

ROLE OF TRANSPORTATION AND MARKETING IN ENHANCING AGRICULTURAL PRODUCTION IN IKWO LOCAL GOVERNMENT AREA OF EBONYI STATE, NIGERIA.

ROL DEL TRANSPORTE Y MERCADO EN ESTIMULACIÓN DE LA PRODUCCIÓN AGRÍCOLA EN EL GOBIERNO LOCAL DEL AREA DEL ESTADO DE EBONYI, NIGERIA.

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ABSTRACT

Role of transport and marketing in enhancing agricultural production in Ikwo Local Government Area of Ebonyi State, Nigeria was studied. A multi stage sampling procedure was used to select 300 respondents for the detailed study. A structured questionnaire was used to elicit information from the respondents. Data collected were analyzed using of chi-square. The results show that head carrying, use of wheel barrows, bicycles, motor van, keke, donkeys, and motor cycles were various traditional modes of transportation for inter local transport of agricultural products. Furthermore, the result reveals that producers, retailers, consumers, wholesalers and processors were the marketing channels in the study area. Additionally, transportation and marketing have greatly enhanced the growth of agricultural production in the study area, despite existing problems such as bad roads, high cost of transport, few vehicles, poor drainage channels, culverts, few bridges and poverty. Also, the solutions to the identified problems were giving out loans to farmers, construction and repairs of roads, use of rail, mass transit, encouraging farmers' cooperative societies and processing centres. However, if these solutions to the problems could be entrenched into policy framework at the three tiers of

the governments, high returns in agriculture will ensue. This will boost the contributions of agricultural sector to the nation's Gross Domestic Product (GDP), which could translate to better standard of living.

Keywords: Role, Transportation, Marketing, Enhancing, Agricultural production.

RESUMEN

Se estudió el papel del transporte y la comercialización en la mejora de la producción agrícola en el Área del Gobierno Local Ikwo del Estado de Ebonyi, Nigeria. Se utilizó un procedimiento de muestreo de múltiples etapas para seleccionar 300 encuestados para el estudio detallado. Se utilizó un cuestionario estructurado para obtener información de los encuestados. Los datos recolectados se analizaron usando chi-cuadrado. Los resultados muestran que la carga de la cabeza, el uso de carretillas, bicicletas, furgonetas, keke, burros y motocicletas fueron varios modos tradicionales de transporte para el transporte inter local de productos agrícolas. Además, el resultado revela que los productores, los minoristas, los consumidores, los mayoristas y los procesadores fueron los canales de comercialización en el área de estudio. Además, el transporte y la mercadotecnia han mejorado enormemente el crecimiento de la producción agrícola en el área de estudio, a pesar de los problemas existentes como carreteras malas, alto costo de transporte, pocos vehículos, canales de drenaje deficientes, alcantarillas, pocos puentes y pobreza. Además, las soluciones a los problemas identificados fueron la concesión de préstamos a los agricultores, la construcción y reparación de carreteras, el uso del ferrocarril, el tránsito masivo, el fomento de las sociedades cooperativas de agricultores y los centros de procesamiento. Sin embargo, si estas soluciones a los problemas pudieran arraigarse en el marco de políticas en los tres niveles de los gobiernos, se producirán altos retornos en la agricultura. Esto impulsará las contribuciones del sector agrícola al Producto Interno Bruto (PIB) nacional, lo que podría traducirse en un mejor nivel de vida.

Palabras clave: Papel, Transporte, Comercialización, Mejora, Producción agrícola.

INTRODUCCION

Despite that Ikwo Local Government is a food producing area in Ebonyi State, there are lots of problems facing the marketing and transportation of these agricultural products to Abakaliki urban (Anuebunwa, 2007). The essence is that Abakaliki urban now wears many caps as the state capital with all the headquarters of ministries, departments

and agencies; and Ebonyi State University. She also houses many federal offices, include the federal medical centre, the Nigerian Army 32 Battalion, Federal Government Girls College, Federal University Ikwo Abakaliki among others. This implies that population has relatively increased resulting to pressures on food supplies. Marketing requires special attention because of the perceived nature of demand and supply of perishable agricultural products. Anuebunwa (2007), observed that this widely spatial coverage in the marketing activities entails peculiar attention to transportation, the form of market channels and the number of the links in the supply chain. This has a lot of implications for the merchandise or transportation and marketing of agricultural perishable thus the marketing efficiency.

There are sufficient evidence to show that the ancient kingdom of Ikwo is the food basket of Ebonyi state and Nigeria. The first ever vocational and technical institute, the NORCAP- Norwegians college of Agriculture and Practice, the old Anambra State college of Agriculture later Ebonyi State college of Agriculture now Ebonyi State college of education, Ikwo, including Ndufu Alike Ikwo Federal University, establishment of an integrated rice mill complex at IkwoNnonyo ,the existence of Ikwo High School and Ndiuku rice farmers 'cooperative society are all testimony of Ikwo's pre-eminence in food production in Ebonyi and beyond. Nwaobiala (2010), reported that there is a wide range shortage of access roads to farm production centres as well as no cold rooms, nor integrated processing facilities for the farm products. These existing problems made the researchers to study the role of transportation and marketing in enhancing agricultural production in Ikwo LGA replica of old Ikwo division in old eastern Nigeria under the revolutionized agriculturist Dr. M.I. Okpara, now Ebonyi State, Nigeria. The major purpose of the study is to find out the role of transportation and marketing in enhancing agricultural production in Ikwo Local Government Area of Ebonyi State,Nigeria.

The researchers formulated the following research questions to guide them elicit essential information from the respondents on the subject: 1) What are the available transportation modes in Ikwo local government area? 2) What are the marketing channels in use in Ikwo local government area? 3) Are there contributions of transportation and marketing to the growth of agricultural production in Ikwo local government area of Ebonyi state? 4) What are the problems associated with transportation and marketing of agricultural products in Ikwo local government area of Ebonyi state Nigeria? 5) Are there solutions to the identified problems associated with transportation and marketing of agricultural products in the study area?

The literature Review about agricultural transportation and marketing embrace the entire distributive system. A market means a place or location where people meet at

certain time to buy and sell. Market involves a group of freely competing buyers and sellers with facilities for businesses. About 80% of the market wares are basically agricultural products. These include banana, various fruits, smoked and fresh fish, edible snails/ mushroom, yams, cassava, different vegetables, palm oil and its products like palm wine, brooms, baskets, palm kernel oil and its by-products. Others are cocoyam, farm input such as chemicals, seedlings and improved hybrids (Anuebunwa, 2007).

Marketing moves agricultural products from one place to another and from producers to the consumers by physical marketing function of transportation. It also moves money from the customers and or consumers through the existing marketing channels to the producers. through marketing, existing goods and services are made available from production point to the consumers at the place, time and in the form they want and at the price they will be willing to pay for them. The satisfaction of want is one major role of marketing of agricultural products both raw materials and processed outputs.

Transportation on the other hand, comprises making products available at a particular location. A decision is made as to the best route and type of transportation to adopt. Consideration is equally given to crating and loading techniques as well as the cost of transportation. When the agricultural products are viewed in a bigger picture, transportation has a vital role to play in marketing of agricultural goods and services.

Marketing and transportation are very relevant and basic functions of management in agricultural production process. The essence of transportation and marketing agricultural products is to create added value of place utility and also time utility. Marketing and transportation also make agricultural communication and services available at locations of needs and at desired time and form required. Marketing functions help in marketing, processing, storage, and advertisement of agricultural products (Nwauwa, 2012). Marketing and transportation are also seen as the every activities directed at satisfying customers' needs and wants through effective exchange transaction in the market. This implies that marketing and transportation are very vital and important because they enhance the overall agricultural production processes and activities in in Ebonyi State, inter-alia Ikwo local Government Area of the State.

According to American Marketing Association (1995), more than other management functions, marketing and transportation deal with customers and the relationship that creates customer value and satisfaction. These help in the process of planning and executing conception, pricing and distribution of ideas, goods and services to create exchanges that satisfy individuals and organizational goals. In their view, Ezedinma *et al* (2007) and Ogbanje *et al* (2012), see marketing and transportation as

balancing the producers' needs and wants through exchange transaction in the market at different locations. However, all human activities directed at achieving customer needs and wants by exchange transaction be it in rural, semi-urban and urban areas require marketing and transportation (World Bank, 2014).

About two-thirds of Nigeria's 88.5 million citizens still live in an estimated 97,000 rural communities. Their lives characterized by poverty, misery, morbidity and under development (World Bank, 1990). This showed that the productivity of agriculture, their main occupation, has declined over time. However, the rural sector still occupies a strategic position in the economy of Nigeria because rural communities and inhabitants provide about 90% of food marketed and consumed in Nigeria and agriculture provides 70% of employment or labour force.

According to Eboh *et al.*, (1995), the structural adjustment programme (SAP) of 1986, ushered in an era of liberalization policies which also saw the establishment of Directorate for Roads and Rural Infrastructure (DFRRI). Kwa (1992) agreed that road as an economic infrastructure is an important aspect of micro-economy in Nigeria. Its provisions are directly determined by macroeconomic policy, including public expenditures on physical infrastructure and support services. Kwa (1992) reported that in 1990, a total of 30,728.34km of roads were completed and accepted as having met the required specifications under the second phase of the DFRRI. The year 1991 witnessed the addition of 55,576.24 km of road construction. In 1992, a total of 85,592.82km of feeder roads were completed, inspected and accepted. On the other hand, government surveys indicated that 50,000km of rural feeder roads were either constructed or rehabilitated under phase 1 which was completed by 1987. The degree of success achieved however, varied from state to state depending on the preparedness of each state to enhance the programme. Eboh *et al.*, (1995) stated that there were general complaints from some states that the construction and rehabilitation programme did not cover culverts and bridges, therefore, affecting the effectiveness of the roads under review.

Accordingly, some roads were either too narrow or temporary in nature and little or no distinction was made regarding the difference in topography within the country. The final comprehensive inspection of the road projects took place in 1988 in 19 states of the federation to ascertain the nature and direction of the road project under DFRRI's phase 1. Eze *et al* (2010) agreed that the main economic activities of the rural areas are primary and extractive in nature which requires a great deal of haulage by transportation, as such subsistence agriculture, agro-processing, fish farming/aquaculture and hunting are preponderance which could be complimentary or

supplementary. These include craft making, blacksmithing, tanning, pot making, wine tapping, bicycle/shoe repairing, tailoring, hair saloon /dressing, petty trading, medical practices, driving, money lending, etc. Most rural economic activities are seasonal as they respond to the natural cycles of dry and rainy seasons (Okorji, 1999; Nwauwa, 2012; Brownson *et al* ,2014).

However, the challenging sustainable development in rural Nigeria is real agent and urgent requiring immediate attention. The critical problems to be addressed by development projects include widespread poverty, literacy and human misery. Like in other developing countries of the World, rural areas in Nigeria lag behind urban areas in human developments. Thus, access to road transport, market, education, health and even safe drinking water is less and in some case, non- existent in many rural areas (Idike, 2008; Mordi *et al.*, 2010; Ogbanje *et al.*, 2012). According to the human development statistics 1992-199 reports, Nigeria population with access to safe drinking water between 1980-1988 averaged over 60% and below 30% in urban and rural areas respectively. Idachaba (1991) and Kwa (1992) observed that most state ADPs in the area of rural infrastructure have been very outstanding especially with respect to feeder roads and have exceeded their targets on road construction and maintenance.

There are a variety of transport modes in the world today. These include traditional modes, railway, road, air, inland waterways, and pipelines. However, the most significant of these in terms of rural areas especially in Nigeria are traditional modes, roads and inland water ways (Kwa, 1992). In many parts of the World, especially in the developing countries, the old and new modes of transport co-exist. In fact many localities are inaccessible to modern modes of transport. Consequently, such areas depend on primitive modes of transport. In Nigeria, two traditional means of transportation are still common in transport. The first is Human head portage which is the major means of land transport in many rural areas in the southern part of the country. In fact, Udoh and Akpan (2007) agreed that the distributive trade of the rural areas in the country depends to a large extent on this form of transport. In the tsetse fly free zone of Nigeria to the north, the transport network is based on the use of animal transport comprising donkeys, horses, oxes and camels.

Okoye *et al.*, (1995) observed that the continued importance of these traditional means of transport in certain localities in Nigeria is due to a variety of factors amongst which are lack of good accessible roads especially in the rural areas in the rainy seasons ;low aggregate demand for transport in the rural areas thereby making it uneconomic for the operation of vehicular transport; small scale production by farmers and little profit by small scale traders do not encourage the use of vehicular transport. Until these

conditions change, it is obvious that traditional modes of transport will continue to prevail in many rural farming communities in Nigeria.

Udoh and Akpan (2007) stated that roads are found in virtually all countries of the world since no specialized machinery or technique is necessary for their use. Roads, however, vary in quality from one part of the world or locality to another. Thus, there are foot-paths suitable for non-mechanized use as well as major high-ways designed for rapid moving traffic. Road transport has some advantage over others; for example, there is flexibility of service and directness since many routes and destinations are possible within a small area. Furthermore, it is cheaper, more rapid and carries a wide range of goods over a short distance. Finally, roads transport offers maximum access along their line-sides compared with others such as railway and air routes.

However, road transport has some disadvantage including the need for the constant maintenance of roads and vehicles, low carrying capacity, slowness in long distances and its detriment to beauty of rural environment. The roads in Nigeria can be grouped into four major categories on the basis of the authority responsible for their construction. Firstly, there are the trunk A roads which are federal inter-state highways. They form the grid framework on which the rest of the roads system is built. They also provide the links between the major centers and frontier posts. A number of major routes make up the trunk A system roads in Nigeria (Ilesanni, 2005).

Man (2004); Skoup and Company Ltd (2000) reported that these include routes from the parts of Lagos, Warri, Port Harcourt, and Calabar to the Northern parts of the country. Trunk A1 connects Warri with Kano via Benin, Lokoja and Kaduna. Trunk A2 connects Port Harcourt to Jos via Enugu and Makurdi. Another North-south route is the A3, which connects the Port of Calabar directly with Maiduguri. Further, there is the route from Lagos via Abeokuta to Sokoto. Finally, there are some east-west routes such as that from Lagos via Benin city to Calabar and the one from Kaima via Ilorin and Lokoja to Kastina-ala.

According to FGN (1996), federal government provide the links between the lesser busier centers. A large proportion of these roads are constructed by the state governments, although federal government has taken over the construction of some of these roads to improve on accessibility. However, there are the local roads which serve mainly as feeder to trunk A and B roads which are largely owned by the local government authorities. Finally, there are the community roads which result from the activities of self-help organizations in the rural areas. When completed some of these roads are taken over by local government authorities for subsequent modifications and maintenance. Ezedinma et al (2007), Orewa and Egware (2012) agreed that the actual fact is that local

roads are generally in very poor conditions particularly during the rainy seasons, so that they are not accessible most of the year. This is the crux of the matter!.

Marketing activities and system in rural communities are basically done by two groups of people in African countries. The first comprises the producers/traders who sell only the surplus of their own family's products. They not only make decision about which crop or goods to produce and in what quantity given predicted comparative price advantage in the market, but they must also decide in which of the several existing markets their commodities will return the greatest profit and at a more convenient time and place. Okoye, Eboh and Ayichi (1995) opined that the second group comprises traders who devote their full time to trading activities. Some of them are wholesalers while others are retailers. They usually buy from the smaller middlemen operating at the village level or in feeder markets and sell to urban retailers, a large numbers of whom are women with little capital and no organization. This special monopoly situation enjoyed by wholesalers as observed by Nwaobiala *et al* (2009), Nwaobiala (2010), Nwaobiala and Nwaneri (2012); often allow them to engage in such practices as price fixing, market sharing, all to disadvantage of the consumers, farmers, small middlemen, retailers and producers/sellers. Markets of this nature have been in existence in tropical Africa. They are today known as traditional markets which provide avenues for the exchange of goods, ideas, fashion as well as performing significant social factors and political functions in the communities in which they are located (World Bank ,1996; World Bank, 2014).

Ditto (1994) reported that types of rural markets varies and it is very difficult to classify markets in tropical Africa. However, International Food Policy Research Institute (IFPRI,2009) stated that markets can be classified on the basis of a variety of factors including size of population attending, physical form, goods sold, location, timing or periodicity. Moreover, Ingwa *et al.*, (2010), observed that most attempts made to classify markets in Africa tend to use timing or periodicity and location. Baker,1989; Tiku and Sinonya (2011) for example, identified three major types of traditional markets in rural African communities as follows: i). rural daily markets, ii). rural periodic night markets, iii). Rural periodic day markets. For the purpose of this work, three categories of markets identified by Ditto (1994), grouped into rural period night, rural period day, and feeder markets which embraces rural daily markets or basically primary and feeder markets were used.

Most of the markets in the rural areas of west Africa are primary markets. These markets are quite very small containing a limited number of buyers and sellers and a variety of commodities for sale or resale that are brought by their producers or

purchased in the larger markets within or outside. Characteristically, the commodities sold are distinctive disposal items that villagers can buy in small quantities. For example, cigarettes, kola-nuts, fruits, sweets, kerosene and almost any commodity that can be broken into very small lots and sold. Also sold in these markets are food crops of all kinds and some cash crops (Anuebunwa, 2007). Thus, transactions in these primary markets are between peers, transfers are in extremely small lots, and the services are useful and convenient to the small communities' settlements.

The feeder markets are larger than the primary markets and contain many more buyers and sellers who perform many more services and offer a variety of commodities for both retail and wholesale. The significance of the feeder markets according to Brownson, Samuel and Udo (2014), is that transfers in small and large lots are very successfully integrated. Furthermore, the bulking not only accommodates non-resident traders or long distance traders who have the regional markets into the national exchange system.

A variety of factors influence the location and spacing of rural markets in Nigeria. Okoye *et al.*, (1995) stated that accessibility to as many people as possible is a major determining factor which has influenced market location in Nigeria. There are many cases in which markets are located at roads junctions which lie between two or three villages. Sources of water supply have attracted markets to themselves especially in areas where there is no steady supply of water as in the savannah and sahel regions of Nigeria. Traditional religious shrine has also been used as market especially where there are strong beliefs that the market will be highly protected by sacred authority. In many cases, markets are located near major access roads.

Nwaobiala and Nwaneri (2012), observed that the spacing of traditional rural markets in Nigeria is generally a reflection of the maximum distance which rural people are able and willing to travel. This of course is dependent on the means of transport at their disposal. Among the Yoruba people of south western Nigeria, reports indicate that most hamlets and villages are located about 8-10 km from a market and this compares favourably with the average distance of 11 km observed in pre-industrial Europe. Generally, rural markets spacing is influenced by other factors such as population density, periodicity and mode of transport available.

African Development Bank (2008), agreed that the periodic market especially the four – day one which is the major characteristic of the marketing system in rural Nigerian communities. In fact, before the coming of the Europeans, which led to the emergence of the seven – day week, many tropical African communities operate either the four or eightday week, a factor which determined the periodicity, the inhabitants are peasant

farmers who can only afford to attend the markets once in a while. However, Orewa and Egware (2012) reported that specialized periodic markets can also be found in urban areas. The basis of the survival of periodic market is the ability of professional traders to move from one market site to another in order to obtain the required threshold population to keep them on business.

This is in contrast to urban trader who can afford to stay in one place because the threshold population is in the urban city concerned. One characteristic of periodic markets in west Africa, particularly in Nigeria is the ring system. Thus, the periodic markets in a large area operate a ring system. Thus, the periodic markets in a large area operate a ring in which an integrated sequence of markets taking place over a period of time say four or eight days is known. According to Brownson *et al* (2014), this system facilitates the survival of markets in localities which cannot support a period market by themselves. Thus, markets are closer to rural dwellers than it would have been because of the above factors.

The rationale of the study is based on the statement by Skoup and Company Ltd (2000) that transportation and marketing are the engine of agricultural production and services. This is because both farm inputs and outputs are harnessed by the services provided by physical marketing functions of transportation, buying and selling of agricultural goods and services at rural, urban, regional and national levels. Marketing and transportation also satisfy the place utility and help in rural farmers' realization of their goals in expected income and replacement of exhausted farm input of all sectors. Otherwise, the trading on goods and services would be in shambles without success in agricultural trading and commerce. Summarily, transporting and marketing of agricultural goods and services help in achieving goals of venturing into farming and in the creation of value added in selling-buying-supply chain.

MATERIALS AND METHODS

Ikwo Local Government Area of Ebonyi State is the study area. Ikwo Local Government Area is located between Latitude $5^{\circ} 17'$ and $7^{\circ} 23'$ E of Equator and Longitude $7^{\circ} 25'$ and $8^{\circ} 21'$ of Greenwich Meridian. The headquarters of Ikwo Local Government is Ikwo and composed of 13 communities. Ikwo local government area is bounded in the east by Ezza-north local government area, in the west by Onu-ebonyi local government area, in the north by Izzi local government area and in the south by Abakiliki urban local government area. Ikwo has a population of 1,998,694 people

(NPC,2006). The people of Ikwo are mostly farmers and the other non-agricultural economic activities engaged by the people are artisans, traders, and civil servants.

A total of three hundred (300) respondents were selected through simple random sampling from a list of 1,200 registered farmers out of the 16,000 target farmers'population in Ikwo local government area. This was obtained from Ikwo LGA office of Ebonyi State Agricultural Development Programme. The selected farmers sample cut across the communities in the area of the study and those selected were issued with the instrument of study for data collection. The sample size was 300 farmer respondents. The researcher and 6 employed trained research assistants were used for the administration and collection of the questionnaire from the subjects. At the end, all questionnaires were dully completed and returned after 3 weeks. The researcher used the returned questionnaire to generate data used for analysis. All the data collected were analyzed using chi-square.

The calculation of the Chi-Square statistic is;

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e} \dots \dots \dots (i)$$

where f_o = the observed frequency (the observed counts in the cells)
 and f_e = the expected frequency if NO relationship existed between the variables

As depicted in the formula, the Chi-Square statistic is based on the difference between what is actually observed in the data and what would be expected if there was truly no relationship between the variables. As decision rule: Accept chi-square if calculated/observed value is greater than the tabulated value.

RESULTS AND DISCUSSION.

The result of the study as shown in table 1 showed that there is a significant result ($p=0.05$). The table showed that 236 respondents which represents 78.6% agreed to the research question on the available modes of transportation in the study area because the calculated chi-square is greater than the tabulated. These include the use of head portrage, bicycles, wheel barrows, kekenapep, motor cycles, motor vans/vehicles, and donkeys in transportation with low initial cost of starting agricultural production. These findings agreed with that of Basorun, (2012) in a study on 'Empirical Analysis of Association of Rice Marketing Factors in Igbemo Region, Nigeria, which found out that road transport has some advantage over others. For example, there is flexibility of

service and directness since many routes and destinations are possible within a small area. Furthermore, it is cheaper, more rapid and carries a wide range of goods over a short distance.

Table 1. Observed responses about the problems associated with transportation and marketing of agricultural products in Ikwo Local Government area, and available transportation modes in Ikwo Local Government area.

Respondents Option	SA	A	UD	SD	D	Total
Head portorage, and donkeys.	30	100	-	10	10	150
Bicycles, barrows, keke, motor vehicles and motor cycles.	80	26	4	16	24	150
Total	80	26	4	26	34	300

Source: Field Survey, (2016). $\chi^2_{cal.} = 4.32$; alpha level 0.05; degree of freedom= 3; $\chi^2_{tab} = 2.09$.

Table 2 showed that majority of the respondents agreed positively to options in the research question at P0.05 with 78% which represent 234 respondents. This implied that there exist several marketing channels for agricultural products in Ikwo Local Government Area of Ebonyi State, Nigeria. These include producers, retailers and consumers represented by 37% and wholesalers by 41% respondents respectively. However, the marketing efficiency was not measured since it was beyond the scope of this study. The findings agreed with the earlier study by Ezedinma *et al.*, (2007). In their view, Ezedinma, Sanni and Okechukwu, see marketing and transportation as balancing the producers' needs and wants through exchange transaction in the market at different locations. However, all human activities directed at achieving customer needs and wants by exchange transaction be it in rural, semi-urban and urban areas require marketing and transportation channels.

Table 2. Observed Responses of the existing marketing channels for agricultural products in Ikwo Local Government Area

<u>Respondents Options</u>	SA	A	UD	SD	D	TOTAL
Producers, retailers and consumers	80	31	2	7	40-	150
Wholesalers and processors.	62	61	6	8	7	150
Total	142	92	8	15	47	300

Source: Field Survey (2016). $\chi^2_{cal.} = 4.32$; alpha level 0.05; degree of freedom= 3; $\chi^2_{tab} = 3.09$.

The result presented in table 3 indicates that majority of the respondents responded positively. It showed significant result (P 0.5). According to the Table 3, 254 respondents corresponding to 84.6% agreed to the research question. According to the respondents, some of the contributions of transportation and marketing to the growth of agricultural production include moving agricultural products from farms to stores, markets, processing units and in selling farm inputs. Others are in inter-local agricultural products transfer and value added services. The findings concurred with the earlier result of Okoye *et al.*, (1995) that a variety of factors influence the location and spacing of rural markets in Nigeria. Okoye *et al.*, (1995) stated that accessibility to as many people as possible is a major determining factor which has influenced market location in Nigeria. There are many cases in which markets are located at roads junctions which lie between two or three villages. Sources of water supply have attracted markets to themselves especially in areas where there is no steady supply of water as in the savannah and sahel regions of Nigeria. Traditional religious shrine has also been used as market especially where there are strong beliefs that the market will be highly protected by scared authority. In many cases, markets are located near major access roads.

Table 3. Observed Responses about the contributions from transportation and marketing to the growth of agricultural production in Ikwo Local Government Area.

Respondents Options	SA	A	UD	SD	D	TOTAL
Moving products from farm to stores	10	12	3	-	4	29
Marketing inputs	30	31	-	8	3	74
Processing units	10	14	-	4	3	31
Inter-local products transfer	30	51	5	8	4	98
input supply	20	30	-	2	-	52
Total	110	144	8	22	14	300

Source: Field survey, (2016). $X^2_{cal.} = 4.32$; alpha level 0.05; degree of freedom= 3; $X^2_{tab} = 3.09$.

The study result as shown in table 4 shows a significant result at alpha level ($p < 0.05$). It indicated that 252 or 84% of the respondents agreed to the options. The factors militating against transportation and marketing of agricultural products in the study area include high costs of transportation, perishable nature of agricultural products, lack of storage facilities, few vehicles and keke. Bad roads, poor bridges, and lack of rail and canoe services for farm products and poverty among producers and consumers. The findings are in tandem with Okoye *et al.*, (1995), that the continued importance of these traditional means of transport in certain localities in Nigeria is due to a variety of factors amongst which are lack of good accessible roads especially in the rural areas in the rainy

seasons ;low aggregate demand for transport in the rural areas thereby making it uneconomic for the operation of vehicular transport; small scale production by farmers and little profit by small scale traders do not encourage the use of vehicular transport. Until these conditions change, it is obvious that traditional modes of transport will continue to prevail in many rural farming communities in Nigeria.

Table 4. Observed responses Observed Responses about the contributions from transportation and marketing to the growth of agricultural production in Ikwo Local Government Area.

Respondent Option	SA	A	UD	SD	D	Total
Bad roads, high costs, few vehicles and poor bridges.	52	60	-	12	20	150
No canoes, rail and few number of keke	69	71	2	6		
Total	121	131	2	18	22	300

Source: Field Survey, (2016). $\chi^2_{Cal}=4.32$; Alpha level=0.05; Degree of freedom=3; $\chi^2_{Tab}=3.66$.

The result in table 5 showed that 224 respondents or 74.6% positively responded that there exist solutions to the identified problems. According to the respondents some of the measures to be adopted include provision of credit /loans to farmers by the government, encouraging more people to enroll into cooperative farming, providing good roads and market infrastructure, mass transit, use of rail and provision of better ways for agricultural products processing and preservation among others. This result also agreed with the decision rule since calculated value of 4.32 is greater than 3.09 table value.

Table 5. Observed responses about solutions to the identified problems associated with transportation and marketing of agricultural products in Ikwo Local Govt. Area

Respondents Option	SA	A	UD	SA	D	Total
Good roads, mass transit and use of railway.	60	63	3	18	10	150
Form cooperatives and build processing centres.	50	51	5	10	34	150
Total	110	114	8	26	44	300

Source: Field Survey, (2016). $\chi^2_{Cal}=4.32$; Alpha level=0.05; Degree of freedom=3; $\chi^2_{Tab}=3.09$.

As conclusions and recommendations, the result revealed that that many traditional modes of transportation exist in the study area. Transportation and marketing have enhanced the agricultural production though certain problems constraining the contribution of transportation and marketing were also identified as poor road network, poor bridges, high cost of transport, few available vehicles and high poverty level off armers. However, solutions identified for constraints to transportation and marketing in

the study area include construction and repairs of roads/bridges/culverts, use of mass transit, encouraging farmers' cooperatives, improving processing of agricultural products for added, and provision of farm credits. Relying on the research results, the researchers recommended the following: 1) The three tiers of government should engender rural development programmes to enhance road and market infrastructures in Ikwo LGA and Ebonyi state for increase in agricultural production, poverty reduction, job and wealth creations. 2) The organized private sector (OPS) should also look inwards on how to increase industrial clusters in Ikwo based on its rich endowment and high potentials for raw materials for many industries. 3) Farmers should re-organize into farmers' and commodity associations to act as pressure groups to attract governments and non-governmental organizations' assistance and mop-up membership capital for greater production and productivity.

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