EFFECTS OF FREIGHT RATES ON ROAD TRANSPORTATION OF AGRICULTURAL PRODUCT IN SOUTHWEST NIGERIA

Ajao Oluseyi Stephen and Chukwu-Okeah, G.O
1Nigerian Institute of Transport Technology (NITT), Zaria.
2University of Portharcourt
ajasent477@gmail.com, giftchukwuokeah@yahoo.com

ABSTRACT

This study investigated the impact of freight rates on the transportation of farm produce through road in certain states located in the southwestern region of Nigeria. The study utilized a cross-sectional design. In order to collect data for the study, a survey consisting of 400 questionnaires was distributed among transporters and market sellers in the major markets of Ondo, Osun, and Ekiti states within the study area. Data presentation in this study involved the utilization of tables and charts, while the evaluation of the relationship amongst traffic congestion and agricultural product distribution features was conducted by regression analysis. The study’s findings indicate that the supply of farm produce in the study area is adversely affected by fuel scarcity, high levels of extortion rates by customs, and long travel distances, which in turn lead to high freight rates. The research findings revealed a statistically significant correlation (r=0.705; p<0.05) between freight rates and the transportation of agricultural products. The research findings indicate that the delivery and distribution of farm produce in the study area are impacted by factors such as fuel scarcity, high extortion rates, and distance, which in turn affect freight rates. The study proposes, among other recommendations, the establishment of an agricultural output databank and storage facility in order to implement an environmentally conscious and efficient system to facilitate agricultural freight transportation in the study region.

Keywords: Road transportation, Agricultural products, Freight rates, Southwest, Nigeria

1.0 Introduction

According to Kandiero (2009), the African Development Bank acknowledges the significance of investing in infrastructure, including transportation, electricity supply, and telecommunication, as a means to foster economic growth, alleviate poverty, and attain the Millennium Development Goals (MDGs). According to Kiprono and Matsumoto (2014), enhancements in road infrastructure are anticipated to result in an increase in the output price for producers and a decrease in production costs due to the reduction in transportation expenses for goods and services. The inadequate road transport infrastructure, elevated transportation expenses, and gaps in the transport network present a significant obstacle to the process of market integration and intra-African commerce. Humanity has historically migrated from one location to another in order to fulfill their everyday need. Transportation is an indisputably essential component in virtually all facets of socio-economic advancement. The presence of efficient road transport plays a crucial role in the growth of various sectors, including industry, trade expansion, election processes, healthcare delivery, education, census programs, and the interchange of ideas (Filani, 2005).
According to Hesse and Rodrigues (2004), the increasing movement of goods has played a crucial role in the transformative shifts observed in global, regional, and local economic systems. According to Ola (1978), the differentiation of regional areas contributes to the generation of localized excess supply that can be effectively transmitted to areas experiencing deficits. This perspective aligns with the term of complementarity. The underlying premise in this context posits that trade will be facilitated when the composition of exported goods in one region aligns with the import requirements of another location. The transportation of agricultural commodities from Kaduna state adheres to this principle. According to Onokala (1988), transportation is widely recognized as a crucial factor in the marketing and distribution processes, since it is responsible for ensuring that commodities and goods are successfully delivered to the end consumer.

According to Ojekunle's (2004) analysis of metropolitan freight flow in Nigeria, it was observed that the positioning of markets and industry serves as the determining factor for demand. Markets and manufacturing centers are significant hubs that generate and attract a substantial amount of freight. Due to the inherent characteristics of the items or commodities being transported, such as their weight, size, or perishability, it is imperative to ensure their efficient transfer from production areas to consumption areas, while minimizing delays, costs, and ensuring safety.

Hence, freight transportation serves as a catalyst for liberation, enabling the release of natural, man-made, and human resources from circumstances where their productivity and fulfillment are limited or nonexistent, and facilitating their transfer to locations where their maximum utility can be actualized. Freight transportation encompasses the need to convey commodities from their point of origin to their intended destination, mostly through the utilization of transportation modes that are either owned or leased by the agency or client. The transportation of goods by freight is an indispensable component of contemporary urban society. According to Michael (2008), the presence of a dependable freight transport infrastructure is crucial for the functioning of any urban region.

According to Bayles (2000),... Additionally, it facilitates the connection between manufacturers and markets, so facilitating individuals' access to employment, goods, services, and social possibilities. Various forms of transportation are employed for the purpose of transferring passengers, agricultural commodities, and manufactured items from areas of supply or production to regions of shortage or consumption located in different parts of Nigeria (Bamaiyi, 2011). According to Kotler and Armstrong (2006), marketing channels can be defined as a collection of autonomous entities that participate in the facilitation of product or service availability for consumption by consumers or business end users. The phrase "marketing channel" refers to the series of brokers or middlemen via which items are transferred from a manufacturer or farmer to the consumer.

Various constraints can impede the shipment and delivery of farm produce in the research area. These variables include fuel scarcity, delays caused by customs and security personnel, low demand, and geographical remoteness.

Ajiboye (1994) posits that the presence of transportation infrastructure plays a pivotal...
role as an investment determinant, since it fosters economic growth by enhancing overall accessibility. According to Paul et al. (2009), the significance of road facilities on agricultural yields and efficiency in Sub-Saharan Africa can be attributed to three key factors. According to Paul et al. (2009), the agricultural sector plays a significant role in contributing to the gross domestic product (GDP) of the majority of Sub-Saharan countries. Furthermore, it is worth noting that poverty tends to be disproportionately concentrated in rural regions. In conclusion, the presence of inadequate road infrastructure and extended average trip durations contribute to elevated transaction expenses associated with the trade of agricultural both input and output. Consequently, this serves as a constraint on agricultural productivity and impairs its potential for expansion. Therefore, it is imperative to ensure that sufficient road infrastructure is established, fuel prices remain stable, concerns related to inflation impacting demand are managed, and issues contributing to prolonged travel time are effectively addressed. Therefore, it is essential to examine the characteristics of freight rates in connection with the transportation of agricultural products, namely in terms of load capacity measured in tonnes or kilos. Does the cost of shipping have any impact on the speed at which agricultural products are transported? What is the degree of association between freight charges and the transportation of grain and other agricultural products? The study investigates the impact of freight rates and road transportation on the movement of agricultural products in certain states located in the southwestern region of Nigeria, taking into consideration the aforementioned context.

2.0 Literature Review

2.1 Freight Rate and Transportation of Agricultural Products

Transportation, in various forms, is a fundamental and indispensable necessity for daily human endeavors, since it plays a crucial role in facilitating all human activities, including agriculture (Ademiluyi, 2006). Freight transportation is of paramount importance in facilitating the efficient functioning of any economy, particularly in cases where the road sector holds dominance. Agricultural operations, on the other hand, typically generate freight, which subsequently contributes to the overall economic prosperity of both developed and developing nations (Ojekunle, 2004).

Agricultural freight refers to the transportation of agricultural products from rural areas, such as farmlands, to various destinations including non-urbanized areas, marketplaces, city centers, and for international exports (Akangbe et al., 2013). This type of cargo primarily includes agricultural products such as food crops, cash crops, farm animals, poultry products, and perishable items like vegetables, tomatoes, peppers, and fruits. These goods are predominantly produced in rural areas at various levels of production (Omole & Owoeye, 2007). They are then transported to urban settlements, which serve as the primary market for these products due to their higher purchasing power. In relation to this matter, individuals residing in metropolitan places worldwide rely on farmers located in agricultural regions to fulfill their daily needs for agricultural commodities, which are utilized for consumption, industrial operations, and various other production endeavors (Taiwo, 2009). Therefore, it is imperative to ensure a smooth transportation of...
agricultural goods from rural areas to urban centers, since this is a crucial element in the everyday operation of the urban-rural system, essential for sustaining the human population.

The primary goal with regard to agricultural freight transportation is to efficiently fulfill the growing demand and supply of agricultural products while minimizing resource consumption, while also ensuring that both time and location utilities are not compromised. Therefore, by ensuring the efficient transportation of unprocessed products and finished goods in a timely, cost-effective, and secure manner, a robust and sustainable economic performance is assured. Furthermore, scholarly investigations conducted by the World Economic Forum (2015) and Napkhonenko et al. (2018) have examined and unveiled the significance of freight transportation in relation to both the well-being of humans and the natural environment, as well as the advancement of national progress and economic development.

Regrettably, despite its evident significance as elucidated in scholarly works, the transportation of agricultural goods in developing nations, such as Nigeria, continues to encounter various challenges. These include inadequate and substandard infrastructure, competition for resources with passenger transportation, insufficient or ineffective policy measures, as well as inadequate management and operational negligence (Salisu, 2019).

Furthermore, following Nigeria's attainment of independence, there has been a predominant emphasis on investing in infrastructural facilities and formulating policies pertaining to the transportation industry, with a primary focus on facilitating passenger mobility. However, this approach has resulted in detrimental economic consequences due to the neglect of freight transportation. Infrastructural facilities have a crucial role in determining the competitive success of several sectors of the economy, including the agriculture sector. According to Fliehr (2013), the presence of efficient transportation infrastructure is essential for maintaining low transportation costs and ensuring international competitiveness. Conversely, a deficient infrastructure can result in increased transportation and logistics expenses, as well as congestion and longer delivery times during peak harvest seasons.

In accordance with the findings of Caixeta-Filho (2013), it is evident that the presence and quality of transportation infrastructure play a crucial role in determining the competitive viability of agricultural firms, as well as the overall performance of the agricultural sector. Given the escalating food crises, adverse weather conditions, and infrastructure failures that are consistently ranked as prominent global risks, it is imperative to address these contemporary challenges. The primary objective is to mitigate these risks, minimize the socio-economic losses, and establish an effective framework for the transportation of agricultural freight.

According to Afolabi et al (2016), the significance of well-maintained rural-urban highways and efficient transportation methods for agricultural output cannot be overstated. These factors play a crucial role in promoting increased productivity, favorable pricing, and reduced transportation expenses. According to Musa et al. (2014), various transportation networks utilized for the transportation and distribution of agricultural produce encounter challenges that contribute to inefficiencies. These challenges include fluctuations in gasoline prices, delays and harassment by law enforcement, as well as factors such as
inadequate transport infrastructure, multiple driver stopover locations, and mechanical issues primarily stemming from the aging of vehicles. These issues not only impede the distribution process but also result in damage, spoilage, and weight loss of agricultural commodities.

According to Napkhonenko et al. (2018), it has been determined that the transport services provided to companies and organizations inside agricultural and industrial complexes, as well as the harvesting-transportation-realization (HTS) complex, do not fulfill the current standards and expectations. Consequently, the rise in transportation expenses is transferred straight to the more vulnerable market participant, resulting in their inability to satisfy current demands. Therefore, the increase in transportation expenses has an impact on market prices. According to an investigation carried out by Zhao et al. (2019), it was shown that the implementation of time restrictions can lead to an increase in freight prices and a modest decrease in local emissions. On the other hand, the expansion of logistics infrastructure can result in an increase in both costs and greenhouse gas emissions.

3.0 Materials and Methods

3.1 Description of the Study Area

The geographical region under investigation comprises the states of Ekiti, Ondo, and Osun, which are located within the longitudinal coordinates of 20°31' E and 60°001' E, and the latitudinal coordinates of 60°21' N and 80°371' N (Figure 1). The study area experiences two distinct seasons throughout the year, namely the rainy period (April-October) and the dry season (November-March). The temperature range within the designated zone is from 21 to 28 degrees Celsius (0°C), accompanied by a rather high humidity level of 77 percent. Therefore, agricultural activities, including the cultivation of crops and rearing of livestock, are carried out with minimal challenges in the region. Agriculture constitutes the primary economic activity of the local population. Other vocations encompass several fields such as trading, driving, and carpentry, among others. Ondo state is geographically surrounded by Ekiti and Kogi states to the north, Edo state to the east, Ogun state to the west, and the Atlantic Ocean to the south. According to a source from www.onlinenigeria.com, the state of Osun exhibits a variation in average rainfall, with the derived savanna region experiencing an average of 1125 mm, while the rainforest belt receives a higher average of 1475 mm. The average yearly temperature exhibits a variation, with December seeing a mean temperature of 39.0°C, while June has a lower mean temperature of 27.2°C. The relative humidity during the early morning hours consistently exhibits high levels, typically exceeding 90% throughout all seasons. The studied region is characterized by the presence of Precambrian rocks from the Basement Complex, which are occasionally covered by a variable thickness of overlying material (Rahaman, 1988). Ondo state is characterized by three distinct ecological zones: mangrove in the southern part, rainforest in the central part, and savannah in the northern part. The annual rainfall in the state varies, ranging from 2000mm in the south to 1200mm in the north. In Osun state, the vegetation is classified as a lowland forest zone according to Keay (1959), semi-deciduous moist forests according to Charter (1969), Guineo-Congolian forest according to White (1983), and a dry forest sub-group according to Hall (1969). Ekiti state, on the other hand, is predominantly covered by rainforest vegetation, as described by the

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Ekiti state government (2016). The southern part of Ekiti state is described by dense forests of evergreens with tall trees and thick vegetation, while the northern part is occupied by Guinea savannah forests.

**Figure 1: Study area states**

4.0 Data Collection

The study employed a cross-sectional research design as it aimed to gather data from a diverse sample of individuals within the community at a particular point in time. The three research region states, namely Ondo, Osun, and Ekiti, were purposefully chosen due to their comparable characteristics in cocoa and cassava production and commercialization. The primary information was obtained by a field survey, in which copies of the survey instrument were sent to selected large markets in each state within the study area.
a significant market inside each senatorial zone of every state. The
data collected from each significant market are regarded as reliable
representations due to the challenges associated with investigating all key
markets within the study area. The study utilized transporters and
market participants as the primary sources of data. A survey was
conducted throughout the research region states, where a total of 400
questionnaires were distributed among carriers and market vendors.
The questionnaire had a semi-structured style consisting of
Likert rating scales, with
response options ranging from highly agree (4) to agree (3), disagree (2), and severely disagree (1). Participants were provided with the chance to indicate their levels of agreement or disagreement for each specific statement. A total of 353 questionnaires were collected for the study, representing a response rate of 90.7% out of the 400 distributed copies.

4.1 Sampling Procedure

The researchers employed the random sampling method to pick participants, so ensuring equal opportunities for all individuals to be chosen as responders in the study. The participants can be of either male or female gender.

4.2 Data Analysis

Descriptive statistics were utilized to display the data in the study. The data collected for the investigation were provided in tabular and graphical formats. The study employed regression analysis to investigate the presence of a statistically significant relationship between freight charges and the transportation of farm produce within the designated study area. The questionnaires that were acquired were coded in an Excel spreadsheet from the year 2012 and subsequently analyzed using SPSS version 25.0.

5.0 Results of the Analysis

5.1 Freight rates and Agricultural Products

The data presented in Table 1 illustrates the variability in freight rates for various agricultural products (measured in kilograms) across different transportation routes. Figure 1 presents data on the freight rate and corresponding tonnage. Figure 2 provides an overview of the agricultural products delivered from the northern region to the South West. Lastly, Figure 3 presents information on the relationship between the freight rate and the agricultural products being transported.

Table 1: Agricultural Commodities, Transportation Routes, and Freight Rates in Chosen States in the Southwest Region of Nigeria

<table>
<thead>
<tr>
<th>Agricultural Products</th>
<th>Routes</th>
<th>Freight Rate (N)</th>
<th>Load (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yam</td>
<td>Kano to Lagos, Osun, Ondo and Ekiti</td>
<td>800,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Beans</td>
<td>Kano to Lagos, Osun, Ondo and Ekiti</td>
<td>1,600,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>Kano to Lagos, Osun, Ondo and Ekiti</td>
<td>400,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Onions</td>
<td>Kano to Lagos, Osun, Ondo and Ekiti</td>
<td>600,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Rice</td>
<td>Kano to Lagos, Osun, Ondo and Ekiti</td>
<td>1,000,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Carrot</td>
<td>Kano to Lagos, Osun, Ondo and Ekiti</td>
<td>1,200,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Potato</td>
<td>Kano to Lagos, Osun, Ondo and Ekiti</td>
<td>1,400,000</td>
<td>55,000</td>
</tr>
</tbody>
</table>

Source: Market Women Association. 2023
Figure 1: Agricultural products, Freight rate and No. of Tonnes

Figure 2: Agricultural products transported from the North to the Southwest

Figure 3: Freight rates, agricultural products and Weight (Kilogram)
5.2 Effect of Freight Rates on Transportation of Agricultural Products

on the impact of freight rates on the transportation of agricultural products in Ondo State, Table 4.6 reveals that there is no corresponding indication of strong disagreement or disagreement among respondents on the assertion that the elevated levels of extortion by customs, police, and other armed forces significantly contribute to the high freight rates of farm products in the state. However, out of the total number of respondents, 60 individuals expressed agreement, while a majority of 78 respondents strongly agreed. This led to the acceptance of a mean score of 3.57, positioning it as the top-ranked response.

The second-ranked factor contributing to high freight charges of agricultural products is fuel scarcity. Out of the total sample size, 6 respondents expressed strong disagreement, 17 respondents expressed disagreement, 60 respondents expressed agreement, and 55 respondents expressed strong agreement. These responses collectively yielded a mean score of 3.19.

The third-ranked factor in contributing to high freight rates is the distance traveled. Out of the total sample size of 138 respondents, 36 strongly disagreed, 25 disagreed, 28 agreed, and 38 severely disagreed. Consequently, the mean score obtained was 2.54, placing this statement in 4th position in terms of ranking.

In the context of Ekiti State, the findings presented in Table 4.8 indicate that the
impact of freight rates on the transportation of farm goods elicited various responses. Specifically, 15 respondents expressed strong disagreement, while 13 respondents disagreed. On the other hand, 27 respondents agreed, and thirty-three participants strongly agreed that fuel scarcity is a contributing factor to the high freight rates associated with agricultural products. Consequently, these responses yielded a mean score of 2.89, positioning it as the highest ranked factor.

The prevalence of bribery by customs, police, and other armed forces significantly contributes to the elevated freight prices of agricultural products, ranking second on the list. Out of the total respondents, 19 strongly disagreed, 17 disagreed, 24 agreed, and 28 strongly agreed with this statement, resulting in a mean score of 2.69. The factor of distance travelled is ranked third in terms of its contribution to high freight rates. This ranking is based on the responses of 23 participants who strongly disagreed, 17 participants who disagreed, 20 participants who agreed, and 28 participants who highly agreed. The mean score of 2.60 indicates an overall acceptance of this factor’s influence. Nineteen (19) participants express a significant dissent with the notion that reduced product demand is a contributing factor to elevated freight charges for agricultural goods. A total of 69 respondents participated in the survey, providing their opinions on the given statement. Among them, 23 respondents expressed disagreement, while an equal number of 23 respondents expressed agreement. Additionally, 23 respondents strongly agreed with the statement. The collective responses resulted in a mean score of 2.57, placing the statement in the fourth position in terms of ranking.

Table 2: Effect of freight rate on transportation of agricultural products in Ondo State.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Effect of freight rate on transportation of agricultural products</th>
<th>Scale Rating</th>
<th></th>
<th></th>
<th>Mean</th>
<th>Rank</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SD (1)</td>
<td>D (2)</td>
<td>A (3)</td>
<td>SA (4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>The scarcity of fuel is a contributing factor to the elevated freight charges observed in the transportation of agricultural products.</td>
<td>6</td>
<td>17</td>
<td>60</td>
<td>55</td>
<td>3.19</td>
<td>2^nd</td>
</tr>
<tr>
<td>2</td>
<td>The correlation between reduced product demand and elevated freight rates for agricultural goods is a contributing factor.</td>
<td>42</td>
<td>79</td>
<td>9</td>
<td>8</td>
<td>1.88</td>
<td>4^th</td>
</tr>
<tr>
<td>3</td>
<td>The exorbitant freight charges of agricultural products can be attributed to the pervasive presence of extortion within customs, police, and other armed services.</td>
<td>0</td>
<td>0</td>
<td>60</td>
<td>78</td>
<td>3.57</td>
<td>1^st</td>
</tr>
<tr>
<td>4</td>
<td>The distance covered during transportation significantly influences the freight rate.</td>
<td>30</td>
<td>32</td>
<td>44</td>
<td>32</td>
<td>2.57</td>
<td>3^rd</td>
</tr>
</tbody>
</table>

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Mean criterion: Reject if mean score is less than 2.5
Table 2: Effect of freight rate on transportation of agricultural products in Osun State.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Effect of freight rate on transportation of agricultural products</th>
<th>Scale Rating</th>
<th>Mean</th>
<th>Ran</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>1</td>
<td>The scarcity of fuel is a contributing factor to the elevated freight charges observed in the transportation of agricultural products.</td>
<td>11 12 56 48</td>
<td>3.11</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>Agreed</td>
</tr>
<tr>
<td>2</td>
<td>The correlation between reduced product demand and elevated freight rates for agricultural goods is a contributing factor.</td>
<td>14 44 42 27</td>
<td>2.65</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>Agreed</td>
</tr>
<tr>
<td>3</td>
<td>The exorbitant freight charges of agricultural products can be attributed to the pervasive presence of extortion within customs, police, and other armed services.</td>
<td>10 12 49 56</td>
<td>3.19</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Agreed</td>
</tr>
<tr>
<td>4</td>
<td>The distance covered during transportation significantly influences the freight rate</td>
<td>36 25 28 38</td>
<td>2.54</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Agreed</td>
</tr>
</tbody>
</table>

*Mean criterion: Reject if mean score is less than 2.5*

Table 3: Effect of freight rate on transportation of agricultural products in Ekiti State

<table>
<thead>
<tr>
<th>S/N</th>
<th>Effect of freight rate on transportation of agricultural products</th>
<th>Scale Rating</th>
<th>Mean</th>
<th>Ran</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>1</td>
<td>The scarcity of fuel is a contributing factor to the elevated freight charges observed in the transportation of agricultural products.</td>
<td>transportation the freight rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>The correlation between reduced product demand and elevated freight rates for agricultural goods is a contributing factor.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>The exorbitant freight charges of agricultural products can be attributed to the pervasive presence of extortion within customs, police, and other armed services.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>The distance covered during</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>15</td>
<td>13</td>
<td>27</td>
<td>33</td>
<td>2.89</td>
<td>1st Agree</td>
</tr>
<tr>
<td>19</td>
<td>17</td>
<td>24</td>
<td>28</td>
<td>2.69</td>
<td>2nd Agree</td>
</tr>
<tr>
<td>19</td>
<td>23</td>
<td>23</td>
<td>2.57</td>
<td>4th Agree</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>17</td>
<td>20</td>
<td>28</td>
<td>2.60</td>
<td>3rd Agree</td>
</tr>
</tbody>
</table>

**Mean criterion:** Reject if mean score is less than 2.5
5.3 Correlation between Freight Rate and Transportation of Agricultural Products

Table 4 presents the findings pertaining to the correlation analysis conducted between freight rate and the transportation of agricultural products. The findings of the study indicate a notable association ($r = 0.705$) and statistical significance ($p = 0.015$) between freight rate and the transportation of agricultural products. This suggests that a rise in freight rates will result in a corresponding increase in the transportation of agricultural products in the South West region of Nigeria. Table 4: Correlation between traffic congestion and transportation of agricultural products in South West Nigeria

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Freight rate</th>
<th>Transportation of agricultural products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>Correlation Coefficient</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>353</td>
</tr>
<tr>
<td>Transportation of agricultural products</td>
<td>Correlation Coefficient</td>
<td>.705**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.015</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>353</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.05 level (2-tailed).

6.0 Discussion, Conclusion and Recommendations

The study's findings indicate that the transportation of farm produce is significantly affected by freight charges, which are elevated due to the excessive extortion practices by customs, police, and other armed forces. This observation aligns with the research conducted by Salisu et al. (2020), which demonstrated that the prices of agricultural products and manufactured goods have significantly increased compared to the period of conflict. Additionally, the study highlighted the overlooked nature of the agricultural freight sector, emphasizing its substantial impact on the accessibility of affordable urban well-being. The study's findings indicate that agricultural freight transportation is characterized by significant deficiencies and inefficiencies, resulting in a negative impact on farmers' profitability. The study's findings indicate that the imposition of freight rates negatively impacts the efficiency and effectiveness of agricultural product distribution throughout the states comprising the study area. Based on the aforementioned findings, the study proposes the implementation of a farm product databank and storage facility in order to establish an environmentally friendly plan and efficient system to facilitate agricultural freight transportation within the study area and the country. Additionally, it suggests that addressing corrupt practices within customs, which hinder the movement of goods, should be a priority for lawmakers in order to mitigate traffic congestion and the subsequent
increase in freight rates. Moreover, the study recommends that the government undertake substantial road rehabilitation projects to enhance the condition of roads along transport routes, thereby alleviating traffic congestion and reducing freight rates in the study area.

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