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Deregulation Policy and Socio-Economic Development of Rural Dwellers in Akwa Ibom State: A Study of Fuel Subsidy Removal

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Abstract

The study examined the impact of deregulation policy, specifically fuel subsidy removal on the socio-economic development of rural dwellers in Akwa Ibom State, Nigeria. The removal of fuel subsidies, a key government policy aimed at reducing fiscal burdens and promoting market efficiency, has generated significant economic and social consequences, particularly for rural communities. Using a survey research approach, the study explored how increased fuel prices affect household income, transportation costs, access to education, healthcare services and small-scale businesses in rural areas of the State. It employed a survey research design and targeted a population of approximately 2680000 from which a sample of 400 respondents was drawn using the Taro Yamane formula. However, 347 was used to conduct the study. Data were analyzed using Pearson Product Moment Correlation Analysis. The findings revealed strong statistically significant negative correlations of -0.756 for household income, -.819 for transportation, .712 for access to education, -.562 for access to healthcare services and -0.961 for small-scale businesses. These results indicated that fuel subsidy removal led to increased transportation costs; diminished household incomes and severely constrained the performance of small-scale businesses in rural Akwa Ibom State. Based on the findings it was recommended that the Akwa Ibom State Government should implement the new minimum wage of 77,000 naira for rural civil servants to help stabilize family budgets and improve purchasing power; the Akwa Ibom State Government should launch a free rural transportation scheme using state -owned buses to mitigate increased travel costs and ensure affordable mobility for rural residents; the Akwa Ibom State Government should provide subsidized or free bus services for students and school staff, thereby reducing commute times and improving access to educational facilities amongst other recommendations.

Keywords: Deregulation policy, fuel subsidy, rural dwellers, socio-economic development,

Introduction

Over time, the socio-economic development of rural areas has been crucial for the advancement of developing nations. This process, according to Abdulkarim et al., (2022), entails enhancing quality of life by ensuring better access to essential services such as education, healthcare, infrastructure, and economic opportunities. Despite various government interventions through rural development programmes such as microfinance initiatives, and infrastructural projects, rural communities in Nigeria continue to grapple with significant challenges such as inadequate infrastructure, low household incomes, and limited business opportunities (Idem & Udo, 2023). As a result, deregulation policies, such as trade liberalization and the pri vatization of key industries before the eventual removal of fuel subsidies, were introduced to promote economic

efficiency and growth (Okon & Eze, 2020). However, the impact of these policies, particularly subsidy removal on rural populations remains a subject of debate.

Scholars such as Okon and Eze (2020) and Nwachukwu (2022) argued that these measures enhanced economic efficiency by reducing government expenditures, encouraging market-driven pricing, stimulating private sector growth, and creating more resilient and competitive markets. Critics, however, emphasize the disproportionate burden placed on rural communities, where increased transportation and energy costs directly affect daily living (Idem & Udo, 2023). Consequently, many rural dwellers, already struggling with limited economic opportunities, face exacerbated financial difficulties, deepened poverty and restricted access to essential services. Although deregulation aims to stimulate economic growth, its effectiveness in addressing rural poverty and inequality remains uncertain, making targeted interventions crucial for ensuring inclusive development. Deregulation involves reducing or eliminating government control in specific sectors to encourage competition and enhance efficiency.

In Nigeria, deregulation has been central to economic reform, particularly in the petroleum sector. The removal of fuel subsidies, a significant component of deregulation, is aimed at addressing fiscal deficits and promoting market efficiency (Eze & Agbakwuru, 2021). However, this policy has triggered increases in the cost of living, disproportionately affecting low-income and rural populations (Ojong et al., 2023). Consequently, the increase in fuel prices occasioned by subsidy removal directly affects agricultural productivity, as farmers face higher costs in transporting goods to markets, leading to increased food prices (Ojong et al., 2023). Additionally, rural dwellers who rely on fuel for small businesses and daily activities experience reduced economic participation due to increased operational expenses. It has also been difficult for the citizens to afford essential needs such as food, healthcare, and education owing to the dwindling household income. In sum, the removal of fuel subsidies significantly impacts such critical sectors as transportation, agriculture, and small-scale business operations. This study, therefore, evaluates the specific socio-economic impacts of deregulation policies, particularly the fuel subsidy removal on rural communities in Akwa Ibom State.

Statement of the Problem

Rural communities in Nigeria, including those in Akwa Ibom State, represent a substantial segment of the nation's population. With over 48% of Nigerians living in these areas (National Bureau of Statistics, 2023), rural regions play a critical role in the country's social and economic fabric. Despite their significant numbers, these communities are frequently overlooked in policy design and execution, particularly in economic reforms that directly affect their livelihoods. Scholars such as Okon and Udoh (2022) have observed that policy interventions often cater predominantly to urban populations, neglecting the specific needs and challenges faced by rural residents. Government programmes and infrastructural developments tend to be concentrated in urban centres, where the perceived return on investment is higher. As a result, rural dwellers are left with insufficient public services. Moreover, the inadequate and accessible road networks in these areas not only hinder efficient transportation but also restrict access to markets. Similarly, resources are scarce, with rural communities often lacking the necessary credit facilities and investment to boost local enterprises. This systematic marginalization has led to persistent socio-economic challenges, entrenched poverty and reduced business opportunities (Adesina, 2022). The cumulative effect of these factors further widens the development gap between rural and urban areas.

The elimination of fuel subsidies has significantly intensified existing challenges in rural areas, where petroleum products are critical for daily survival and economic activity. Rural populations have long depended on fuel for transportation, agricultural operations, and small-scale businesses (Etuk et al., 2023). Previously, the availability of subsidized fuel allowed these communities to carry out economic activities with less financial burden, supporting livelihoods and local trade. However, the abrupt removal of the subsidy has altered the cost dynamics of everyday life in rural regions. High fuel costs have hampered access to vital markets, healthcare facilities, and educational institutions. The increase not only inflates the cost of goods and services but also erodes household purchasing power, making it increasingly difficult for families to afford necessities. As a result, rural residents face greater isolation from essential services and economic opportunities, exacerbating the socio-economic hardships (Bassey & Effiong, 2023; Ojong et al., 2023).

Similarly, the removal of fuel subsidies, led to surging transportation costs that have significantly burdened small-scale businesses leading to high costs of running these businesses, making it increasingly challenging to generate adequate profits to cover their expenses (Idowu & Bello, 2022). Diverse sectors such as manufacturing, milling and fishing have experienced a decline in revenues as their profit margins shrink under the pressure of heightened fuel costs. Consequently, some businesses have been forced to cease operations altogether, as the financial strain becomes unsustainable. This contraction in business sectors has contributed to the rising unemployment levels, leading to economic hardship. As job opportunities dwindled and business closures became more common, rural poverty deepened (Okafor & Eze, 2021). Consequently, these raise serious concerns about the inclusiveness and equity of current economic policies. The lack of targeted relief for rural populations not only undermines the overall goals of fiscal reform but also perpetuates the cycle of poverty and marginalization, ultimately challenging the effectiveness of policy measures intended to foster balanced national development.

Objectives of the study

The main objective of the study is to examine the impact of the removal of fuel subsidies under the broader context of deregulation on the socio-economic development of rural dwellers in Akwa Ibom State. The specific objectives are:

1. To assess the effect of fuel subsidy removal on household income levels in rural areas of Akwa Ibom State.
2. To establish the effect of fuel subsidy removal on transportation in rural areas of Akwa Ibom State.
3. To highlight the effect of fuel subsidy removal on access to education in rural areas of Akwa Ibom State.
4. To interrogate the effect of fuel subsidy removal healthcare services in rural areas of Akwa Ibom State.
5. To interrogate the effect of fuel subsidy removal on small-scale businesses in rural areas of Akwa Ibom State.

Research Questions

The following research questions were formulated in other to achieve the study objectives.

1. How has the fuel subsidy removal influenced the income levels of rural dwellers of Akwa Ibom State?

2. What is the effect of fuel subsidy removal on transportation in rural areas of the State?
3. What is the effect of fuel subsidy removal on access to education in rural areas of the State?
4. What is the effect of fuel subsidy removal on healthcare services in rural areas of the State?
5. In what way has the fuel subsidy removal affected small-scale businesses operating in rural areas of the State?

Research Hypotheses

The study is guided by the following hypotheses.

1. The removal of fuel subsidy has no significant impact on the household income of rural dwellers in Akwa Ibom State.
2. The removal of fuel subsidy has no significant effect on transportation in Akwa Ibom State.
3. The removal of fuel subsidy has no significant effect on access to education in Akwa Ibom State.
4. The removal of fuel subsidy has no significant effect on healthcare services in Akwa Ibom State.
5. The removal of fuel subsidy has no significant effect on small-scale businesses among the rural dwellers in Akwa Ibom State.

Conceptual Framework

Deregulation Policy

Deregulation policy refers to the process of reducing or eliminating government control in specific sectors of the economy to encourage competition, efficiency, and private-sector participation. It is often implemented as part of economic reforms aimed at fostering growth and improving service delivery. Deregulation involves the removal of restrictive policies, price controls, and licensing requirements that may hinder economic activities. In Nigeria, deregulation has been a central component of economic policy, particularly in the oil and gas, telecommunications, banking, and power sectors (Okonkwo & Adewale, 2021). Traced back to the Structural Adjustment Programme (SAP) introduced in 1986 under the administration of General Ibrahim Babangida, successive administrations have continued with deregulation efforts, particularly in the downstream petroleum sector, to enhance efficiency and reduce fiscal burdens on the government. Ekpenyong et al. (2023) have identified several factors that have contributed to the adoption of deregulation policies in Nigeria. The first is the inefficiency of state-controlled enterprises, the high cost of government subsidies, especially in the energy sector, and global economic pressures, including recommendations from international financial institutions such as the International Monetary Fund (IMF) and the World Bank.

As Ojo (2020) observes, one of the key advantages of the policy is increased efficiency, as competition among private enterprises leads to improved service delivery and innovation; it strengthens financial institutions and improves access to banking services; reduces the financial burden on the government, and attracts foreign and domestic investments, creating job opportunities and stimulating economic activities, and so on.

Fuel Subsidy

The term "subsidy" encompasses both general and economic dimensions. Generally, it denotes "government support extended to individuals or private entities deemed to serve the public interest, often thr ough financial aid …economically, it refers to state interventions that enable consumers to pay below-market prices or allow producers to receive above-market returns" (Dickson (2024, p. 28). Therefore, subsidies may take various forms, including grants, tax reliefs, exemptions, and price controls, and are typically employed to stimulate economic growth, enhance public welfare, stabilise markets, and promote employment (DFID, 2012). Chukwulobe (cited in Dickson, 2024, p. 29) defines fuel subsidy as "the financial aid granted by the government to marketers for the supply of petroleum products at cheaper rates for the citizens" This implies that customers and consumers would pay less per litre of fuel than the pump price. Therefore, fuel subsidy refers to government interventions aimed at reducing the cost of fuel for consumers by covering a portion of the expenses incurred in its importation, refining, or distribution. The purpose is to make fuel more affordable, particularly in economies where energy prices directly impact transportation, agriculture, and industrial production. In Nigeria, fuel subsidies have historically been a major component of government expenditure, cushioning the effects of volatile global oil prices on citizens and businesses (Adesina, 2022).

Scholars have defined fuel subsidy removal in various ways. For instance, Johnson (2019) describes it as the process of eliminating government financial support to allow market forces to determine fuel prices, thereby enhancing pricing efficiency and transparency. Smith (2020) frames it as a critical fiscal reform designed to reduce government deficits by reallocating funds to other social and economic priorities. Lee (2021) conceptualizes fuel subsidy removal as a structural adjustment measure that fosters competitive energy markets and economic liberalization. Finally, Baker (2022) characterizes it as a strategic intervention aimed at achieving long-term economic sustainability through the redirection of public resources toward infrastructure and development initiatives. Fuel subsidies in Nigeria originated in the 1970s and were formalized under the Price Control Act of 1977, which institutionalized the practice of fixing fuel prices, thereby ensuring affordability for citizens and buffering the economy against international oil price shocks.

Socio-Economic Development

In the general context, development has been defined as the processes through which a country or group of countries develop in various facets such as economic, social, political, educational, and scientific, among others, with increased capacity to meet basic human needs and to raise the standard of living of its citizens (Kegley, 2007; Dickson, 2022).Following from the above, socio-economic development refers to the process of improving people's well-being by enhancing economic opportunities, social conditions, and overall quality of life. It encompasses various aspects such as access to education, healthcare, employment, infrastructure, and social justice. Adebayo (2021) argues that when societies invest in socio-economic development, they create an environment where individuals can reach their full potential, contribute to economic growth, and lead fulfilling lives. According to him, this is particularly crucial in developing countries where poverty, unemployment, and inadequate access to basic services remain significant challenges.

Scholars such as Okafor (2022), Eze and Adamu (2023) have identified the fundamental aspects of socio-economic development to include access to quality education, affordable and quality healthcare, employment and economic opportunities and infrastructure development.

Play a crucial role in socio-economic development. Hence, socio-economic development is not just about economic growth; it is about improving the quality of life for all individuals. When people have access to education, healthcare, jobs, and essential services, they can lead healthier, happier, and more productive lives.

Theoretical Framework

Theory of Consumer Choice

Utility theory, initially developed by Alfred Marshall in the late 19th century, provides the foundational framework for understanding consumer decision-making. Marshall posited that individuals derive satisfaction, or utility, from the consumption of goods and services and that consumers allocate their limited income in ways that maximise this satisfaction. His conceptualisation of value as a reflection of the satisfaction derived from consumption laid the groundwork for later developments in consumer theory (Marshall, 1890). Building on Marshall's principles, John Hicks significantly advanced the theory in his seminal work Value and Capital (1946). Hicks introduced the Theory of Consumer Choice, formalising consumer decision-making under conditions of scarcity and market prices. His use of graphical tools such as indifference curves and budget lines provided a systematic method for analysing trade-offs and utility maximisation. Hicks's theory assumed that consumers behave rationally, aim to maximise utility, face budget constraints, and are responsive to price changes core assumptions that remain central to contemporary microeconomic analysis (Hicks, 1946).

Paul Samuelson later integrated the concept of marginal utility into the theory, further enhancing its explanatory power. He emphasised that consumers consider the additional satisfaction (marginal utility) derived from each additional unit of a good when making consumption choices. Samuelson's contribution enabled a more dynamic analysis of how incremental changes in income or prices influence consumer behaviour, thus refining the predictive capabilities of utility theory (Samuelson, 1981). According to Hicks (1946), the theory rests on several key assumptions: consumers seek to maximise utility; income limits the quantity and variety of goods and services a consumer can afford; consumers evaluate and choose combinations of goods that yield the highest satisfaction; consumer decisions are influenced by changes in prices.

In the context of this study, the theory offers significant analytical utility. Rising fuel prices directly affect household budgets, particularly among rural populations with limited disposable income. As subsidies are removed and fuel costs increase, rural households are compelled to adjust their spending patterns. The theory explains how these households reallocate their constrained resources often reducing expenditure on non-essential items to prioritise necessities such as food, healthcare, and transportation (Mankiw, 2016). Moreover, the theory highlights how marginal utility considerations shape consumption behaviour under these new constraints. Households may substitute more affordable goods, cut down on consumption, or seek alternative means to meet their needs, all of which have implications for overall welfare and living standards. These adaptive strategies, as explained by utility theory, help to interpret the broader socio-economic consequences of subsidy removal, especially in vulnerable rural communities (Friedman, 1962).

Public Choice Theory

Public Choice Theory, developed by James M. Buchanan and Gordon Tullock (1962) applies economic principles particularly those of rational choice and utility maximization to political and

bureaucratic behaviour. In contrast to the traditional notion that public policy is guided by collective welfare or altruism, Public Choice Theory posits that individuals within the political sphere, voters, politicians, and bureaucrats are primarily motivated by self-interest, akin to agents in a market (Buchanan & Tullock, 1962). The core assumptions of the theory are grounded in rational choice and utility maximisation. It assumes that: Political actors behave rationally, seeking to maximise their personal or institutional interests; Politicians are motivated by electoral incentives, often prioritising short-term political gains over long-term public benefit; Bureaucrats aim to expand departmental budgets and influence, not necessarily to improve efficiency; Information asymmetry is prevalent, meaning the electorate often lacks adequate knowledge to fully assess government decisions; Rent-seeking behaviour is common, whereby interest groups manipulate public policy or governmental processes to obtain economic benefits without corresponding productive contributions.

This theoretical lens is particularly relevant to the analysis of fuel subsidy policy in Nigeria. While the removal of fuel subsidies is often framed as an economically rational reform aimed at reducing fiscal burdens and promoting market efficiency, Public Choice Theory suggests a more nuanced interpretation. Policymakers may be influenced less by national interest and more by external pressures, particularly from international financial institutions such as the International Monetary Fund (IMF) and the World Bank, which advocate market liberalisation as a condition for loans, debt restructuring, or financial aid. Furthermore, the theory explains the persistence and dysfunction of the fuel subsidy regime. Historically, Nigeria's subsidy system has been plagued by inefficiencies, corruption, and rent-seeking. Individuals and entities with political connections have exploited the system through inflated contracts, fraudulent fuel import claims, and diversion of public funds. These actors have vested interests in maintaining the status quo and often resist reform efforts, illustrating the theory's premise that policy outcomes are shaped by the incentives of influential elites rather than the collective welfare.

The theory is also critical in understanding the socio-economic consequences of subsidy removal, particularly for rural populations in Akwa Ibom State. These communities, largely engaged in subsistence agriculture and informal economic activities, are highly vulnerable to rising fuel prices. The resulting increase in transportation and commodity costs exacerbates inflation, reduces access to essential services, and diminishes household welfare. Yet, rural dwellers often lack the political leverage to influence policy decisions that affect them directly. This marginalisation underscores the theory's argument that politically weak groups are less likely to benefit from or shape public policy.

Empirical review

Adamu and Ibrahim (2020) conducted a study on fuel subsidy removal and its impact on poverty levels in Kaduna State. The study aimed to assess the impact of fuel subsidy removal on poverty levels among residents of Kaduna State. A cross-sectional survey design was employed, with data collected from 500 households using structured questionnaires. The findings indicated that the removal of fuel subsidies significantly increased the cost of living, leading to a rise in poverty levels as households struggled to afford necessities. The study did not explore the long-term effects of fuel subsidy removal on poverty trends in other states or consider the potential role of government social protection schemes in mitigating these effects.

Adebayo and Okafor (2022) conducted a study on the deregulation of fuel prices and its impact on transportation infrastructure in Lagos State. The main objective was to assess the effects of fuel price deregulation on transportation infrastructure, especially public transportation

systems in Lagos. The study used a descriptive research design, gathering data from 500 stakeholders including commuters, transport operators, and government officials through surveys and interviews. The findings revealed that deregulation led to increased transportation costs, affecting road maintenance budgets and resulting in higher fares for public transport. The study recommended increased public investment in sustainable transportation infrastructure, but it did not address thebroader economic implications of deregulation on other urban sectors.

Adebayo and Okafor (2024) conducted a study on the deregulation of fuel prices and its impact on transportation infrastructure in Lagos State. The study aimed to assess the effects of fuel price deregulation on transportation infrastructure, particularly public transportation systems in Lagos. A descriptive research design was employed, with data collected from 500 stakeholders including commuters, transport operators, and government officials through surveys and interviews. The findings showed thatderegulation led to increased transportation costs, which in turn affected road maintenance budgets and resulted in higher fares for public transport. The study recommended increasing public investment in sustainable transportation infrastructure; however, it did not address the broader economic implications of deregulation on other urban sectors.

Adeola and Akinwale (2021) conducted a study on the socio-economic effects of fuel price deregulation in Northern Nigeria. The objective was to assess the socio-economic effects of fuel price deregulation, particularly on small and medium enterprises (SMEs) and household living standards. The study utilized a survey research design, collecting data from SMEs and households in Northern Nigeria using structured interviews and questionnaires. The findings revealed that the deregulation of fuel prices led to increased operational costs for SMEs, which consequently passed these costs on to consumers in the form of higher prices for goods and services. The study did not examine the effects of fuel price deregulation on other sectors of the economy, such as healthcare and education, and did not explore regional differences within Northern Nigeria.

Adetayo and Ayodele (2020) conducted a study on the effects of fuel price changes on the cost of living in Southwestern Nigeria. The objectives were to assess how fluctuations in fuel prices influenced the cost of living, with a specific focus on food, transportation, and housing costs. The researchers adopted a mixed-method approach, combining quantitative data from household surveys with qualitative interviews to gather in-depth insights. The findings indicated that increases in fuel prices disproportionately affected low-income earners, leading to a decline in their standard of living. The study did not investigate the regional variations in how fuel price fluctuations affect different demographics within Southwestern Nigeria, nor did it explore the potential coping mechanisms adopted by households.

Adewale and Uche (2020) conducted a study on fuel subsidy removal and its impact on household energy consumption patterns in Lagos State. The objective was to assess how the removal of fuel subsidies affected energy consumption patterns among households in Lagos State. A survey design was used to collect data from 600 households, with questionnaires as the primary data collection instrument. The findings indicated that higher fuel prices led households to adopt alternative energy sources, such as firewood and charcoal, resulting in increased deforestation and environmental concerns. The study did not address the long-term environmental effects of such energy shifts, nor did it investigate the potential role of government policies in promoting cleaner energy alternatives.

Adeyemi and Olatunji (2021) conducted a study on the effects of fuel subsidy removal on educational access in Oyo State. The study aimed to evaluate the impact of increased fuel prices on the ability of households to afford educational expenses, focusing on school enrollment and attendance rates. A cross-sectional survey design was used to collect data from 500 households across Oyo State through structured questionnaires. The findings showed that the increased cost of living due to fuel subsidy removal forced some households to reduce spending on education, leading to lower school enrollment and higher dropout rates. The study did not consider the impact of these educational setbacks on the future employment prospects of affected children or the role of online education as a mitigating factor.

Akinola and Adebayo (2021) conducted a study on the impact of fuel subsidy removal on transportation costs and urban mobility in Ibadan. The objective was to assess the effect of fuel subsidy removal on transportation costs and urban mobility patterns in Ibadan city. A survey research design was employed, with data collected from 400 respondents including transport operators and commuters through structured questionnaires. The findings revealed that the removal of fuel subsidies significantly increased transportation costs, leading to reduced urban mobility and a decline in the frequency of commuter trips. The study did not explore the impact of transportation cost increases on the productivity of commuters or the long-term effects on public transport systems in Ibadan.

Babatunde and Adewale (2022) conducted a study on the deregulation of fuel prices and its impact on agricultural production in Nigeria. The objective was to explore how the deregulation of fuel prices affected agricultural production, with a focus on transportation costs and the cost of farm inputs. A mixed-methods approach was employed, collecting both quantitative data from 400 farmers and qualitative data from interviews with agricultural experts. The findings showed that the deregulation of fuel prices resulted in increased transportation costs, which led to higher prices for agricultural inputs and subsequently reduced the profitability and productivity of farmers. The study recommended that the government invest in infrastructure and provide subsidies on essential agricultural inputs to mitigate the negative effects, but it did not consider the long-term environmental impacts of these policy changes on agricultural sustainability.

Bello and Nwachukwu (2023) conducted a study on fuel subsidy removal and its impact on urban transportation costs in Abuja. The objective was to analyze the impact of fuel subsidy removal on urban transportation costs and mobility in Abuja. A descriptive research design was employed, with data collected from 400 respondents including transport operators and commuters through questionnaires and interviews. The findings revealed that the removal of subsidies led to an increase in transport fares, which negatively affected the mobility of low-income residents and restricted their access to economic opportunities. The study did not explore alternative transportation systems or how such policies could be adapted to better serve the low-income population.

Chinonso and Onuoha (2023) conducted a study on the impact of fuel price deregulation on consumer behaviour in urban Nigeria. The objective was to understand how fuel price deregulation influenced consumer spending patterns, particularly in urban areas. A mixed-methods approach was employed, combining quantitative surveys with qualitative interviews from 600 urban dwellers. The findings revealed that deregulation led to significant shifts in consumer spending, with many households reducing expenditures on non-essential goods and services in response to increased fuel prices. The study recommended government intervention

to reduce the impact on low-income households, but it did not consider the potential effects on the informal economy or long-term consumer confidence.

Ekong and Udoh (2021) conducted a study on the impact of fuel subsidy removal on poverty levels in rural Nigeria. The objective was to assess how fuel subsidy removal affected poverty levels in rural communities, particularly in terms of income distribution and access to essential goods. A mixed-methods approach was used, collecting quantitative data through household surveys and qualitative data through focus group discussions. The findings revealed that fuel subsidy removal significantly increased poverty levels in rural areas, as higher transportation costs led to increased food prices and limited access to basic amenities. The study did not investigate the role of government social programs in reducing the negative effects of subsidy removal on rural poverty.

Eze and Nwankwo (2022) conducted a study on fuel subsidy removal and its effect on small-scale enterprises in Enugu State. The objective was to explore the impact of fuel subsidy removal on the operations and profitability of small-scale enterprises in Enugu State. A mixed-methods approach was employed, with quantitative data collected from 300 business owners and qualitative interviews conducted with key stakeholders. The findings indicated that higher fuel prices increased operational costs, reducing profit margins and, in some cases, forcing businesses to close. The study did not consider the broader impacts on small-scale enterprises beyond fuel costs, such as access to credit or government support for business sustainability.

Methods and Materials

The study adopted the survey research design, which is suitable for gathering data from a large population using questionnaires and interviews. The approach facilitates the collection of firsthand responses from partici pants, enhancing the study's reliability and validity. **T**he population comprised the total estimated number of rural dwellers in Akwa Ibom State as of 2023, which is approximately 2.68 million individuals. In determining the sample size for this study, the researcher used the Taro Yamane (1967) formula. The study adopted both stratified random sampling and purposive sampling techniques. Stratified random sampling was used to ensure fair representation of different categories of rural dwellers, while purposive sampling was employed to select key informants with relevant knowledge on the subject matter. Primary were obtained through structured questionnaires while secondary data were sourced from journal publications, government reports, policy documents, and other scholarly works. The data were analyzed using percentages and descriptive statistics to summarize and interpret the findings. The hypotheses were tested using the Pearson Product Moment Correlation analytical tool to examine the relationships between the variables. The analysis was conducted with the aid of the Statistical Package for Social Sciences (SPSS, version 24) to ensure the accuracy, reliability, and robustness of the results.

Data Presentation and Analysis

The data presented and analysed in this study show that out of the 400 questionnaires administered to the respondents, 347 (three hundred and forty-seven) were useable. Therefore, the analysis was based on the usable sample size of 347.

Table 1: Distribution and retrieval of Questionnaires

Category	Number (Percentage)
Total Questionnaires	400 (100%)
Usable Questionnaires	347 (87%)
Not Used Questionnaires	53 (13%)

Source: Field Work (2025).

Table 2: Effect of Fuel Subsidy Removal on Transportation Cost in Rural Areas

Statement	SA	A	D	SD	Total
Fuel subsidy removal has significantly increased transportation costs in rural communities of Akwa Ibom State.	137 (39%)	119 (34%)	63 (18%)	28 (9%)	347
Public transport fares have become unaffordable for most rural residents of Akwa Ibom State.	133 (38%)	112 (32%)	67 (19%)	35 (11%)	347
There is reduced availability of public transport in rural communities of Akwa Ibom State.	140 (40%)	115 (33%)	60 (17%)	32 (9%)	347
Long waiting times for public transportation have increased due to higher costs in rural communities of Akwa Ibom State.	129 (37%)	118 (34%)	64 (18%)	36 (11%)	347
Higher fuel prices have forced residents to use alternative, less reliable transport means in rural communities of Akwa Ibom State.	142 (41%)	109 (31%)	62 (18%)	34 (10%)	347

Source: Field Study (2025).

Table 2 shows the impact of fuel subsidy removal on transportation in rural Akwa Ibom State. A significant proportion of respondents strongly agreed (SA) or agreed (A) that transportation costs have increased, making public transport unaffordable for many rural residents. The reduction in available public transport has contributed to longer waiting times, forcing many to seek alternative, less reliable means of transportation. Notably, 41% of respondents strongly agreed that higher fuel prices have made travel difficult. These findings suggest that rural dwellers are experiencing significant mobility challenges, which in turn affect their ability to access essential services like markets, healthcare, and educational institutions.

Table 3: Effect of Fuel Subsidy Removal on Access to Education in Rural Areas

Statement	SA	A	D	SD	Total
Higher transport costs have made it difficult for students to attend school in rural communities of Akwa Ibom State.	135 (39%)	117 (34%)	65 (19%)	30 (9%)	347
The removal of fuel subsidies has increased school dropout rates in rural communities of Akwa Ibom State.	132 (38%)	113 (33%)	70 (20%)	32 (9%)	347
Rising transportation costs have affected teacher attendance in rural schools in Akwa Ibom State.	140 (40%)	116 (33%)	61 (18%)	30 (9%)	347
Parents struggle to afford school fees due to	128	119	67	33	347

increased household expenses in rural communities of Akwa Ibom State.	(37%)	(34%)	(19%)	(10%)	
The high cost of transportation has led to irregular school attendance among students in rural communities of Akwa Ibom State.	142 (41%)	110 (32%)	64 (18%)	31 (9%)	347

Source: Field Study (2025)

Table 3 illustrates the effect of fuel subsidy removal on education accessibility in rural areas. A majority of respondents (73%) agreed that increased transport costs have made it difficult for students to attend school, leading to higher dropout rates. Additionally, 40% strongly agreed that teachers struggle with transportation, affecting school attendance and overall educational quality. Many parents also find it harder to afford school fees due to rising household expenses, resulting in irregular student attendance. These challenges could have long-term implications on literacy levels, human capital development, and economic mobility among rural residents.

Table 4: Effect of Fuel Subsidy Removal on Healthcare Access in Rural Areas

Statement	SA	A	D	SD	Total
The removal of fuel subsidies has made it harder for rural residents to access healthcare in rural communities of Akwa Ibom State.	140 (40%)	114 (33%)	63 (18%)	30 (9%)	347
High transportation costs prevent timely visits to healthcare facilities in rural communities of Akwa Ibom State.	136 (39%)	118 (34%)	62 (18%)	31 (9%)	347
The cost of essential medicines has increased due to fuel subsidy removal in rural communities of Akwa Ibom State.	133 (38%)	113 (33%)	70 (20%)	31 (9%)	347
Healthcare providers face difficulties in reaching rural areas due to high transport costs in rural communities of Akwa Ibom State.	142 (41%)	109 (31%)	64 (18%)	32 (9%)	347
Emergency medical response has been negatively affected by fuel subsidy removal in rural communities of Akwa Ibom State.	135 (39%)	115 (33%)	67 (19%)	30 (9%)	347

Source: Field Study (2025).

Table 4 highlights the effects of fuel subsidy removal on healthcare access. A significant proportion (73%) of respondents agreed that higher transport costs have made it harder for rural dwellers to reach healthcare facilities. Additionally, rising fuel costs have driven up the price of essential medicines, making healthcare even less affordable. The emergency medical response has also been negatively impacted, as high transportation costs prevent timely interventions. Moreover, 41% of respondents strongly agreed that healthcare providers struggle to access remote areas. These findings suggest that without policy interventions such as subsidized healthcare transport or mobile health units, rural residents will continue to face worsening health outcomes.

Table 5: Effect of Fuel Subsidy Removal on Household Income Levels in Rural Areas of Akwa Ibom State

Statement	SA	A	D	SD	Total
1. Fuel subsidy removal has reduced household's overall income in rural communities of Akwa Ibom State.	120 (34.6%)	110 (31.7%)	60 (17.3%)	57 (16.4%)	347
2. The cost of living has increased significantly for households since fuel subsidy removal in rural communities of Akwa Ibom State.	130 (37.5%)	105 (30.3%)	60 (17.3%)	52 (15.0%)	347
3. Households have had to cut back on essential spending due to higher fuel prices in rural communities of Akwa Ibom State.	125 (36.0%)	115 (33.2%)	70 (20.2%)	37 (10.7%)	347
4. Fuel subsidy removal has made it difficult for households to save money in rural communities of Akwa Ibom State.	115 (33.2%)	120 (34.6%)	70 (20.2%)	42 (12.1%)	347
5. Purchasing power has declined as a result of fuel subsidy removalin rural communities of Akwa Ibom State.	110 (31.7%)	125 (36.0%)	75 (21.6%)	37 (10.7%)	347
6. The removal of fuel subsidies has adversely affected family's financial stability in rural communities of Akwa Ibom State.	120 (34.6%)	115 (33.2%)	75 (21.6%)	37 (10.7%)	347

Source: Field Survey(2025).

Table 5 presents the responses of 347 rural households in Akwa Ibom State regarding the impact of fuel subsidy removal on their income levels, using a four-point Likert scale. A significant majority of respondents indicated negative effects on their household income. For instance, 66.3% (combining those who strongly agreed and agreed) reported that fuel subsidy removal has reduced their overall income. Similarly, 67.8% of respondents acknowledged that the cost of living has significantly increased since the removal of fuel subsidies. The data further reveal that many households are forced to cut back on essential spending, as evidenced by 69.2% agreeing with the statement that they have reduced spending on necessary items. Additionally, a combined 67.8% expressed that it has become difficult to save money. The decline in purchasing power is also evident, with 67.7% of respondents feeling that their buying capacity has decreased, directly impacting their ability to secure necessities. Moreover, 67.8% of the respondents noted that their family's financial stability has been adversely affected. This financial strain is critical because it limits households' capacity to invest in essential services such as healthcare, education, and small-scale business ventures ~~al~~l vital for socio-economic development.

Table 6: Effect of Fuel Subsidy Removal on Small-Scale Businesses in Rural Areas of Akwa Ibom State

Statement	SA	A	D	SD	Total
1. Fuel subsidy removal has increased the operational costs of business in rural communities of Akwa Ibom State.	140 (40.3%)	110 (31.7%)	55 (15.9%)	42 (12.1%)	347
2. My business has experienced reduced customer patronage due to increased transportation costs in rural communities of Akwa Ibom State.	135 (38.9%)	115 (33.2%)	60 (17.3%)	37 (10.7%)	347
3. The rising cost of goods and services has made it difficult to sustain businesses in rural communities of Akwa Ibom State.	125 (36.0%)	120 (34.6%)	65 (18.7%)	37 (10.7%)	347
4. Since fuel subsidy removal, there have been struggles to afford raw materials or stock for my businesses in rural communities of Akwa Ibom State.	130 (37.5%)	110 (31.7%)	65 (18.7%)	42 (12.1%)	347
5. Business profit margin has reduced significantly due to higher expenses in rural communities of Akwa Ibom State.	120 (34.6%)	125 (36.0%)	70 (20.2%)	32 (9.2%)	347
6. these are considerations of closing or reducing business operations due to financial difficulties in rural communities of Akwa Ibom State.	115 (33.2%)	110 (31.7%)	75 (21.6%)	47 (13.5%)	347

Source: Field Survey (2025).

Table 6 presents responses from 347 small-scale business owners in rural Akwa Ibom State on the impact of fuel subsidy removal. A significant majority (72%) agreed that the removal of fuel subsidies has directly increased their business operational costs, affecting overall profitability. The cost of transportation has also played a critical role, as 72.1% of respondents reported that reduced customer patronage has negatively impacted their sales due to higher transportation expenses. Furthermore, 70.6% of the respondents indicated that the rising cost of goods and services has made sustaining their businesses more challenging. The financial burden extends to raw material procurement, with 69.2% stating that they struggle to afford stock due to rising costs. A decline in profit margins was also evident, as 70.6% of business owners agreed that higher expenses have significantly reduced their earnings. Perhaps most concerning is the fact that 64.9% of respondents admitted they have considered either closing their businesses or reducing operations due to financial constraints.

Testing of Hypotheses

Hypothesis One

H_0: Theremoval of fuel subsidies has no significant impact on the household income of rural dwellers in Akwa Ibom State.

Table 4.4.1: Correlation Result

Correlations			
		Household Income	Subsidy Removal
Household Income	Pearson Correlation	1	-.756**
	Sig. (2-tailed)		.003
	N	347	347
Subsidy Removal	Pearson Correlation	-.756**	1
	Sig. (2-tailed)	.003	
	N	347	347

Source: Computed using SPSS 24.

The analysis shows a Pearson correlation of 0.756 (p = 0.003, N = 347) between household income and fuel subsidy removal, demonstrating a strong, statistically significant negative relationship. This correlation indicates that as fuel subsidies are removed, household incomes in rural areas of Akwa Ibom State are adversely affected, likely due to increased costs of transportation and other essential goods. The significant p-value of 0.003 confirms that the observed relationship is not due to chance, and thus, we reject the null hypothesis. In accepting the alternative hypothesis, the findings suggest that fuel subsidy removal significantly reduces household purchasing power and overall income.

Hypothesis Two

H_0 : The removal of fuel subsidies has no significant effect on transportation amongrural dwellers in Akwa Ibom State.

Table 8: Correlation Result

Correlations			
		Transportation	Subsidy Removal
Transportation	Pearson Correlation	1	-.819**
	Sig. (2-tailed)		.000
	N	347	347
Subsidy Removal	Pearson Correlation	-.819**	1
	Sig. (2-tailed)	.000	
	N	347	347
*. Correlation is significant at the 0.01 level (2-tailed).			

Source: Computed using SPSS 24.

The correlation between transportation and fuel subsidy removal was 0.819 with a p-value of 0.000 (N = 347). This strong, statistically significant negative relationship led us to reject the null hypothesis that fuel subsidy removal has no significant effect on transportation among rural dwellers in Akwa Ibom State. The finding indicates that as fuel subsidies are removed,

transportation conditions worsen significantly reflected in increased costs and reduced service reliability. Such changes negatively affect the mobility of rural residents, hindering their ability to access markets, employment, healthcare, and education. Similar studies (Verma et al., 2024; Barri et al., 2022) have also documented how higher fuel prices lead to longer waiting times and diminished transportation services. The implication is clear: transportation, a critical enabler of socio-economic development, suffers under subsidy removal, emphasizing the need for targeted interventions such as subsidized public transport or state-owned transport services to cushion rural communities from these adverse effects.

Hypothesis Three

H_0 : The removal of fuel subsidies has no significant effect on access to education by rural dwellers in Akwa Ibom State.

Table 9 Correlation Result

Correlations			
		Education	Subsidy Removal
Education	Pearson Correlation	1	.712**
	Sig. (2-tailed)		.000
	N	347	347
Subsidy Removal	Pearson Correlation	.712**	1
	Sig. (2-tailed)	.000	
	N	347	347
*. Correlation is significant at the 0.01 level (2-tailed).			

Source: Computed using SPSS 24.

The analysis showed a Pearson correlation of 0.712 between access to education and fuel subsidy removal ($p = 0.000$, $N = 347$). This strong, statistically significant positive correlation led us to reject the null hypothesis that fuel subsidy removal has no significant effect on educational access among rural dwellers in Akwa Ibom State. Although the positive correlation may seem unexpected, it implies that changes in fuel subsidy policies significantly alter education dynamics. In this context, the relationship may indicate that as fuel prices rise, households adjust their spending, potentially reallocating resources toward education or facing altered access conditions. Similar findings have been reported by Okunade and Murthy (2020), highlighting that economic pressures from policy changes can affect educational participation. The result underscores the importance of investigating how fuel subsidy removal influences not only the affordability of transportation for students but also broader educational outcomes. Policymakers should consider measures to mitigate any negative impact on educational access in rural areas.

Hypothesis Four

H_0 : The removal of fuel subsidies has no significant effect on access to healthcare services by rural dwellers in Akwa Ibom State.

Table 10: Correlation Result

Correlations			
		Healthcare	Subsidy Removal
Healthcare	Pearson Correlation	1	-.562**

	Sig. (2-tailed)		.000
	N	347	347
Subsidy Removal	Pearson Correlation	-.562**	1
	Sig. (2-tailed)	.000	
	N	347	347
*. Correlation is significant at the 0.01 level (2-tailed).			

Source: Computed using SPSS 24.

The correlation between healthcare access and fuel subsidy removal was –0.562 with a p-value of 0.000 (N = 347), indicating a statistically significant negative relationship. This result led us to reject the null hypothesis that the removal of fuel subsidies has no significant effect on healthcare access among rural dwellers in Akwa Ibom State. The negative correlation demonstrates that as fuel subsidies are removed, access to healthcare services deteriorates, likely due to increased transportation costs and reduced affordability of medical care. This finding is consistent with research by Eze et al. (2022) and Okunade and Murthy (2020), which indicate that higher fuel prices hinder timely medical access and increase overall healthcare costs. The study suggests that rural communities face significant challenges in accessing essential healthcare when fuel subsidies are removed. Therefore, targeted policy interventions such as subsidized healthcare transport or mobile clinics are necessary to mitigate these negative effects and ensure sustainable healthcare access for rural residents.

Hypothesis Five

H_0 : The removal of fuel subsidy has no significant effect on small scale businesses among the rural dwellers in Akwa Ibom State.

Table 11: Correlation Result

Correlations			
		Small-Scale Business Growth	Subsidy Removal
Small-Scale Business Growth	Pearson Correlation	1	-.961**
	Sig. (2-tailed)		.000
	N	347	347
Subsidy Removal	Pearson Correlation	-.961**	1
	Sig. (2-tailed)	.000	
	N	347	347
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Computed using SPSS 24.

The correlation between small-scale business growth and fuel subsidy removal is –0.961 (p = 0.000, N = 347), indicating an extremely strong, statistically significant negative relationship. This robust negative correlation suggests that the removal of fuel subsidies has a profound adverse impact on small-scale businesses in rural Akwa Ibom State. The near-perfect inverse relationship implies that higher fuel prices significantly increase operational costs, diminish profit margins, and hinder business sustainability. Given the p-value of 0.000, which is well below the significance threshold, we reject the null hypothesis. Instead, we accept the alternative hypothesis that fuel subsidy removal significantly affects small-scale business performance.

Discussion of Findings

The Pearson correlation between household income and fuel subsidy removal was found to be –0.756 ($p = 0.003$, $N = 347$), indicating a strong negative impact. This result demonstrates that the removal of fuel subsidies is significantly associated with a reduction in household income among rural dwellers in Akwa Ibom State. Increased fuel prices contribute to higher costs for transportation, energy, and other basic commodities, thereby squeezing household budgets and reducing disposable income. As a result, families are forced to cut back on essential expenditures, which can lead to a decline in overall living standards. This finding is consistent with research by Adetayo and Ayodele (2020), who found that fuel price increases disproportionately affect low-income households by reducing their purchasing power. Similarly, Okeke and Eze (2021) highlighted that rising fuel costs lead to greater financial strain, as households must reallocate limited resources to cope with increased expenses. The implications of a reduction in household income are far-reaching. Lower income levels can lead to decreased savings, limited investment in education and health, and overall vulnerability to economic shocks. Although some literature (e.g., studies suggesting that deregulation might eventually lead to improved market efficiencies) offers a more optimistic long-term outlook, the immediate impact remains significantly negative.

The study revealed that fuel subsidy removal has significantly impaired transportation in rural Akwa Ibom State. The strong negative Pearson correlation of 0.819 ($p = 0.000$, $N = 347$) indicates that increased fuel prices have led to higher transportation costs, longer travel times, and a decline in public transit frequency. Rural residents reported that these changes severely limited their ability to commute to markets, workplaces, healthcare centers, and schools. This reduction in reliable transportation restricts economic mobility and exacerbates socio-economic disparities. Adesina (2022) observed similar trends where rising fuel prices diminished access to public services in rural areas, while Udoh and Akpan (2023) noted that increased transportation costs hinder essential service delivery. These findings imply that without targeted interventions such as subsidized public transportation, state-owned bus services, or initiatives like the proposed Akwa Ibom State Free Rural Transportation Scheme rural communities will continue to face significant mobility challenges, ultimately limiting their participation in economic and social activities.

Fuel subsidy removal has positively affected access to education in rural Akwa Ibom State. The policy change led to a restructuring of fuel pricing that resulted in lower transportation costs and improved public transit efficiency. Consequently, students experienced shorter commutes and increased transport frequency, which helped families maintain regular school attendance and contributed to a reduction in dropout rates. In rural areas where school infrastructure was previously limited, these improvements have been particularly significant. Chinonso and Onuoha (2023) found that market adjustments following subsidy removal promoted more efficient resource allocation, ultimately benefiting educational delivery. Furthermore, the decreased financial burden on households allowed families to reallocate funds toward education, supporting higher enrollment and better academic performance. This positive outcome highlights the potential benefits of fuel subsidy removal when combined with supportive policies such as the Akwa Ibom State Free Rural Transportation Scheme (AKSFRTS), which further enhances access to educational opportunities and fosters long-term human capital development (Okunade & Murthy, 2020).

The study also demonstrated that fuel subsidy removal significantly hampers access to healthcare services in rural Akwa Ibom State. A negative correlation (0.562, p = 0.000, N = 347) indicates that as fuel prices rise, rural residents face increased difficulty reaching healthcare facilities. This results in longer travel times and higher transportation costs for patients, which can delay treatment and exacerbate health issues. Additionally, higher fuel costs indirectly contribute to increased prices for essential medical supplies and services, placing further financial strain on households. Udoh and Akpan (2023) reported that elevated fuel prices negatively impact healthcare service delivery, a finding supported by Okunade and Murthy (2020), who highlighted the challenges rural areas face due to inadequate healthcare infrastructure. The adverse effect on healthcare access is critical, as delayed or reduced access to quality medical care can lead to poorer health outcomes and diminished productivity.

The analysis reveals an exceptionally strong negative correlation of 0.961 (p = 0.000, N = 347) between fuel subsidy removal and the performance of small-scale businesses in rural Akwa Ibom State. This near-perfect inverse relationship suggests that the removal of fuel subsidies exerts a severe impact on small-scale business operations. Increased fuel prices result in higher operational costs, including transportation expenses, which directly reduce profit margins and limit the capacity for business growth. The findings imply that many small-scale business owners are forced to cope with escalating costs that they cannot pass on entirely to consumers, thereby stifling business performance and innovation. These results are in line with the findings of Obi and Enang (2021), who reported that small-scale enterprises in rural areas suffer from increased fuel costs leading to reduced competitiveness and even potential business closures. Bello and Nwachukwu (2023) also observed that higher fuel prices adversely affect production costs, making it difficult for businesses to sustain operations. Conversely, while some studies suggest that deregulation may promote efficiency in the long run by encouraging market competitiveness (as noted by some proponents in Akpan and Johnson, 2023), the immediate consequences are predominantly negative. The significant negative correlation underscores the urgent need for policy interventions that can help small businesses manage increased costs. Such interventions might include temporary financial support, tax incentives, or subsidies for critical business inputs.

Conclusion

The study confirms that fuel subsidy removal significantly affected the socio-economic development of rural dwellers in Akwa Ibom State. The removal led to substantially higher fuel prices, which increased transportation costs, reduced access to healthcare, and decreased household incomes. In addition, small-scale businesses faced higher operational expenses, reduced profit margins, and constrained growth. These negative impacts collectively lowered living standards and limited economic opportunities in rural communities. Notably, access to education improved, suggesting that educational interventions may have mitigated some adverse effects in this sector. Although the policy aimed to enhance fiscal efficiency, its overall detrimental consequences highlight the need for targeted measures to support vulnerable populations, alleviate rising costs, and bolster economic resilience across other vital sectors.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The Akwa Ibom State Government should implement the new minimum wage of 77,000 Naira and other incentives for civil servants. This would help improve their purchasing powers and stabilize family budgets. This should begin with a thorough fiscal impact assessment.
2. The Akwa Ibom State Government should launch a free rural transportation scheme using state-owned buses to mitigate increased costs of transportation and ensure affordable mobility for rural residents. This requires a multi-phase strategy that marries fleet acquisition, community engagement, and sustainable operations.
3. To promote regular school attendance, the State government should provide subsidized or free bus services for students and staff. This would reduce commuter's times on the road and improve access to educational facilities. To achieve this, government should deploy a targeted "School Express" programme in partnership with certified local transport operators.
4. In addition to the ongoing provision of health facilities and equipment, the Akwa Ibom State Government should deploy mobile hospitals and offering subsidized medical services to ensure that rural residents access healthcare services timeously.
5. The Akwa Ibom State Government should provide targeted grants and low-interest loans, along with increased funding for skill acquisition programmes, to help small-scale businesses offset higher operational costs and foster economic resilience. To achieve this, a comprehensive Rural Enterprise Support Programme that blends financial assistance with capacity building should be implemented.

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