layer sealant and tend to be temporary, often built for short term extraction projects, or the road is unfinished and there is the intention to pave over the road at a later date. Paved roads are by nature considered permanent because once paved, they are long lasting, unlike unpaved roads that are essentially cleared, compacted dirt roads (Dissanayake & Himanshu, 2016).

It is worthy of note that a major feature of the transportation system in Nigeria is the near absence of alternative modes of transportation, as an estimated 90% of passengers and freight in Nigeria rely on the road network, with the attendant challenge of increased number and incidence of road traffic crashes (Sumaila, 2013; Ubogu, *et al.*, 2011). The road system accounts for more than 90 percent of the sub-sector's contribution to the nation's Gross Domestic Product (Siyan, 2017). The road became the priority mode of transport since the collapse of the rail system in the 1970s/80s (Federal Republic of Nigeria, 2015).

Food Inflation

Inflation depicts an economic situation where there is a general rise in the prices of goods and services on a continuous basis. The Central Bank of Nigeria has defined inflation as a continuing rise in prices of goods and services as measured by an index such as the consumer price index (CPI) or by the implicit price deflator for Gross National Product (GNP) (Central Bank of Nigeria, n.d). In simple terms, it is frequently described as a situation where too much money is chasing



too few goods. Food inflation, which is a key component of general inflation, is the rate at which food prices increase over a period of time. It is usually measured by the Consumer Price Index (CPI) for food, which shows how much the cost of a standard basket of food has risen (Kwode & Gad, 2024).

Unemployment

The International Labour Organisation (2007) has defined unemployed workers as those who are currently not working but are willing and able to work for pay, currently available to work and have actively search for work. Udu and Agu (2005) described unemployment as a condition in which people capable and willing to work are unable to find suitable remunerated employment. Hornby (2010) went further to define unemployment as the number of people not having jobs; the number of people without jobs; and the state of not having a job. This will include the underemployed, which occurs when people undertake jobs that are contrary or lower than their skills, qualifications or areas of specialisation.

Rural Areas

A key issue to note in this study is the “rural–urban spectrum” concept as identified by the Food and Agriculture Organisation (2017) in its State of Food and Agriculture (SOFA) 2017 report and the World Bank (2009) in its World Development Report (WDR) 2009 Agglomeration Index. A 2005 World Bank Policy Research Paper proposes an operational definition of rurality based on population density and distance to large cities (Chomitz, Buys & Thomas, 2005). The report argues that these criteria are important gradients along which economic behaviour and appropriate development interventions vary substantially. On its part, apart from the single criterion of administrative area or population size, the Food and Agriculture Organisation (2018) included the predominance of agricultural activities, the availability of natural resources, lack of basic social services (such as education and health), lack of physical and telecommunications infrastructure, poor access to financial services, etc., as additional evidence of rurality of a settlement.

Theoretical Review

Equity Theory of Transport

The Equity Theory is predicated on the belief that transport is a merit good that ought to be provided at a minimum level to all citizens to avoid the exclusion of any segment of the society (Banister, 1994). This theory derives from the early traditionalist view of transport investment as a development initiator, required at the very early stages in the development process of any economy, to instigate a market widening effect (Button & Gillingwater, 1986). It is proposed as an antidote for weak regions that lack economic dynamism.

Manheim’s Equilibrium Theory

Transportation planning has traditionally relied on the equilibrium theory of Manheim (1979), which states that a transportation system is said to be tightly interrelated with the socio-economic system. The transportation system (supply) will affect the way in which the socio-economic system grows or changes (demand) and vice-versa. Manheim’s equilibrium theory has for long been



modelled using ‘predict – provide’ models. However, nowadays, no feasible road network can cope with the forecasted levels of travel demand, as well as the obvious fact that the limits are sometimes imposed by environmental considerations.

Barro’s Endogenous Model

The theoretical work of Barro (1990) closely followed the path-breaking study of Aschauer (1989) concerning the role of public infrastructure in economic growth. Their studies brought greater attention and focus to the role of public investment on infrastructure such as electricity, transport and communication in enhancing economic performance. Barro (1990) developed a theory of growth wherein he factored infrastructure capital as an input into the aggregate production function, apart from the traditional labour and capital variables; but with it coming in at the cost of reduced investment in other types of capital. Thus, the Barro model can be used to derive a reduced form relationship between income per capita and infrastructure stocks per capita.

Empirical Review

Fan, Zhang and Zhang (2002) examined the impact of public investments in road transportation on development and inequality in rural China, using provincial data. They developed a simultaneous equations model to estimate the effects of different types of public infrastructure spending on agricultural development and rural poverty in China, using 1970–1997 provincial level data. They found out that roads significantly increased agricultural productivity, non-agricultural employment opportunities and rural non-agricultural wages. The estimated elasticities with respect to road density are 0.08 for agricultural GDP per worker, 0.10 for nonagricultural employment, and 0.15 for wages of nonagricultural workers in rural areas. Among government infrastructure projects, rural roads were found to have the largest impact on poverty incidence: for every 10,000 yuan (Chinese currency) invested on rural roads, 3.2 poor persons are estimated to be lifted out of poverty.

Gbadamosi and Olorunfemi (2016) identified rural road transport infrastructural challenges as an impediment to health care service delivery in Akutupa-Kiri village, in Kabba Bunu Local Government Area of Kogi State. The study was carried out through structured questionnaires administered on 156 respondents, and reconnaissance survey to ascertain the situation. Univariate analytical technique was used to establish the perception of residents of the area on the impact of transport on the socio-economic development of the area, as well as its impact on access to health care facility. The study recommended construction of motorable roads with adequate infrastructure and creation of an Agency or Board that could monitor rural road transportation, particularly road transportation, to facilitate easy movement and accentuate healthcare delivery in the area.

Aderamo and Magaji (2010) explored the role of rural transport in the distribution of public facilities in Edu Local LGA Area of Kwara State using multiple regression on key variables liked educational, health care, water supply, commercial and communication facilities. They discovered that lack of public services/utilities are due to poor rural roads. They recommended that inventory of public amenities should be taken regularly by government and that residents should be involved in road investment on community basis.



Usman and Sulyman (2013) examined the role of rural road transport in determining physical access to primary health centres in the rural areas of Ilorin East Local Government Area of Kwara State, Nigeria. The study utilised primary data collected from a sample of 207 rural households, using structured questionnaire with stepwise multiple regression technique used to analyse the data. They found out that about 49% of the respondents travelled to health centres by foot while about 23% travelled by commercial motorcycle. The result further indicated that travel time to health facilities was generally low in the areas as 55.6% of the sample spent less than 40 minutes to seek reach medical facilities. The study recommended that access to rural health centres can be enhanced by improving rural roads, introduction of interventions to improve provision of rural transport services and introduction of mobile clinics to ensure that modern medical care is made available to the generality of the people.

METHODOLOGY

The methodology for this study was experimental research, which sought to determine a relationship between two variables - the dependent variable and the independent variable. It is after completing an experimental research study, that a correlation between a specific aspect of an entity and the variable being studied is either supported or rejected. It is a causal design where one observes the impact caused by the independent variable on the dependent variable. Experimental research design establishes a relationship between the cause and effect of a situation.

Population of the Study

This study utilised as its population the Area Councils in the FCT, Abuja. The projected population of the six (6) Area Councils in FCT in 2016 was 3,564,126 according to the National Bureau of Statistics (2017). Using an average growth rate of 3.2% per annum, as adopted by the National Bureau of Statistics (2017), the estimated population in 2020 should be 4,042,703.

Table 3.1: FCT Area Councils Population Distribution

S/No	Area Council	2006 Census	2016 Projection	Percentage Distribution	2020 Estimation
1	Abaji	58,642	148,600	4.17%	168,559
2	AMAC	776,298	1,967,500	55.20%	2,231,767
3	Bwari	229,274	581,100	16.30%	659,151
4	Gwagwalada	158,618	402,000	11.28%	455,995
5	Kuje	97,233	246,400	6.91%	279,496



6	Kwali	86,174	218,400	6.13%	247,735
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Total	1,406,239	3,564,000	100.00%	4,042,703
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Sources: Computed by Author from data from National Population Commission (2009), National Bureau of Statistics (2017) and <https://www.citypopulation.de/php/nigeria-admin.php?adm1id=NGA015>

Sample

The FCT is divided into sixty-two (62) political wards spread over the six (6) Area Councils. These political wards are made up of towns, villages and rural settlements in various stages of development and modernisation. In determining which locations are rural and which are urban in the FCT, we are mindful of the “rural–urban spectrum” concept as discussed earlier and identified by the Food and Agriculture Organisation (2017) in its State of Food and Agriculture (SOFA) 2017 report and the World Bank (2009) in its World Development Report – WDR (2009) agglomeration index. As such Abuja Metropolitan Area Council (AMAC), which is mostly urban does not fit into our definition of rural areas.

We selected our samples from the rural areas in five Area Councils based on our definition of rural areas in Section 2, using the three (3) major criteria of population (below 20,000 residents), lack of adequate physical and social infrastructural services (no high schools, tarred roads) and exhibition of distinctive socio-cultural characteristics usually associated with rural settings (communal settings). We utilised the Yamane (1967) methodology to select our sample, using the formula:

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

where: n = sample size required

N = number of people in the population

1 = constant

e = margin of allowable error in %, which in this instance we have assumed to be 5%

Therefore:

$$n = \frac{400,000}{[1 + 400,000(0.05)^2]} = \frac{400,000}{[1 + 1,000]}$$

$$= \frac{400,000}{1,001} = 399.6 = 400 \text{ Approximately.}$$



Proportional random sampling technique was used to select respondents, who are household heads from among each village population. This ensured coverage of the entire population. We added 20 more samples to account for questionnaires that may not be returned.

Model Specification

The theoretical framework for this study was derived from growth model of Barro (1990), already extensively discussed in Section 2, where infrastructure capital is factored as an input into the aggregate production; but with it coming in at the cost of reduced investment in other types of capital. Relying on this framework, there is an optimal level of infrastructure, which maximises the economy's growth rate, such that if infrastructure levels are set too high, they divert investment away from other capital to the point where income growth is reduced. Thus, the Barro model can be used to derive a reduced form relationship between income per capita (as measure of well-being) and infrastructure stocks per capita.

The Barro (1990) model can be simply represented as follows:

$$Y_t = A_t L_t^{1-\alpha-\beta} K_t^\alpha G_t^\beta \dots\dots\dots 3.1$$

where: Y = Aggregate output, at time t, which is produced using public infrastructure capital (G), private capital (K), and labor (L). A = Total factor productivity at time t which is assumed to be constant. The superscript α and β represent the shares of K and G in the equation.

This model can be extended further as follows:

$$FP = f(RC, TT, COT, TOT, DMA) \dots\dots\dots 3.2$$

The above equation 3.2 represents market access, where the greater availability of inputs and their reduced prices due to lower transport costs inevitably increases productivity. This inevitably reduces market prices of consumables and hence increases consumption. We have proxied this impact with cost of food prices and thereby formulated the above equation:

$$EMP = f(RC, TT, COT, TOT, DMA) \dots\dots\dots 3.3$$

Road transportation reduces poverty by creating employment and new job opportunities, and on this basis, we formulated the above equation 3.3

where:

1. FP = Food Prices (Market access impact- Dependent variable)
2. EMP = Employment (Labor activities impact- Dependent variable)
3. RC = Road Condition (Road variable – Independent)
4. TT = Travel Time (Road variable – Independent)
5. COT = Cost of Transport (Road variable – Independent)



6. TOT = Type of Transport (Road variable – Independent)

7. DMA = Distance to Major Activities (Road variable – Independent)

From the above, we thereafter formulated the following econometric model:

$$FP = \delta_0 + \delta_1 RC + \delta_2 TT + \delta_3 COT + \delta_4 TOT + \delta_5 DMA + \mu \dots\dots\dots 3.4$$

$$EMP = \theta_0 + \theta_1 RC + \theta_2 TT + \theta_3 COT + \theta_4 TOT + \theta_5 DMA + \mu \dots\dots\dots 3.5$$

where:

μ represent the error terms which are normally and randomly distributed, with expected value of zero and constant variance.

δ_0 to δ^5 , θ_0 to θ^5 are parameters to be estimated.

Also, $\delta_0, \delta_1, \delta_2, \delta_3, \delta_4, \delta^5 > 0$; $\theta_0, \theta_1, \theta_2, \theta_3, \theta_4, \theta^5 > 0$

This means that all the explanatory variables are expected to have positive relationships with the independent variables. We thereafter used Ordered Logistic (OL) model to test the hypotheses as it was most appropriate for the type of dataset we used in order to achieve our research objectives.

DATA PRESENTATION AND ANALYSIS

Distribution of Respondents According to Level of Food Prices

Figure 4.1 presents an analysis of the distribution of respondents according to their views on the level of food prices. Explicitly, of the total number of 400 respondents, 16 respondents representing 3.8% of the total respondents, subscribe to low food prices. Further, 170 respondents, and 234 respondents who also represent 40.5 percent, and 55.7 percent of the total respondents' percentage, say the food price is high, and very high accordingly. The value of the total percent equals the last value of the cumulative percent, this shows the statistical reliability of the percentage distribution. Approximately, further analysis of the distribution of respondents based on their opinions on food prices is presented in Figure 4.1.

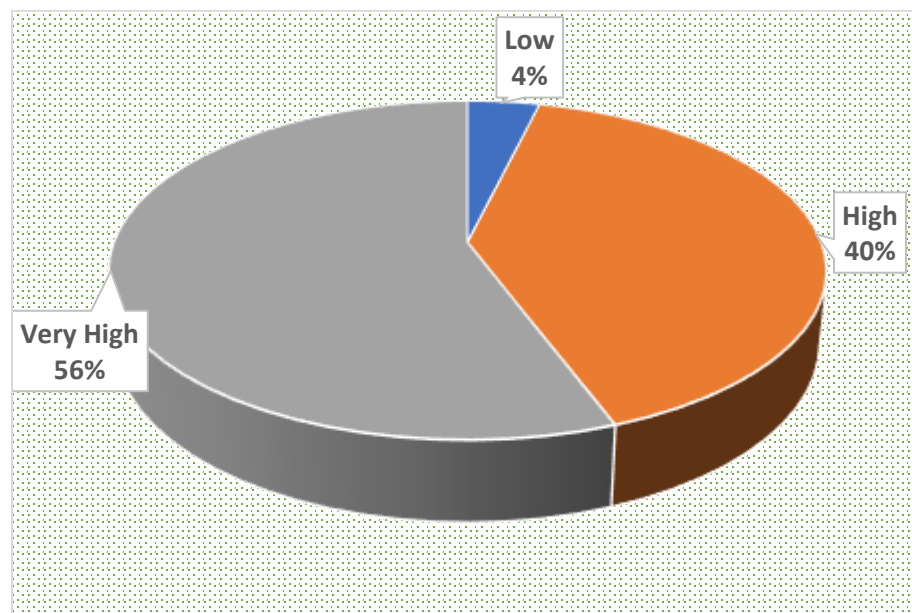


Figure 4.1: Level of Food Prices

Distribution of Respondents According to Occupation

Figure 4.2 reveals the analysis of the distribution of respondents according to occupation. As shown in the Figure, the total number of respondents is 420. The Figure shows that 111 respondents, representing 26.4% of the total respondents are employed. The self-employed respondents are 244 in number and they represent 58.1% of the total respondents. 65 of the total respondents are unemployed, and they represent 15.5% of the total respondents. The cumulative percent which equals the total percent is evidence of the proper percentage distribution of the respondents. Furthermore, the distribution is graphically presented in Figure 4.2

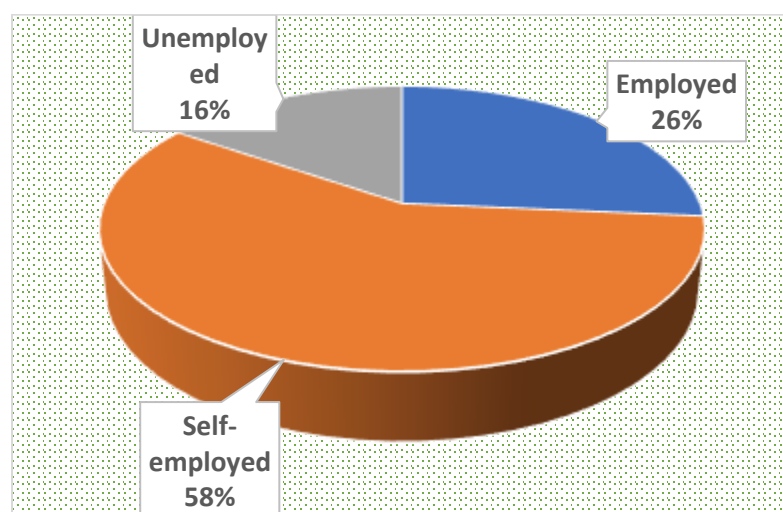


Figure 4.2: Distribution of Respondents According to Occupation



Tests of Hypotheses

H₀₁: There isn't any significant impact of road transportation on food prices in the rural areas of the Federal Capital Territory of Nigeria.

Table 4.1: Impact of Road Transportation on Food Prices in Rural Areas

Variable name	Coefficient	Odds ratio	Food Price		
			Low	High	Very High
			Marginal effect		
Road condition	-0.374** (0.147)	0.688	0.013** (0.006)	0.080** (0.032)	-0.092** (0.036)
Travel time	-0.152 (0.176)	0.859	0.005 (0.006)	0.032 (0.037)	-0.037 (0.043)
Cost of transport	0.391** (0.169)	1.478	-0.013** (0.006)	-0.083** (0.036)	0.096** (0.042)
Type of transport	-0.074 (0.102)	0.929	0.002 (0.003)	0.016 (0.022)	-0.018 (0.025)
Distance	0.153 (0.124)	1.165	-0.005 (0.004)	-0.033 (0.027)	0.038 (0.031)
Expected prob.			0.03	0.41	0.56
No. of observations	420				
LR test	76.540				
Prob. Chi-square	0.000				

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

In the regression result above, the dependent variable Food Price takes one of three values: low, high, or very high. The likelihood ratio test indicates that the null hypothesis of all coefficients being equal to zero is rejected at a 1% level of significance. Table 4.1 presents the estimated coefficients, odds ratios, marginal effects, and corresponding expected probabilities. The last row shows the expected probabilities and sum to one as expected (probability cannot exceed one).

As a result, the coefficient of road condition negatively and significantly impacted on food price and this suggests that it is an important determinant of road transportation about food price. The odds ratio is 0.688, indicating that improvement in the road condition reduces the odds of food price inflation by 31%. Conversely, the coefficient of cost of transportation positively and significantly impacted on food price and this suggests that it is an important determinant of poverty alleviation through food price. The odds ratio is 1.478, indicating that an increase in the one-level cost of transportation increases the odds of food price inflation by 48%.



The expected probabilities show that the level of food price inflation in the FCT is skyrocketing; there is a 97% (0.41 + 0.56) probability that food items are costly in the FCT.

H₀₂: Road transportation hasn't significantly impacted on the level of employment in the rural areas of the Federal Capital Territory of Nigeria.

Table 4.2: Impact of Road Transportation on the level of employment in the Rural Areas

Variable name	Coefficient	Odds ratio	Employment Status		
			Employed	Self-employed	Unemployed
			Marginal effect		
Road condition	0.165 (0.150)	1.179	-0.031 (0.028)	0.010 (0.010)	0.021 (0.019)
Travel time	-0.013 (0.173)	0.987	0.003 (0.032)	-0.001 (0.011)	-0.002 (0.021)
Cost of transport	-0.434*** (0.157)	0.648	0.081*** (0.029)	-0.027** (0.013)	-0.054*** (0.020)
Type of transport	-0.374*** (0.092)	0.688	0.070*** (0.017)	-0.023*** (0.009)	-0.046*** (0.012)
Distance	-0.082 (0.115)	0.922	0.015 (0.022)	-0.005 (0.007)	-0.010 (0.014)
Expected prob.			0.25	0.61	0.15
No. of observations	420				
LR test	151.666				
Prob. Chi-square	0.000				

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

In the regression result above, the dependent variable Employment Status takes one of three values: employed, self-employed, or unemployed. The likelihood ratio test indicates that the null hypothesis of all coefficients being equal to zero is rejected at a 1% level of significance. Table 4.2 presents the estimated coefficients, odds ratios, marginal effects, and corresponding expected probabilities. The last row shows the expected probabilities and sum to one as expected (probability cannot exceed one).

As a result, the coefficient of cost of transportation negatively and significantly impacted on employment status and this suggests that the higher the transportation cost, the lower the level of employment that could be generated in the community. The odds ratio is 0.648, indicating that a one-level increase in the transportation cost increases the odds of idleness by 35%. Likewise, the coefficient of types of transportation negatively and significantly impacted on employment status



and this suggests that it is an important determinant of poverty alleviation through employment status. The odds ratio is 0.688, indicating that a one-level increase in the available types of transportation increases the odds of being idle by 33%.

The expected probabilities show that there is a 61% probability that most people in rural FCT are self-employed, and 25% are lawfully employed by agents. However, the rate of unemployment in the FCT is bearable as about 15% are probably shown to be unemployed in the FCT.

IMPLICATIONS OF FINDINGS

Food Prices

The findings from this study revealed that road condition and cost of transportation positively and significantly impacted on food prices in the study area. More importantly, the expected probabilities showed that the level of food price inflation in the rural FCT is skyrocketing; since there is a 97% ($0.41 + 0.56$) probability that food items are costly in the study area. As revealed in the study area, most of the roads where major farming activities are carried out are inaccessible; the roads are un-surfaced, narrow, poorly drained, and winding, thereby making it difficult to convey products from the farm to the marketplace. Even when such roads are in a fair condition, there is a problem of poor maintenance, lack of adequate execution capacity, lack of suitable materials and management problems.

The findings from this study support the earlier work by Lokesha and Mahesha (2017), who confirmed that road transportation had a significant impact on agricultural sector development that influences the prices of agricultural produce in rural India. Olorunfemi (2020) also discovered that poor road network led to significant agricultural post-harvest losses in Ghana and Ondo State, Nigeria respectively. Although Ulimwengu, *et al.* (2009) explained that availability of road transportation alone may not be enough to influence agricultural development as there may be other factors responsible for this influence, the inadequacy and low quality of road transportation in many communities in the Democratic Republic of Congo (DRC) have serious implications on the food prices in the country.

All these factors have contributed to low agricultural production, which in turn, led to increased food prices in the study area. The absence of good road network implies that farmers would not want to produce in large quantities because of the perishable nature of their farm produce, since they might not get to the point of sale before their spoilage. This will eventually result in low supply and will hike the prices of the few food items that are available in the market.

Employment

The road transportation examined in this study posits a negative impact on employment generation in the area of study. The cost of transportation and the types of road transportation negatively and significantly impacted on employment situation in the study area. This means that the higher the transportation cost, the lower the level of employment that could be generated in the community. This finding emphasises or reveals the importance of good road transportation in rural areas, as



transportation plays a prominent role in promoting agricultural production and thus increased employment in the rural areas. It also promotes economic interactions as it leads to closer proximity to urban areas and allows more efficient use of space due to ease of access to nearby public facilities and employment opportunities.

Supporting this important finding is the work of Cuong (2011) in rural Vietnam which determined that households living in a village with a good road are more likely to have longer working hours per person, than households living in a village without a rural road, which at the household level increases employment and income. Likewise, Ajiboye and Afolayan (2009) confirmed that rural roads enhance employment and income among youths in Ogun State, Nigeria.

CONCLUSION AND RECOMMENDATIONS

Conclusions

The study noted that the level of food prices is a major factor in assessing the nutritional sufficiency; and hence poverty level in an area. The poor road condition and high cost of transportation in the study area invariably led to high food prices and hence poor nutrition and diminished welfare in the study area. The inadequacy and low quality of road transport in many communities have serious implications on the food prices in the country. All these factors have contributed to the low agricultural production and in turn, increased food prices in the study area. The absence of good road network implies that farmers would not want to produce in large quantities because of the fear of the perishable nature of their farm produce, since they might not get to the point of sale before their spoilage. This will eventually result in low supply and will hike the prices of the few food items that are available in the market.

In terms of the employment level, the cost of road transportation and the types have not helped to improve the employment situation, thereby worsening the poverty level in the study area. Hence, the importance of good road transportation in rural areas cannot be overemphasised, as transportation plays an important role in promoting agricultural production and thus increased employment in the rural areas. It also promotes economic interactions as it leads to closer proximity to urban areas and allows more efficient use of space due to ease of access to nearby public facilities and employment opportunities.

Recommendations

As a result of this study, we recommend the following:

- i. The poor road condition and the high cost that led to high food prices should be addressed through the construction of new roads by the Area Councils to open up the neglected farms and ensure the evacuation of farm produce during harvest seasons. This will be in addition to the improvement and rehabilitation of roads already mentioned; all in a bid to bring down the cost of road transportation.



- ii. The employment situation can be improved by the Area Councils through renovation, construction and rehabilitation of rural roads by direct labour, which will provide job opportunities for rural workers and at the same time open up new areas where viable economic activities can take place. Opening those roads will provide various opportunities for the rural people to exhibit their entrepreneurial skills in establishing viable ventures along those roads.
- iii. Finally, it is recommended that each of the five Area Councils in the study area establish the equivalent of the Federal Roads Management Agency (FERMA) at the Area Council level and fund them appropriately to tackle the menace of worsening road transportation in these areas. Apart from regular maintenance and rehabilitation of rural roads, given the fragile nature of these roads, the activities of these agencies should include regular surveillance and monitoring of road conditions to identify and ensure speedy repairs.

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