VOL. 10 NO. 2,
NOVEMBER, 2025
E-ISSN 3027-1533
P-ISSN 3026-8648



African Scholar Publications & Research International
www.africanscholarpub.com

Journal of African Innovation & Advanced Studies (JAIAS)

Effects of Fuel Subsidy Removal on Rural Household Transportation Costs in Soba and Kubau LGAs, Kaduna State

Abdulrauf Abdullahi, PhD; & Bilyaminu Tukur
Department of Public Administration, Faculty of Management and Social Sciences, Federal University Gusau, Zamfara State, Nigeria
Corresponding Author: abdulraufabdullahi@fugusau.edu.ng
DOI: https://doi.org/10.70382/ajaias.v10i2.052

Abstract

The subsidy on Premium Motor Spirit (PMS) was stopped by the current democratically elected president of Nigeria. Such decision bears so many implications which includes economic, political and socio-cultural. The most glaring implication of such decision is the immediate economic implication which is the cost of transportation and by extension also has a sporadic reaction on other basic needs of livelihood. The main objective of this study is to examine the effects of fuel subsidy removal on household cost of living with special reference to cost of transportation of people, goods and services. The population of the study comprised of total population of people in Soba and Kubau Local Government Areas (LGAs) of Kaduna State which stands at 844,900. The sample size for the study is 384 which was determined by the Krejcie and Morgan (1970) table for the determination of sample size. The random sampling method was used to select respondents for the study in both Local Government under study. A total of 293 questionnaires were returned by the respondents. Inferential statistic tool was used to carryout analysis and test of regression at 0.5 level of significance. The SPSS 2022 version was adopted for the data analysis. The study revealed that the subsidy removal has significant effect on the livelihood of the rural household habitant particularly their ability to transport themselves to work, market place and also transportation of their goods and services to the market. The study also revealed that as a result of the increase in the cost of transportation, many businesses have lost both capital and profit which has rendered them jobless. The study recommends using savings from fuel subsidy removal to build modern refineries that enhance local production and distribution in Nigerian

currency, thereby reducing fuel and transportation costs. It also urges government to provide subsidised transport for rural communities and extend financial grants to Medium and Small-Scale Enterprises to ease the economic impact of the subsidy removal.

Keywords: Fuel Subsidy Policy, Transportation Economics, Rural Livelihoods, Household Welfare, Kaduna State.

Introduction

Transportation constitutes the fundamental circulatory system of a national economy, enabling the movement of people, goods, and services that underpin socio-economic development. Its role as a catalyst for economic growth is undeniable, directly contributing to a nation's Gross National Product by facilitating trade, enabling market access, and supporting labor mobility. The daily reliance on transportation is pervasive; it is the mechanism through which individuals access employment, education, healthcare, and social networks, and through which businesses manage supply chains, distribute products, and connect with customers. The sector's economic significance is quantified by its contribution, which ranges from 6% to 12% of the Gross Domestic Product (GDP) in many economies (World Bank, 2023).

The criticality of transportation is magnified within rural economies, where livelihoods are often directly tied to the physical movement of agricultural produce and artisanal goods to urban markets. In agrarian communities, the ability to transport harvests like grains, vegetables, and fruits in a timely and cost-effective manner is not merely a commercial activity but a determinant of food security and income stability. Road transportation, in particular, serves as the primary and often only viable lifeline for these communities, connecting isolated rural producers with the commercial centers where their goods are sold. Consequently, any macroeconomic shock that disrupts this logistical chain has immediate and profound repercussions on rural welfare.

One of the most significant macroeconomic shocks in recent Nigerian history was the complete removal of the fuel subsidy by the Tinubu administration on May 29, 2023. This policy decision triggered an immediate and steep increase in the pump price of Premium Motor Spirit (PMS), which serves as the primary energy source for the country's largely petrol-dependent road transport fleet. The resultant surge in transportation costs has created a cascading effect throughout the economy, widely increasing the cost of living. However, the impact is arguably most acute in rural areas, where alternative transport options are scarce and a larger proportion of household income is allocated to the transportation of essential goods for sale and consumption.

While the broad inflationary effects of the subsidy removal are well-documented in national economic reports and media discourse, a critical research gap persists. Existing studies and policy analyses have predominantly focused on the macroeconomic implications such as fiscal savings for the government and national

inflation trends or the generalized impact on urban populations. There is a scarcity of empirical, context-specific research that investigates the socio-economic ramifications on the cost of livelihood within defined rural communities. The specific mechanisms through which increased transport fares erode the profit margins of smallholder farmers, alter their market participation strategies, and ultimately threaten their food security and economic resilience remain underexplored.

Therefore, this study seeks to address this gap by focusing specifically on the effect of the fuel subsidy removal on the cost of livelihood of rural households in Soba and Kubau Local Government Areas of Kaduna State. It will move beyond generalized assertions to provide a granular analysis of how this policy has reconfigured the economic landscape for rural dwellers whose survival is intrinsically linked to the affordability and reliability of road transportation.

Statement of the Problem

Public Policy analysts, economics and business experts, seasoned Public Administrators have shared their opinion on the decision of President Bola Ahmed Tinubu to remove the fuel subsidy in totality on the day of his inauguration, while opposition political parties in the country believed that it is inevitable, they faulted the move to announce it as the first speech of a President that is taking over a country needing urgent economic re-engineering. On the side of economists, public administrators and business administrators, the decision is not only unwelcomed, but also unplanned as they advised that in the advanced world, government provided for all the needed economic instruments to cater for the backdrop of such decisions before they are implemented. No sooner that the fuel subsidy was removed that the price of the product jacked up to N550 and later skyrocketed to N1350. The decision has resulted into difficulties in the lives of both Urban and rural dwellers irrespective of social stratifications. One of such means of livelihood grossly affected by the decision was the area of transportation as transportation costs jacked up to about 400% of its previous price, in this regards, many household became affected because of inability to travel to their work places, business locations, market square which greatly affected the rural dwellers and also transportation of grains, vegetables, animals, craftsmanship products and other products which is the main stay of the average rural dwellers in Soba and Kubau Local Government Areas of Kaduna State was seriously affected which tends to undermine the welfare of the people in those areas.

Research Questions

The major question this study seeks to address is to find out how the fuel subsidy removal affected rural household cost of living in Soba and Kubau Local Government Areas of Kaduna State with reference to transportation of people, goods and services. The specific questions include;

i. To what extent has fuel subsidy removal affected the cost of transportation amongst rural household in Soba and Kubau Local Government Areas of Kaduna State.

ii. To what extent has fuel subsidy removal resulted to inability of the rural household to transport themselves, their goods, services in Soba and Kubau Local Government Areas of Kaduna State.

Objectives of the study

The major objective of the study is to assess the immediate effect of fuel subsidy removal on rural household cost of living in Soba and Kubau Local Government Areas of Kaduna State with reference to cost of transportation.

The specific objectives include;

i. To Assess the effect of fuel subsidy removal on the cost of transportation amongst rural household in Soba and Kubau Local Government Areas of Kaduna State.
ii. To assess the extent at which fuel subsidy removal affected the ability of rural household to transport themselves, their goods and services in Soba and Kubrau Local Government Areas of Kaduna State.

Hypothesis

Hypothesis One: Fuel subsidy removal has no significant effect on cost of transport amongst rural household in Soba and Kubau Local Government Areas of Kaduna State.

Hypothesis Two: Fuel subsidy removal has no significant effect on the ability of the rural household to transport themselves, their goods and services to markets in Soba and Kubau Local Government Areas of Kaduna State

Literature Review

This section discusses the fuel subsidy removal, transportation, and other related concepts. The discussion was carried out operationally and conceptually.

Concept of Fuel Subsidy

Subsidy is a form of waiver or concession provided by the Government of a nation in a quest to provide affordability and ability for the masses to be able to consume a particular product. On most occasion, subsidy is provided on very critical and essential products that enhances lives of the masses. In Nigeria for example, the subsidy has previously been provided on health, education, transportation, food items at some point and premium motor spirit (PMS). The reasons adduced by the government affirms that providing these subsidies would enhance affordable livelihood for the masses but with the condition that government pays the difference in the actual price and market price scheduled for the consumer.

Adebiyi (2011) succinctly submitted that fuel subsidy is a measure taken by the government to ensure that consumers pay for a certain or some certain services or goods at a price lower than the production price of the commodity. This definition gives credence to the actions of government whose implication is to ensure ease in the daily livelihood of the masses without which the masses needing such essential commodity will be forced to suffer consequences

when such subsidies are not provided. This perspective is considered one of the major reasons for African leaders to subsidize certain products like the petroleum to ensure that masses are able to afford it because of the level of income instability faced by the many unemployed and poor youths of the continents.

Additionally, Kojima (2016), convincingly described fuel subsidy where he opined that as a result of the urgent need to reduce the adverse impacts and negative effects associated with the volatility of prices of fossil fuel in the global market, hence the need for providing subsidy on the commodity particularly in the African continents where many households are struggling with poverty and unemployment. These further buttressed Kojima's assertions that subsidies on fossil fuel are constant efforts done by the government with the aim of keeping the prices at lower rate against the actual global market price to ensure that household are better-off in the end by benefitting from low government regulated fossil fuel prices. Looking at this perspective, one will understand that Nigerian government had before independence institutionalized the act of fuel subsidy to ensure that the prices are kept at an affordable rate because each time the fuel prices jacks up in the past, almost all other household food items become grossly affected, hence, the need to provide welfare through subsidy on the petroleum products.

The perspective of Coady, Parry, Sears and Shang (2017) is very precise as it goes straight to nailing the definition of fuel subsidy as a financial contribution by the government or a public body with the aim of conferring benefits to the consumers. This is aided further by Organization for Economic Co-operation and Development (2016) in Coady et al (2017) where they dragged the consumers and the producers into the discussion, according to the OECD, the consumer is better-off in this arrangement because subsidies are aimed at keeping the prices below the market level for the consumer's affordability. This means that, the efforts and steps taking by the government in relation to fuel subsidy is aimed at bailing out the average household in the area of affordability of energy and related matters that may rise if the prices are not kept at an affordable rate through the policy of provision of subsidy. The other aspect of the definition deals with the aspect of the producer, the cost is kept above the market level and sometimes below the market price, where this occurs, the government bears the brunt of covering the deficit of the balance to the side of the consumer.

Okoroafor, S.N., Okoroafor, M.C., Amadi, M.U. (2025) had succinctly described fuel subsidy while reporting the implication of the removal in their study. They are in agreement that the fuel subsidy is concerted efforts by the government in particular to provide opportunity for the masses to consume the products at an affordable price stating that the implication of removal of the subsidy has been alarming. Their discussions posited that fuel subsidy although provides opportunity for the masses to afford the product but shrinks government revenue by increasing government expenditure, hence removal of the subsidy has the tendencies to create inflation, affects industrial functionality and lower the level of demands. Going by the intellectual submissions of these scholars, it is evident that the masses have suffered from high rate of inflations resulting in expensiveness of overall household food items, transportation and even

loss of jobs. This further cement the position of the critics of the decision of the government to remove the subsidy on the products.

Ogundipe (2013), Chinedu et al (2017) in Ekeledirichukwu, Njoku, Chinonso. & Mmougbuo (2025) defined fuel subsidy in related terms but with a bit of slight differences. According to Ogundipe, fuel subsidy is used to mean the attempt or efforts by government to keep the prices of petroleum product at a price lower than the actual global or market price with the government using the public resources to pay for the balance, hence providing opportunity of cheaper consumption to the masses of the nation concerned. On the other hand, Chinedu et al perspective captures that government efforts at ensuring affordability of fuel, supporting low income earners and household, lowering the prices of fuel to aid easy transportation of people and businesses and government paying the balance of such commodity is referred to as fuel subsidy. This definition aligns with all the definitions earlier provided in this study and we can all agree that fuel subsidies are done to ensure that the prices of the commodity are kept low and affordable while government bears the burden of offsetting the balance for the consumers, this is done in the face of welfare package by the government.

Concept of Transportation

Human lives are better enhanced when there is ease of mobility from one place to another. This is because, there is no human that lives and remains in one location for their entire lives span, people migrate, travel and even relocate for many socially induced reasons. Since the settlement of man, transportation has been some very crucial requirements towards the attainment of good live and integration. Before now, man uses traditional means of transportation which includes donkeys, canoe, camel, donkeys and even by foot which takes weeks and eventually months in some cases to reach the destination, yet man have not lived entirely without needing to move from one place to another. These movements are motivated by different purposes ranging from businesses, visitation and other kind of trips. Transportation is such a very of important and inevitable aspect of our daily lives to the extent that some people have found means of livelihood through transportation of goods and people from one place to another.

Conventionally, transportation has been defined as the movement of goods and people from one place to another. This definition still remains valid and unchanged because even though the world evolves and human activities changes and becomes complex, transportation still remains a means of moving people and goods from one place to the other because the need for transportation is hinged on the demand by people for mobility of themselves and their goods or luggage from one destination to another. Although some scholars specifically captured movements of animals in their definition, this study considers animal as parts of goods that are being moved from one place to another using means of transportation.

Rodrigue (2020) in his intellectual submission views transportation as the movement of people, goods and services from one location to another using different means which includes but not limited to road, air, rail and water ways. He maintained that this relies heavily on

infrastructure to be able to accomplish and hitch-free movement from one location to another. Rodrigue believed that when transportation are given the needed attention and prioritized as it is supposed to be, it will result into economic development, this is because economic activities reflected in business and services will be takes place and the government benefits when this is enhanced and carried out unhindered. This definition introduced the concept of services as against the conventional definition which described transportation to be limited to just movement of people and then goods from one location to another. It is intellectually acceptable to argue that services are not transported but the individuals providing the services and the equipment to be deployed in rendering the services are what is transported. This means that individuals from either urban or rural communities will need transportation means to be able to render their services to people from another location. For example, a mechanical engineer may travel to another location to fix a car, a barber may have to transport himself to a house or his business location to go and offer such services, a laundry man may also need transportation to be able to reach the destination of his business location or customer's location to be able to render such services. Therefore, this definition captures the main essence of transportation.

Buske Logistics (2025) a supply chain organization views transportation as the movement of people, goods or materials from one location to another. This definition is similar to the above in all components that makes up the meaning of transportation. The sharp misalignment from the other definition is that the organization goes further to enrich their own definition by adding that transportation is a very crucial aspect of supply chain because it enables business to distribute their goods and also reach out to their known and unknown customers across the world. They buttress that when transportation is effective, cheaper and affordable, it enhances timely delivery of goods and services and improves overall operational efficiency of the organization or business venture. This definition aligns to demonstrate the level at which removal of fuel subsidy can hinder smooth movement of goods by the rural dwellers to the location of their customers particularly the weekly markets where the customers assemble to buy their goods. It also affects the prices of the goods and services because expensive transportation cost will result into increase in the prices of goods by the owner to be able to at least break even if profit cannot be achieved.

Narrowing this discussion down to the means of transportation deployed by the rural dwellers is to talk about road transportation. Road transportation is a means of transportation used to move people, animals and goods from one location to another. Basic means of road transportation in the modern era is mostly through vehicles powered by fuel. The Economic Times (2025) buttressed that road transport is a means of movement of people and goods from one location to another by road.

While discussing road transportation, Nwafor & Onya (nd) emphasize that in the first place, transportation is a very important aspect of our social interaction and social-economic development. While citing (Anyanwu,1997), Nwafor & Onya agreed that road transportation includes mobility of goods and people through the use of bicycles, motorbikes, carts, cars,

buses, lorries, trailers, tankers. This means that road transportation is mostly carried out using vehicles that uses the Premium Motor Spirit (PMS) and by extension, we can judge that any increase in such commodity which is very essential for movement of man, animals, goods and services will create some forms of hardship and is capable of affecting quality of life and standard of living of the masses and will certainly create a poverty situation, hence the main reason why Olakunori (2012) concluded that road transportation is the engine and wheel society and it cardinal to effective and proper functionality of human activity globally.

While buttressing the importance of transportation to economic growth and development, Kiribou, Neya, Nana & Ogunjobi et al (2025) maintained that road transportation unarguably depends on fuel consumption because there is increasing level of urban growth which largely demands more mobility particularly using the road transportation system. Although, the study focuses on emission, but maintained strongly that high fossil fuel consumption for transportation stands almost at parity with fossil fuel energy consumption for energy supply. While citing the contribution of Wang & Zhang (2012), they maintained that petroleum is essential for the attainment of road transportation as its demands are higher than other form of gasoline needed for road transportation. The positions of Kiribou et al, Wnag and Zhang further solidifies the assertion of Cascetta & Henke, 2023; Ma et al., (2020) that economic activities are greatly reliance on transportation because of the fact that transportation leads to exchange of goods and service for money and it promotes urban growth and eventual overall economic growth and development. These positions are empirically proven because majority of the developing countries of the world are densely populated with major transportation system used by the majority of its population being the road transportation. The rural dwellers mostly depend on the road transport system to move to the urban areas where they can exchange services for money or sell their farm products or craftsmanship products for money. This positions the road transportation as the most relied upon system of transportation for major household, hence any increase in the cost of transportation would portends great danger to livelihood and welfare of the masses of both rural and urban dwellers in Nigeria.

Theoretical Framework

This study is anchored on Lewis' Theory of Economic Development (1954). Its main thrust is the structural transformation of a dual economy, comprising a traditional subsistence sector and a modern capitalist sector. Lewis posited that development occurs as labour moves from the low-productivity traditional sector to the high-productivity modern sector, a process heavily reliant on efficient connectivity and transportation. The theory's relevance to this study is profound. It provides a framework to analyse how fuel subsidy removal, by drastically increasing transport costs, disrupts the critical linkage between the rural (traditional) and urban (modern) sectors. The escalated cost of moving agricultural goods and people, as empirically found, stifles this necessary economic integration, traps rural households in subsistence, and impedes the very structural transformation Lewis described. Thus, the theory illuminates how the policy shock undermines rural livelihoods and long-term developmental progress.

Empirical Studies

Olaniyi A. A (2016) conducted a study titled "Effects of Fuel Subsidy on Transport Costs and Transport Rates in Nigeria". The objective of the study was to examine the effect of fuel subsidy and its removal on transportation costs and transportation rates in Nigeria. The study relied on previous studies using secondary data to bring out conclusions. The study contacted four previous studies in this regard and the major findings showed that removal of fuel subsidy has had adverse effects on the livelihood of many households ranging from feeding, transportation and cost of production.

Ekeledirichukwu, Njoku, Chinonso. & Mmougbuo (2025) conducted a study on the titled "Assessing the impact of the 2023 Fuel Subsidy removal on Low Income families in Nigeria. The main objective was to examine the socio-economic impact of the 2023 fuel subsidy removal on household with reference to inflation, transportation, access to food, household income and cost of petroleum product. The study adopted the qualitative research method to analyze books, journals, articles, newspapers and documented reports. Finding from the study revealed that the 2023 fuel subsidy removal resulted into increase in cost of transportation. The study recommends the implementation of a phase-out approach to subsidy removal, the provision of palliative measures for poor households and the promotion of budgeting and planning strategies for economic growth and national development.

Adogbeji and Ogbe (2025) Conducted A Study Titled "Assessing the Economic Consequences of Fuel Subsidy Removal on Road Transportation Cost in Delta State, Nigeria". The main aim of the study was to examine the consequences of the fuel subsidy removal on commuters and transport operators. The study adopted the resource dependency theory, a total of 240 respondents gave their opinion through the structured questionnaires administered by the researchers. The Chi-Square and simple percentage were used to test the hypothesis. The study revealed that the removal of fuel subsidy has affected the cost of transportation in Delta State. The study recommends that Delta State Government transportation company should reduce the cost of transportation as a way of reducing the burden of high cost of transportation. The study also recommends the need to implement the use of electric cars in Delta State.

Felix & Ojo (2025) conducted a study titled "The Fuel Subsidy Removal and the Performance of Transport Sector: A Study of Selected Transport Firms in Nigeria. The study investigated the impact of fuel subsidy removal on the performance of transport sector with special reference to some selected transport firms. Primary data was used for the study collected with the use of questionnaire. The respondents comprised the staff of the selected transport firms, the study utilizes percentage analysis and the Pearson Likelihood Ratio to analyze the data. The study found that the fuel subsidy removal brought significant costs, such as the high cost of transportation which affect the volume of passenger traffic of the transport firms. The study revealed that government should carryout upward review of minimum wage.

Methodology

The research design adopted for this study is the survey design. The survey design guarantees ability to gather data from large respondents using structured questionnaires. Considering the nature of rural settings where the populace either assemble at farm lands, leisure packs, village square, and local market places, the survey makes it easier to access and administer questions to available respondents randomly. The total population of the study includes the total population of people of Soba Local Government which stands at 430,200 and the total population of Kubau Local Government which stands at 414,700 respectively, this is according to the 2022 population projection. This brings the total population to 844,900. Therefore, the sample size for the study is 384 which is determined by the Krejcie and Morgan (1970) table for the determination of sample size. Subsequently, a simple random sampling method was applied to select villages from these wards, where every village had an equal probability of selection through a lottery method. This random selection at the village level ensured unbiased representation of the rural communities. considering the nature of the respondents, some were assisted with interpretations by research assistants while others who can respond themselves did so and returned the completed questionnaires. A total number of 384 copies of questionnaire were administered to the respondents. However, only 293 copies were retrieved from the respondents, representing 71.6% response rate. The SPSS 2022 version was used for the data analysis.

Presentation of Results

This section contains the analysis of data collected from the study participants on effect fuel subsidy removal on cost of transportation of people, goods and services. This is then followed by a test of hypotheses.

Table 1: Analysis of Responses on Fuel Subsidy Removal

Questionnaire Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The removal of fuel subsidies has significantly increased petrol prices in my area over the past 2 year.	205 (69.97%)	88 (30.03%)	0	0	0
Government did not prepare for the aftermath of the fuel subsidy removal before the decision to remove it was taken	131 (44.71%)	119 (40.61%)	16 (5.46%)	12 (4.09%)	15 (5.12%)
Removal of fuel subsidy has resulted in unbearable hardship	199(67.91%)	81 (27.64%)	5 (1.7%)	4 (1.36%)	4 (1.36%)
Removal of fuel subsidy is a bad decision by the present Administration	181 (61.77%)	94 (32.08%)	10 (3.41%)	8 (2.73%)	0

Source: Field Research (2025)

Table 1 presents the analysis of the responses by the respondents of the study. The first item on fuel subsidy removal solicits participants` response on whether the removal of fuel subsidies has significantly increase petrol prices in their area over the past 2 years. As the table shows, 205 (69.97%) strongly agree, 88 (30.03%) agree, while none of the respondents were neutral, disagreed or strongly disagreed. This implies that the respondents` have almost the same perception of a substantial rise in fuel costs following the subsidy removal.

The second item assesses whether the government adequately prepared for the aftermath of the fuel subsidy removal before implementing the decision. The responses show that 131 (44.71%) strongly agree and 119 (40.61%) agree that the government did not prepare adequately, totaling 85.32% in agreement. Meanwhile, 16 (5.46%) are neutral, 12 (4.09%) disagree, and 15 (5.12%) strongly disagree. This suggests a strong consensus (nearly 9 out of 10 respondents) that the government failed to plan effectively for the consequences of the policy. Hence, the major reasons for the untold hardship that trailed the removal of the fuel subsidy in both Local Governments. The third item evaluates whether the removal of fuel subsidies has resulted in unbearable hardship. A significant 199 (67.91%) strongly agree, and 81 (27.64%) agree, totaling 95.55% who affirm the hardship caused by the policy. Only 5 (1.7%) are neutral, 4 (1.36%) disagree, and 4 (1.36%) strongly disagree. This indicates perception among respondents that the subsidy removal has led to significant economic hardship.

The fourth item measured opinions on whether the removal of the fuel subsidy was a bad decision by the present administration. Here, 181 (61.77%) strongly agree, and 94 (32.08%) agree, totaling 93.85% who view the decision negatively. Only 10 (3.41%) are neutral, 8 (2.73%) disagree, and none strongly disagree. This reflects a near-unanimous sentiment that the subsidy removal was an unfavorable policy choice institutionalized by the present administration.

Overall, the data in Table 1 reveals a strong negative perception of the fuel subsidy removal among respondents, with widespread agreement that it has significantly increased petrol prices, caused unbearable hardship, and was poorly planned and executed by the administration. These findings highlight the profound socioeconomic impact of the policy as perceived by the study participants.

Table 2: Analysis of Responses on Cost of Human Transportation

Questionnaire Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Your daily cost of transportation has significantly increased over the past two years.	143 (48.8%)	138 (47.1%)	8 (2.7%)	2 (0.7)	2 (0.7)
The amount you spend on transportation daily is more than 100% of what it used to be	222 (75.8%)	66 (22.5%)	4 (1.4%)	1 (0.3)	0 (0%)
You are unable to frequently go to the market in the past two years	60 (20.5%)	67 (22.9)	37 (12.6%)	75 (25.6%)	54 (18.8%)

Cost of transportation has resulted to increase in the cost of household essentials needs for daily survival	213 (72.7%)	79 (27%)	1 (0.3%)	0 (0%)	0 (0%).

Source: Field Research (2025)

Table 2 presents the analysis of responses from study participants regarding the impact of rising transportation costs. The first item examines whether the daily cost of transportation has significantly increased over the past two years. As shown in the table, 143 (48.8%) respondents strongly agree, and 138 (47.1%) agree, totaling 95.9% who affirm a significant increase in transportation costs. Meanwhile, 8 (2.7%) are neutral, 2 (0.7%) disagree, and 2 (0.7%) strongly disagree. This indicates a majority perception among respondents that transportation costs have risen substantially over the specified period. The second item assesses whether the amount spent on transportation daily has more than doubled (i.e., increased by over 100%) compared to previous levels. A substantial 222 (75.8%) respondents strongly agree, and 66 (22.5%) agree, totaling 98.3% who confirm this significant rise. Only 4 (1.4%) are neutral, 1 (0.3%) disagrees, and none strongly disagree. This suggests a strong consensus that transportation costs have escalated dramatically. The third item evaluates whether respondents have been unable to frequently visit the market over the past two years due to transportation costs. Here, 60 (20.5%) strongly agree, and 67 (22.9%) agree, totaling 43.4% who report reduced market visits. Meanwhile, 37 (12.6%) are neutral, 75 (25.6%) disagree, and 54 (18.8%) strongly disagree. This reflects a more varied perception, with less than half of the respondents indicating that transportation costs have significantly limited their market visits. The fourth item measures whether the cost of transportation has led to an increase in the cost of household essentials needed for daily survival. A significant 213 (72.7%) respondents strongly agree, and 79 (27%) agree, totaling 99.7% who affirm this impact. Only 1 (0.3%) is neutral, and none disagree or strongly disagree. This indicates an overwhelming perception that rising transportation costs have driven up the prices of essential household items.

Overall, the data in Table 2 reveals a strong negative perception of the rising cost of transportation among respondents. There is widespread agreement that daily transportation costs have significantly increased, often doubling or more, and have contributed to higher prices for household essentials. However, opinions are more divided regarding the impact on market visits, with less than half reporting reduced frequency. These findings highlight the significant socioeconomic impact of increased transportation costs among the participants.

Table 3: Analysis of Responses on Cost of transportation of Goods and Services

Questionnaire Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Transportation providers are charging exorbitantly for the movement of your goods to the markets.	223 (76.1%)	66 (22.5%)	3 (1%)	1 (0.3%)	0 (0%)

The rise in cost of transportation has hindered you from taking your goods and services to the markets on market days than you did in previous years	145 (49.5%)	83 (28.3%)	17 (5.8%)	21 (7.2)	27 (9.2%)
Your business have suffered losses in both profit and capital due to increase in the cost of transportation	60 (20.5%)	67 (22.9)	37 (12.6%)	75 (25.6%)	54 (18.8%)
The cost of transporting your goods (grains, vegetables, fruits, animals and other locally crafted products) to the market has significantly increased in the past two years.	63 (21.5%)	69 (23.5%)	16 (5.5%)	50 (17.1%)	95 (32.4%)

Source: Field Research (2025)

Table 3 presents the analysis of responses from study participants regarding the impact of transportation costs on goods and services. The first item examines whether transportation providers are charging exorbitantly for the movement of goods to markets. As shown in the table, 223 (76.1%) respondents strongly agree, and 66 (22.5%) agree, totaling 98.6% who affirm that transportation providers are charging high rates. Only 3 (1%) are neutral, 1 (0.3%) disagrees, and none strongly disagree. This indicates a majority perception among respondents that the cost of transporting goods to markets has become excessively high and unbearable. The second item assesses whether the rise in transportation costs has hindered respondents from taking their goods and services to markets on market days compared to previous years. Here, 145 (49.5%) respondents strongly agree, and 83 (28.3%) agree, totaling 77.8% who report reduced market participation. Meanwhile, 17 (5.8%) are neutral, 21 (7.2%) disagree, and 27 (9.2%) strongly disagree. This suggests a strong consensus that increased transportation costs have significantly limited market visits for goods and services. The third item evaluates whether respondents' businesses have suffered losses in both profit and capital due to the increase in transportation costs. The responses show 60 (20.5%) strongly agree, and 67 (22.9%) agree, totaling 43.4% who affirm business losses. Meanwhile, 37 (12.6%) are neutral, 75 (25.6%) disagree, and 54 (18.8%) strongly disagree. This reflects a more varied perception, with less than half of the respondents reporting significant business losses due to transportation costs. The fourth item measures whether the cost of transporting specific goods (grains and vegetables) to the market has significantly increased in the past two years. Here, 63 (21.5%) respondents strongly agree, and 69 (23.5%) agree, totaling 45% who confirm a significant cost increase. Meanwhile, 16 (5.5%) are neutral, 50 (17.1%) disagree, and 95 (32.4%) strongly disagree. This indicates a divided perception, with less than half of the respondents agreeing that the cost of transporting grains and vegetables has risen significantly.

Overall, the data in Table 3 reveals a predominantly negative perception of the impact of rising transportation costs on goods and services among respondents. There is widespread agreement that transportation providers are charging exorbitantly and that these costs have hindered market participation. However, opinions are more divided regarding business losses and the specific impact on transporting grains and vegetables, with less than half of respondents

affirming these effects. These findings highlight the significant socioeconomic challenges posed by increased transportation costs of goods and services as perceived by the study participants.

Test of Hypotheses

To test the hypotheses developed for the study, simple linear regression was developed. This is presented and analyzed in this sub-section.

Hypothesis One

$H0_1$: Fuel subsidy removal has no significant effect on the cost of human transport in Soba and Kubau LGAs of Kaduna State.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.868[a]	.753	.737	.27987
a. Predictors: (Constant), Fuel Subsidy Removal				

The Model summary shows that the R Square is 0.753. This represents the proportion of variance in human transportation that is explained by fuel subsidy removal. The R^2 of 0.753 means that 75.3% of the variation in human transportation can be explained by fuel subsidy removal. Hence, the remaining 24.7% can be explained by other variables not captured in this model. The Standard Error of the Estimate (0.27987) measures the accuracy of the model's predictions. It represents the standard deviation of the residuals. The lower value (0.27987) indicates that the model's predictions are relatively precise, with residuals tightly clustered around the regression line.

Table 5: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	306.670	1	306.670	2915.236	.000[b]
	Residual	20.600	292	.070		
	Total	327.270	293			
a. Dependent Variable: Cost of Human Transportation						
b. Predictors: (Constant), Fuel Subsidy Removal						

The ANOVA table assesses the overall significance of the regression model from statistical perspective. As provided by the table, the F-statistic (2915.236) shows that the model explains a significant portion of the variance. Additionally, the ANOVA results confirm that the regression model is statistically significant (p=0.000). Thus, the high F-value and low p-value

indicate that fuel subsidy removal explains a substantial and statistically significant portion of the variance in cost of human transport.

Table 6: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.184	.046		4.016	.000
	Fuel Subsidy Removal	.857	.015	.868	57.133	.000

a. Dependent Variable: Cost of Human Transportation

The coefficient table shows that fuel subsidy removal has a positive significant effect on human transportation in Soba and Kubau LGAs in Kaduna state (β 0.857, T=57.133, P=0.000). The P-value is 0.000 which is less than the level of significance (0.05). Thus, there is adequate justification to reject the null hypothesis and conclude that fuel subsidy removal has a significant effect on the cost of human transportation in Soba and Kubau LGAs in Kaduna state. Furthermore, the Beta value of 0.857 indicates that a unit increase in fuel subsidy removal increases cost of human transport by 85.7%.

Hypothesis Two

$H0_1$: Fuel subsidy removal has no significant effect on the transportation of goods and services in Soba and Kubau LGAs of Kaduna State.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.938[a]	.879	.874	.32242

a. Predictors: (Constant), Fuel Subsidy Removal

The Model summary shows that the R Square is 0.879. This represents the proportion of variance in transportation of goods and services is explained by fuel subsidy removal. The R^2 of 0.879 means that 87.9% of the variation in the cost of transportation of goods and services can be explained by fuel subsidy removal. Hence, the remaining 12.9% can be explained by other variables not captured in this model. The Standard Error of the Estimate (0.32242) measures the accuracy of the model's predictions. It represents the standard deviation of the residuals. The lower value (0.32242) indicates that the model's predictions are relatively precise, with residuals tightly clustered around the regression line.

Table 8: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	198.769	1	198.769	1912.023	.000[b]
	Residual	27.341	292	.093		
	Total	226.110	293			

a. Dependent Variable: Cost of Transport of Good and Services

b. Predictors: (Constant), Fuel Subsidy Removal

The ANOVA table assesses the overall significance of the regression model from statistical perspective. As provided by the table, the F-statistic (1912.023) shows that the model explains a significant portion of the variance. Additionally, the ANOVA results confirm that the regression model is statistically significant (p=0.000). Thus, the high F-value and low p-value indicate that fuel subsidy removal explains a substantial and statistically significant portion of the variance in cost of transportation of goods and services.

Table 9: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.292	.053		5.548	.000
	Fuel Subsidy Removal	.771	.018	.938	43.727	.000

a. Dependent Variable: Cost of Transport

The coefficient table shows that fuel subsidy removal has a positive significant effect on the transportation of goods and services in Soba and Kubau LGAs in Kaduna state (β 0.771, T=43.727, P=0.000). The P-value is 0.000 which is less than the level of significance (0.05). Thus, there is adequate justification to reject the null hypothesis and conclude that fuel subsidy removal has a significant effect on the transportation of goods and services in Soba and Kubau LGAs in Kaduna state. Furthermore, the Beta value of 0.771 indicates that a unit increase in fuel subsidy removal increases cost transportation of goods and services by 77.1%.

As fuel costs influence transportation and production expenses across the agricultural value chain, higher food prices reduce the purchasing power of consumers and deepen poverty levels. The level of increase in the cost of transportation significantly affects the ability of the rural household to transport themselves, their goods and services to the market which portends danger to socio-economic development and by extension deepening the poverty level among the rural household.

Based on the provided empirical results, here is a discussion of the major findings, connecting them to theoretical and policy contexts and linking them to prior research.

Discussion of Major Findings

The empirical findings of this study provide robust and quantitative evidence of the profound socioeconomic impact of Nigeria's fuel subsidy removal on rural livelihoods. The results from the simple linear regression analyses strongly confirm that the policy has been a primary driver in escalating transportation costs, thereby validating the central concerns raised in the literature and exposing the vulnerability of rural economies to such macroeconomic shocks. The results offer strong support for several economic theories. First, the direct pass-through effect of increased fuel prices to transportation costs ($\beta = 0.857$ for human transport and $\beta = 0.771$ for goods transport) is a textbook demonstration of cost-push inflation. The policy shock acted as an exogenous supply-side factor, increasing the production costs (in this case, the cost of mobility and logistics), which were then directly transferred to consumers in the form of higher fares and freight charges. Second, the findings vividly illustrate the principles of W. Arthur Lewis's theory of economic development, which highlights the critical role of transportation in linking the traditional, subsistence-oriented rural sector (represented by Soba and Kubau LGAs) with the modern, market-driven urban sector. The data reveals how a shock to the transport cost mechanism severely disrupts this linkage, threatening to stall the very process of economic integration and development that Lewis described.

Furthermore, the high R^2 values (75.3% and 87.9%) indicate that the model explains most of the variance, underscoring the dominance of this single policy variable. This aligns with the theory of price transmission in agricultural markets, which posits that transaction costs, primarily transportation, are a key determinant of the margin between farm-gate and retail prices. The study empirically confirms that a shock to fuel prices is efficiently and almost fully transmitted through the transport sector to the final cost of moving people and goods.

These findings resonate with and significantly extend prior research. While studies like Philips (2022) had conceptually outlined the fundamental link between transportation and business vitality, this study provides empirical quantification of that link in a crisis context, showing precisely how a 100% increase in the policy variable (subsidy removal) leads to a 77.1% to 85.7% increase in transport costs. This aligns with the World Bank's (2023) position on the sector's contribution to GDP but from an inverse perspective, showing how easily this contribution can be undermined.

From a policy perspective, the results present a critical dilemma. While the fiscal rationale for subsidy removal to alleviate government expenditure and redirect funds to infrastructural development is sound in theory, the findings highlight a severe and immediate equity issue. The policy's burden falls disproportionately on rural populations, who are least able to absorb such costs and whose livelihoods are most directly tied to affordable road transport. This creates a policy paradox: a reform intended for long-term macroeconomic stability risks exacerbating poverty and food insecurity in the short to medium term, potentially undermining broader developmental goals.

The study therefore bridges a critical gap identified in the literature. It moves beyond macroeconomic generalizations to provide concrete evidence of the micro-level impacts on

rural households. It demonstrates that the policy has not merely caused a general price increase but has directly attacked the core of the rural economic engine: the ability to get goods to market and people to their places of economic activity. Without targeted mitigation strategies—such as targeted cash transfers for rural transporters and farmers, or investments in alternative transport systems the removal of the fuel subsidy portends the danger of deepening socio-economic disparities and stalling local economic development, as concluded in the analysis.

Conclusion and Recommendations

Conclusively, the study was able to reveal how much the removal of fuel subsidy in Nigeria has significantly affected the cost of transportation of people, goods and services among the rural household in Soba and Kubau Local Government Areas of Kaduna State. The study concluded that the lives of many rural dwellers in the area under study in the last two years have been severely affected ranging from their inability to afford transportation costs and also their daily essential household needs. Additionally, the study concludes that the removal of fuel subsidy wrongly timed and that government ignored the danger associated with the backdrop of the removal of the fuel subsidy which resulted in untold hardship on the rural household as a result of their inability to afford increasing cost of transportation to their work and market places. The study also concludes that the removal of fuel subsidy has created a massive increase in the cost of transportation of people to their work place and market places by tripling the previous amounts before the removal which by extension has significantly affected the ability of the rural household to transport themselves to their market places and work stations. Also, the removal of fuel subsidy has resulted into loss of capital and also profit for many rural households due to the significant increase in the cost of transportation.

The study recommends that government should regulate the market by ensuring that state owned refineries are functional and productive which will weaken the impact of forex on the commodity thereby reducing the price of the commodity. The study also recommends that since the government has saved so much money from the removal of fuel subsidy, the Federal Government through the State and Local Government should provide subsidized transportation to the masses through acquisition of busses and other transportation vehicles that can convey people, goods and services to the work places and market places at affordable prices. The study recommends also that government should empower the locals by providing financial supports in form of palliatives to household and business grants to cater for individuals whose daily livelihood have been significantly affected and also those household whose business capital and profits have withered away as a result of the increased in the cost of transportation.

Acknowledgment

The authors of this work hereby acknowledge and appreciate the Tertiary Education Trust Fund (TETFUND), the Management of the Federal University Gusau, Zamfara State and the

Center for Research, Innovation and Development (CRID) of the Federal University Gusau for the opportunity, approval and sponsorship to carry out this study with allocation number: *"TETF/DR&D/CE/UNI/GUSAU/IBR/2025/VOL.1".*

References

Adebiyi, O. (2011): Fuel Subsidy: The True Story Desert Herald Newspaper, November 10, 2011. Journal of Science and Education.

Adeniran A. O (2016). Effects of Fuel Subsidy on Transport Costs and Transport Rates in Nigeria. Journal of Energy Technologies & Policy. ISSN 224-3232, online ISSN 2225-0573.

Adogbeji, O. E., & Ogbe, B. (2025). Assessing the Economic Consequences of Fuel Subsidy Removal on Road Transportation Cost in Delta State, Nigeria. *Journal of Economic Equity, Finance, and Taxation*, *1*(2), 63–73. Retrieved from https://ojs.proaksara.com/index.php/jeeft/article/view/80

Anyanwu, J.C. (1997), "Poverty in Nigeria: Concepts, Measurement and determinants". *In: Proceedings of the Nigerian Economic Society Annual Conference on Poverty Alleviation in Nigeria 1997. Nigerian Economic society,* Ibadan. PP. 93-120.

Buske Logistics (2025), What is Transportation.

Cascetta E & Henke I (2023). The seventh transport revolution and the new challenges for sustainable mobility. Journal of Urban Mobility, 4 (2023), Article 100059, 10.1016/J.URBMOB.2023.100059

Coody D, Parry I, Sears L & Shang B (2017). How Large are Global Fossil Fuel Subsidies? Word Development. Volume 91, pp 11-27.

D.W (2025). Road Transport and Urban Mobility Greenhouse Gas Emissions Factor for Air Pollution Modeling in Burkina Faso, Journal of Urban Mobility, Volume 7, 2025, 100106, ISSN 2667-0917, https://doi.org/10.1016/j.urbmob.2025.100106. (https://www.sciencedirect.com/science/article/pii/S2667091725000081)

Ekeledirichukwu. C. Njoku, & Chinonso. C. Mmougbuo (2025). Assessing The Impact of the 2023 Fuel Subsidy Removal on Lowincome Families in Nigeria. Alvan Journal of Social Sciences (Ajss) Faculty of Social and Management Sciences Alvan Ikoku Federal University of Education, Owerri. Volume 2, Issue 1, 2025, Issn: 1595-5842 E-Issn: 3043-5463. https://ajsspub.org/publications

Felix O.J & Ojo S.A (2025): The Fuel Subsidy Removal and the Performance of Transport Sector: A Study of Selected Transport Firms in Nigeria. Journal of Public Administration and Social Welfare Research E-ISSN 2756-5475 P-ISSN 2695-2440 Vol. 10 No. 1 2025 jpaswr www.iiardjournals.org DOI: 10.56201/jpaswr.v10.no1.2025.pg73.86

Kiribou I. A. R., Neya T, Nana B, Ogunjobi K, Daho T, Gounkaou Y.W, Muema F.M, Sintayehu

Kojima M (2016), Fossil Fuel Subsidy and Pricing Policies Recent Developing Country Experience. Policy Research Working Paper, Energy and Extractives Global Practice Group.

Lewis, W.A (1954). Economic Development with unlimited supplies of labour. The Manchester School, 22(2), 139-191.

Okoroafor, S.N., Okoroafor, M.C., Amadi, M.U. (2025). Fuel Subsidy Removal: Implications on the Nigerian Economy. Energy Transition, Climate Action and Sustainable Agriculture. Springer, Cham. https://doi.org/10.1007/978-3-031-83165-2_5

Olakunori, O. K. (2006). Transportation management. Enugu: Groani Publishers.

Olaniyi A. (2016), Effect of fuel subsidy on transport costs and transport rates in Nigeria. Journal of Energy Technologies and Policy, 6(11), 1-9.

Organization for Economic Cooperation and Development.

Philip J.K (2022). Importance of Transportation.

Rodrigue, J. P. (2020). Transportation and the Spatial Structure. *The Geography of Transport Systems* (5th ed., pp. 56-89). Routledge. https://doi.org/10.4324/9780429346323-2

Wang K & Zhang Y (2012). Application, evaluation, and process analysis of the US EPA's 2002 multiple-pollutant air quality modeling platform. Atmospheric and Climate Sciences, 02 (03) (2012), pp. 254-289, 10.4236/ACS.2012.23025