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RURAL ROAD TRANSPORTATION CHALLENGES AND FOOD SECURITY IN IKERE-EKITI, EKITI STATE, NIGERIA

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Abstract
Rural road transportation problems had served as an impediment to the production of food as evidenced in increased cost of transportation and food in rural areas. This poses threat to sustainable food security and agricultural development. This study examined the rural road transportation challenges and food security in Ikere-Ekiti, Ekiti State, Nigeria. Structured and self-administered questionnaires were purposively and randomly administered to one hundred and fifty (150) farmers in the selected villages in the study area. The purposive sampling is to ensure that only farmers who are member of each of the villages selected were sampled. The random technique is to ensure that individual farmer has equal rights to be sampled for the purpose of the study. Data collected were analyzed using descriptive statistics in the form of frequency and percentages and weighted mean was used to determine the efficiency level of the agency in charge of road development and maintenance in the area. The results indicate poor state of road transportation system in the area hindering agricultural production. Findings also revealed that the agency in charge of road maintenance in the area is not efficient. The study recommend construction of access roads, creation of storage facilities and small scale industries in the rural areas to absorb the farm produce and process it for further consumption for the purpose of creating job opportunities and reduce poverty level of the rural dwellers.

Key Words: *Road Transportation, Food security, Agricultural development, Ikere-Ekiti*

Introduction

As a society develops in terms of population and functions, the need for interaction among its various constituents also develops thereby requiring quality and effective transportation systems (Afolabi *et al.,* 2016). However, without adequate transportation system, goods and services cannot be brought in sufficient quantity to the people who need them, agricultural produce cannot be taken to the market, children cannot attend school and those in need of medical attention cannot get access to the hospital or clinic (Dominik *et al.,* 2013). In the words of Mumby as quoted by Afolabi *et al.* (2016) "there is no escape route from transport even in the most remote and least developed of inhabited regions". This

implies that no one can do without transportation for his/her survival.

Olamigoke and Emmanuel (2013) opined that the development of a country and the local economy is enriching by adequate, reliable and efficient transportation system. The provision of service from transportation system is a profitable venture that sustains rural farmers (Peter *et al.,* 2009). This is possible where the service is available, effective and efficient through adequate transport planning. The efficiency of road mode of transport system will facilitate the development of agriculture and the socio-economic status of the people. This is because the road serves as the major means of moving produce to various consumers (Orakwue *et al.*, 2015), who make payment for their consumption.

Rural areas represent the hub of food production and major supplier of raw materials for agro industrial based companies (Gbadamosi and Olorunfemi, 2016). As such, the need to sustain it roles for the survival of man need to be emphasized. Olorunfemi and Adenigbo (2017) opined that transportation challenges had served as impediment to the production of food as contributed by increased cost of transport, and difficulties in moving agricultural products from the farm areas to urban centres where there is high demand for food. In agreement with above, Adesanya *et al.* (2000) had observed that, rural travel and transport in most rural areas in Nigeria still take place with great difficulties thereby compounding and worsening the problem of rural productivity and rural poverty. Ajiboye (1995) observed that inadequate supply and high cost of food is as a result of inefficient transportation and distribution of farm produce. Through provision of adequate road, farmers can access the needed farm inputs like fertilizers to promote and enhance productivity and at the same time, open urban markets to farmers to promote their agricultural produce (Umoren *et al*., 2009).

Several opinions have been expressed to catalog the neglect of rural areas since independence (Gbadamosi and Olorunfemi, 2017). Olorunfemi and Adenigbo (2017) demonstrated that impact of lack of basic infrastructural facilities most especially how the neglect of transport sector has resulted in poor quality of life with its attendant implication on food insecurity as a result of poor agricultural output. It is against this background that the paper seeks to look at rural road transportation challenges and food security in Ikere Ekiti, Ekiti State, Nigeria. The objectives are to identify the types of agricultural produce and means of transportation in the study area; identify the major transportation challenges facing farmers in the study area, and assess the effectiveness of the agency in charge of rural road transportation in the Local Government.

Literature Review

Various authors have carried out studies on the issues of rural areas, produce and food security. For instance, the study of Adewole (2015) on Ikere Ekiti, Nigeria looked at regional productivity and marketing of cassava in the study area. The study emphasized that cassava as a stable food is capable of providing regional employment if only it is well marketed and processed in conformity with world standard. The author recommended that development of information system in marketing, provision of assistance or support for

cassava farmers, processors and marketers in the region will promote agricultural production and sustain food security.

Bonsu (2014) revealed that adequate road transport system provides suitable means of transportation and distribution of agricultural produce to the market. The author used interview and informal conversation to receive information for the study. In the course of the study, 60 farmers were selected for interview and findings shows that the farmers in a community that is link with roads are the one that have quick access to the farm input on time. The author concludes that with adequate road accessibility, agricultural production will be on high. Although, the author did not provide information on the transportation problems hindered the farmers in the study area.

Hine (1993) observed that transport and marketing field is very vital to the development of agricultural sector and there is a wide range of measures which can be taken to support food security and agricultural development in developing nations. According to the author, this can be done through the investment in rural roads and tracks, improve the availability and efficiency of freight vehicles, and measures to reduce the variability of agricultural prices between different markets. The author noted that if the above measure is taken into consideration, it will reduce transport cost and market prices of farm produce which will invariable sustain food security.

Barago (2013) noted that food security involves three components; food availability, food access and food utilization. Food availability implies sufficient production or imports to meet the food needs of the population. The level of sufficiency of food has to be measure by individual whether their target is melt in term of food needed. Agriculture is fundamental means of ensuring food security, and is one of the most important sectors of the Nigerian economy. This is According to Adegboye (2004) contributes more than 30% of the total annual GDP, employs about 70% of the labour force, accounts for over 70% of the non-oil exports and, provided over 80% of the food needs of the country.

The first decade of Nigerian independence (1960-1970) opened the way to food shortages as a result of oil discovery that brought about declining agricultural production and increasing population growth rate. The increase in population at a rate considerably higher than the rate of increase in food production has continued to widen the gap between domestic food supply and domestic demand. This disparity has led to rising food prices (85-125% increases in many Nigerian cities) and declining foreign exchange earnings from agricultural exports. The interaction of these factors has led to food insecurity and the idea of self-sufficiency is becoming more and more difficult to achieve due to declining agricultural production and inefficient food marketing system (Helleiner, 1996). This problem is not pertinent to Nigeria alone but also be felt in another country of the world. The major issue discovered from the literature seems to focus on agriculture productivity and marketing, food security and the role of transportation. It is therefore evident that a study that will reveal rural road transportation challenges as it affect food security in Nigeria be carried out. This is the research gap that this study intends to cover with emphasis on rural areas in Ikere-Ekiti Local Government, Nigeria.

Study Area

Ikere-Ekiti Local government area of Ekiti state has a population of 147,355 people according to the National Population Census 2006 report and projected to be 205,251 in 2018. The Local Government is a one town local government with several villages. These villages represent the major food hub of the local government. The local government shares common boundaries with Emure-Ise-Orun Local Government on the west, Ekiti South-West on the East, Akure North Local Government on the South and Ado- Ekiti on the North. Figure 3a and 3b shows the location of Ikere-Ekiti Local government in Nigeria, and the selected rural areas for the study.

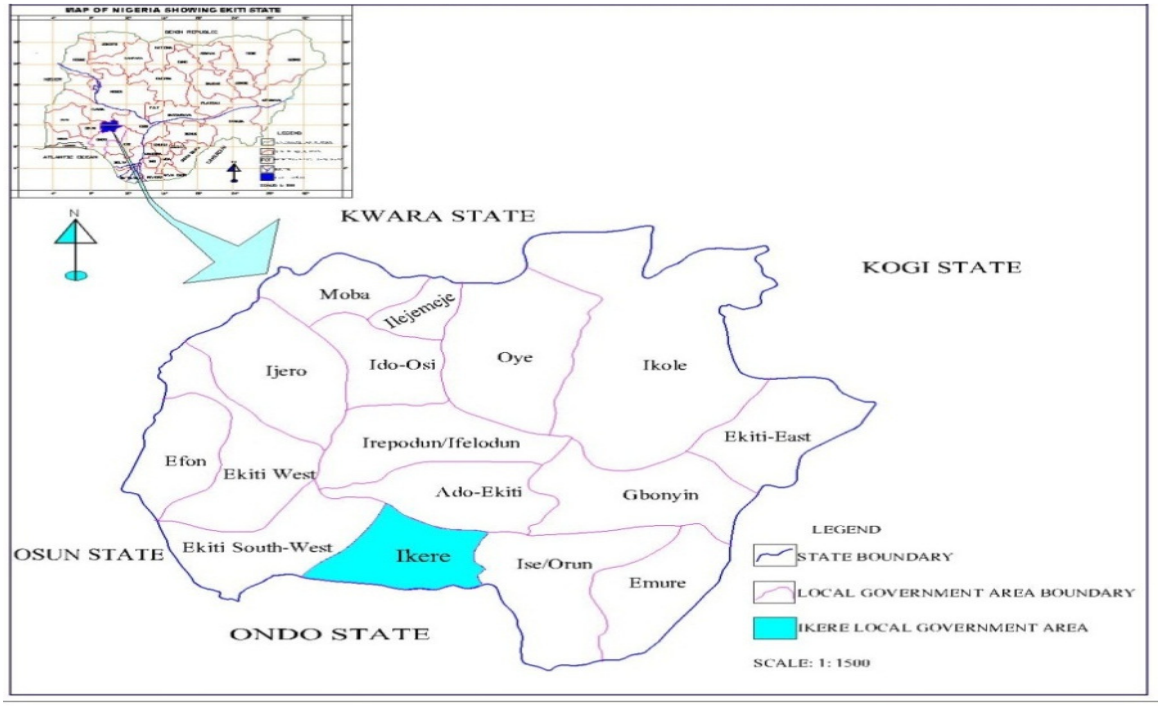


Fig. 1: Map of Ikere Ekiti in its National and Regional Settings
Source: Adewole (2015)

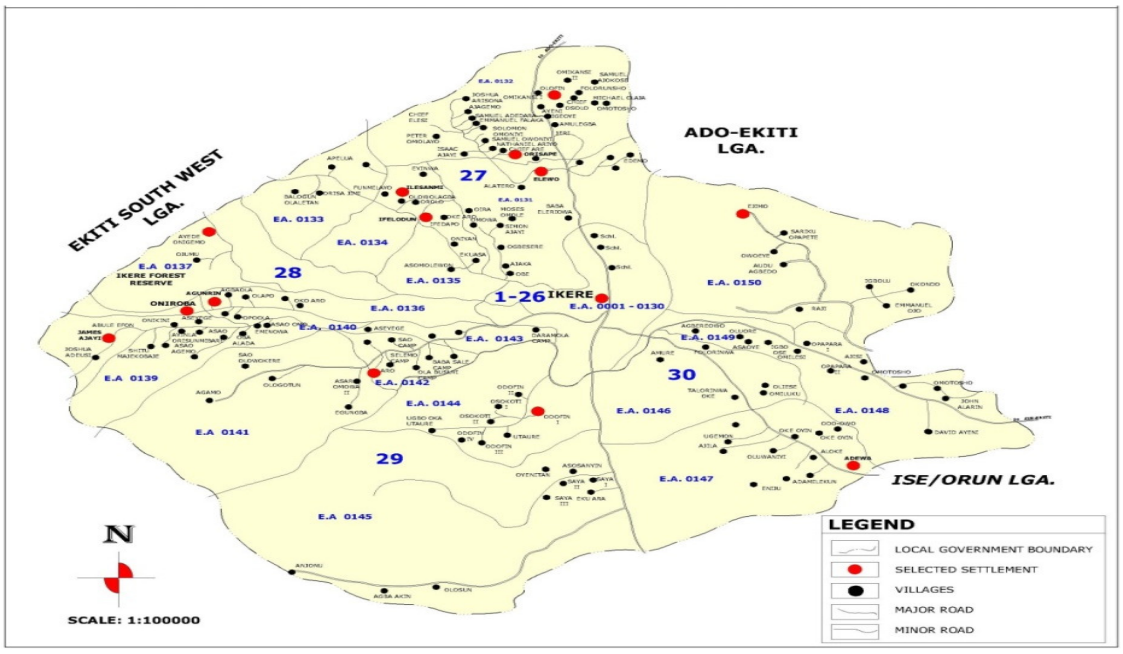


Fig. 2: Map of Ikere Local Government showing the Selected Settlements and their ward number

Source: Adewole (2015)

Methodology

The study made use of survey approach to collect data for the achievement of its objectives. Major data for the study were sourced using primary techniques of data collection involving personal observation and questionnaire administration. Desk research was also used to gather relevant information from literature. In the course of this research, one hundred and fifty (150) questionnaires were purposively and randomly administered to the farmers in the selected villages in the study area.

The purposive sampling is to ensure that only farmers who are member of each of the villages selected were surveyed. The random technique is to ensure that individual farmer has equal rights to be sampled for the purpose of the study. The survey was conducted to spread across 13 different villages within the study area. The reason for selecting these 13 villages in the study area is because there are the major villages that have received government attention overtime. The data collected for the study were analyzed using simple descriptive statistics in form of frequency counts. The parameters used to determine the effectiveness of the agency in charge of road development and maintenance in the study were measured on five points likert scale and weighted mean was used to judge the effectiveness level.

Results and Discussion

Socio-Economic Characteristics

The information in Table 1 shows the summary of the socioeconomic characteristics of farmers who were sampled for the study. The variables examined include respondents' gender, age, educational status, years of experience and income. The gender of the farmers in the study revealed that 68%

ware male and 31% were female. This shows that male has the highest percentage of farmers in the study area. This may be to the fact that males are more energetic than females and being the head of the family, has to provide for the family while females support in their own little ways. To corroborate this, Asogwa (2012) opined that men mostly engaged in farming activities for income generation and up keep of their families.

The educational status of the farmers revealed that majority them (47%) possessed primary school education. This implies that they did not receive enough education to enable them to engage in modern agricultural production. High rate of poverty may also responsible to the low level of education acquired by the farmers since higher education is more expensive. This could be the reason why they could not go beyond primary school.

The age of the farmers shows that majority of them (41%) fall within the ages of 46-60 year. This indicated that engagement of Nigeria youths in agriculture is inadequate. In agreement with above findings, Alfred (2018) pointed out that large percentage of farmers in the country fall within the age bracket of 45 years and above, which implies that before the end of the 21st century, a greater percentage of these farmers may be no more. The author further buttressed that due to youth urban migration, those who should take over from the ageing farmers prefer urban jobs no matter how menial. The consequence of this will be reflected as a threat to security of food and sustainable development in Nigeria. On the other hand, one cannot totally condemn the attitude of youths towards agriculture simply because most of the rural area in Nigeria lack relevant infrastructure and amenities that can motivate them to engage in farming and as well stay in the rural area. This calls for a policy to encourage the youths to participate in farming by making rural areas conducive for living through provision of infrastructure and services that will enhance youth development in order to reduce rural – urban migration which impact negatively on food security in Nigeria.

A look at the number of years of farmers experience as presented in Table 1 shows that majority of the farmers surveyed accounting for over 63% had spent more than 15 years in farming system in the study area. The highest earners among the farmers surveyed are those that earn above ₦500, 000 annually. It is to be noted from Table 1 that this group only accounts for 37% of the farmers surveyed for the study. However, if the annual income is put at ₦500, 000, it implies a daily income of ₦1,369, which translate to about 3.8USD per day at current exchange of ₦365 to a Dollar. Note that this annual income is for households with highest income in the study area, which means others live far below this threshold. With this, one can imagine the level of poverty among the rural farmers in Nigeria.

Table 1: Socio-Economic Characteristics of the Farmers

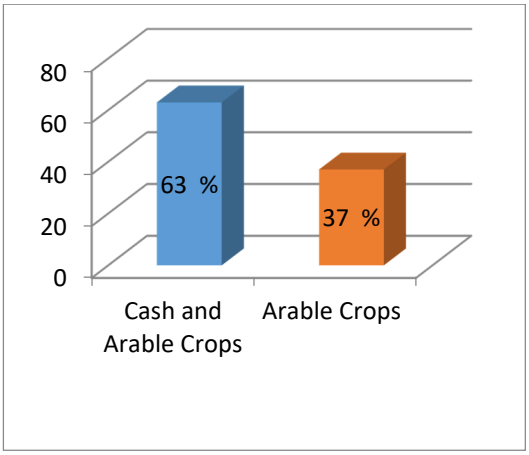
		Frequency	Percentage
1.	**Sex**		
	Male	102	68.00
	Female	48	32.00
	Total	**150**	**100.00**
2.	**Age**		
	18-30 Years	18	12.00
	31-45 Years	30	20.00
	46-60 Years	62	41.00
	60 Years and Above	40	27.00
	Total	**150**	**100.00**
3.	**Educational Status**		
	No Former Education	41	27.00
	Primary School	70	47.00
	Secondary School	23	15.00
	Tertiary	16	11.00
	Total	**150**	**100**
4	**Years of Experience**		
	Less than 5 Years	6	4.00
	5-10 Years	21	14.00
	11-15 Years	28	19.00
	15 Years and Above	95	63.00
	Total	**150**	**100.00**
5.	**Annual Income Status**		
	₦ 100,001- ₦200,000	10	7.00
	₦ 200,001- ₦ 300,000	25	17.00
	₦ 300,001- ₦ 400,000	44	29.00
	₦ 400,001- ₦ 500,000	15	10.00
	₦ 500,000 and Above	56	37.00
	Total	**150**	**100.00**

Types of Agricultural Produce and means of transportation to the Market Centres

Types of agricultural produce discovered in the study area include cash crops such as palm-oil, citrus trees, cocoa, and kola-nut, banana, plantain among others. The arable crops in the area include yam, maize, cassava, coco-yam and others which include vegetable, pepper, tomatoes, sweet potatoes etc. It was revealed in the area that majority (63%) of the farmers engaged in both cash and arable crops farming (Fig. 2a). Through personal communication with the farmers, majority of those that engaged in both cash and arable crops farming are indigene of Ikere local government while majority of those that engaged in arable crops are non-indigene of the area.

Means of transporting farm produce to the market shows that majority (53.33%) of the farmers transport their farm produce to market with the use of motorcycles (Fig. 2b). This is evident as a result of the flexibility nature of motorcycle services occasioned by ease of manipulation on narrow and bad roads (Olorunfemi *et al.*, 2014). Notwithstanding, it should be noted that

motorcycles has a highly limited capacity to carry farm produce that can substantially contribute to sustainable food security in the study area. As a result of this, a huge volume of agricultural products wasted away in the farm. In addition, farmers resolve to transport their farm produce through motorcycles because of the poor condition of road that make them impassable for vehicles particularly during the wet seasons of the year.



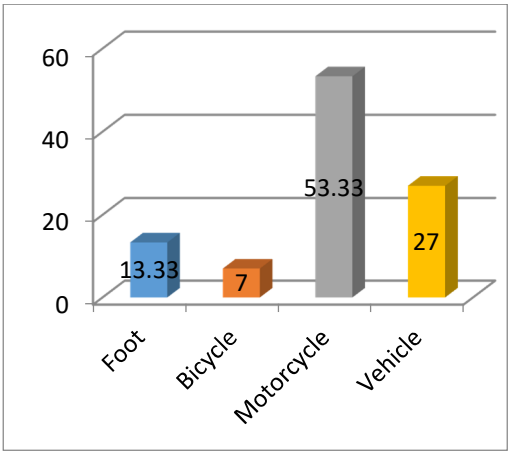


Fig. 2a: Types of Crops Grown in the Area. Fig. 2b: Mean of Transportation

Road Transportation Problems in the study Area

Poor accessibility and transportation problems in the rural areas of developing nations denied most rural communities access to their most basic needs such as hospital, market, telecommunication network among others. Inadequate road accessibility in the study area has posed threats to agricultural development and food security. The study identified poor road condition, high cost of transport, inadequate transport services, overloading, wastage of farm produce on station and transit, and poor vehicle condition. Results on this showed that 13.33% of the farmers claimed poor road condition, 27.33% opined high cost of transport, 7% indicate inadequate road transport service, 3.33% responded to be wastage of farm produce on station and transit, 3.00% noted it to be overloading and 47% of the farmers indicated that all the identified variables are problems hindering movement of agricultural produce in the area. Perhaps, this could one of the major reasons for cost of food items in the area.

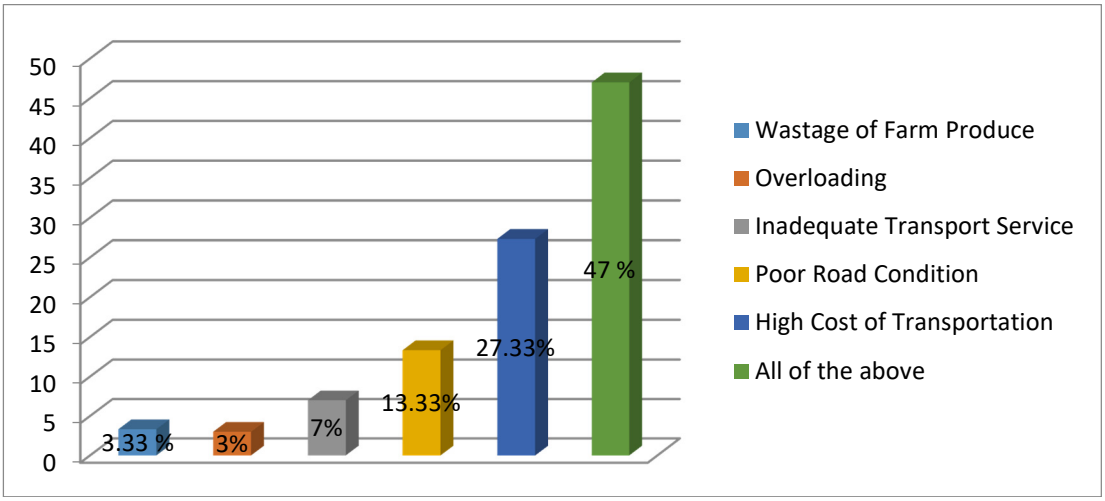


Fig. 3: Road Transportation Problems in Rural Areas of Ikere-Ekiti LGA

Effectiveness of the Agency in charge Road Maintenance

The roads that link the villages to market centres are under the control of Department of Works, Ikere-Ekiti Local government. This implies that the construction and maintenance of the roads are the responsibilities of Ikere-Ekiti Local Government. In order to determine the effectiveness of the agency (Department of Works, Ikere-Ekiti Local Government), four parameters were used. These are: provision of public transport scheme; regular maintenance of the road; timely response to sudden damage of road infrastructure such as bridge, drainage sewage, road signs etc.; and Communication link between the Department of Works, Ikere-Ekiti Local Government and the people of the study area. These parameters were measured on 5 points likert scale "not effective" "fairly effective" "effective" "very effective" and "highly effective as shown in the Table 2.

Table 2: Effectiveness of the Agency in charge Road Maintenance

S/N	Parameters	Not Effective	Fairly Effective	Effective	Very Effective	Highly Effective	Weighted Mean	Remark
1.	Provision of transport scheme	102(58%)	48 (32%)				1.24	NE
2.	Regular maintenance of road	150 (100)					1.21	NE
3.	Timely response to sudden damage of road infrastructure such as bridge, drainage sewage, road signs etc	92 (61%)	48(32%)	10 (6%)			1.33	NE
4.	Communication link between the agency and the people in the study area	96 (64%)	42 (28%)	12 (8%)			1.20	NE

NOTE: < 1.5 = NE (Not Effective), 1.6 – 2.4 = FE (Fairly Effective), 2.5 – 3.4 = E (Effective), 3.5 – 4.4 = VE (Very Effective) and 4.5 – 5.0 = HE (Highly Effective)

From all indication in the table above, it is obvious that the agency in charge of road of maintenance in Ikere-Ekiti Local Government is not effective. The above findings was agreed by Head of Works Department in the Local Government that maintenance of existing roads and construction of new ones have been difficult due the cost involved. The head of work department at the Local Government applauded the effort of the farmers in the area and pointed out that in most cases they are the one that usually maintain the roads by themselves through their own communal efforts for easy movement of their farm produce from their respective farms to the urban market. He is of strong opinion that if the local government is autonomous and not depending on state for funding, it is then they can be proactive in action in the delivery of developmental projects and programmes within their jurisdiction.

Conclusion and Recommendations

The study examined rural road transportation challenges and food security in Ikere-Ekiti, Ekiti State, Nigeria. Findings revealed that the farmers in the study area engaged in both cash and arable crops farming and the roads in the rural areas of the local government is characterized by poor road condition which led to high cost of transportation in moving farm produce in the area to the market. This result in wastage of agricultural products in most cases because majority of the farmers relied on motorcycle for transporting their farm produce and that has a limit to what it can carry.

To amend these problems, establishment of private-public partnership in provision of roads and other social amenities in the rural areas in the area will go a long way in actuate agricultural production in the Local Government area. This will also motivate the youth to stay and engage in farming activities and at the same time reduce rural-urban migration. The private entity will serve as middle men between the farmers and the Government both internationally and locally to see that the needs of the farmers are met and also play an advocacy role to ensure that their produce is not only met for local consumption but of international consumption as well. This will in turn increase the income level of farmers and the revenue generation of government as well.

For optimum operation of the Local Government Council in the country, most especially in the area of rural development, the Federal Government should certify the autonomy of Local government in the country. This will allow them to be focused to the development of their areas without being dependent on the state or federal government allocation to fund developmental projects within their jurisdiction. This is necessary because it is a form of government that is mostly accessible to the people.

Ikere-Ekiti Local Government through the support of Ekiti State and Federal Government should provide adequate transportation facilities in the area. This will involve the construction, expansion and maintenance of rural road to link the urban roads. This will boost agricultural activities as well facilitate food security in the area and Nigeria at large.

To reduce wastage of agricultural products, government through the assistance of private organization should provide storage facilities and establish small scale industries in the rural to absorb the farm produce and process it for further

consumption. This will create additional job opportunities for the rural dwellers and also reduce their poverty level.

Acknowledgment

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References

Adegboye, R.O. (2004). *Land, Agriculture and Food security in Nigeria*. 3rd Faculty Lecture, Faculty of Agriculture, University of Ilorin held on 25/02/2004.

Adesanya, A. (2000). Transportation Development in Nigeria in 2010 Ibadan: Nigerian Institute of Social and Economic Research (NISER).

Adewole, E.A. (2015). *Regional Productivity and Marketing of Cassava in Ikere Local Government Area, Ekiti State, Nigeria.* Master Thesis Submitted to the Department of Urban and Regional Planning, Federal University of Technology Akure, Nigeria.

Afolabi, O.J., Ademiluyi, I.A. and Oyetubo, A.O. (2016). Analysis of RuralTransportation of Agricultural Produce in Ijebu North Local Government Area ofOgun State Nigeria. *International Journal of Economics and Management Sciences* 6(1): 1-6

Ajiboye, A.O. (1995). '*Transportation and Distribution of Agricultural Products. A case study of Kolanut production in RemolandOgun State*'.Unpublished M.Sc Transport Studies Thesis Ogun State University, Ago-Iwoye.

Asogwa, B.C., Ezihe, J.A. and Ater, P.I. (2013). Socio-economic Analysis of Cassava Marketing in Benue State, Nigeria. *International Journal of Innovation and Applied Studies* 2(4): 384-391.

Alfred, S.D. (2018). Attitudinal and Behavioural Change Nexus in Agricultural Extension Communication. 97th Inaugural Lecture of the Federal University of Technology, Akure, Nigeria.

Barago, D.K. (2013). *Factors Affecting Household Food Security: A Case Study of Mtwara Rural District-Mtwara Region.* Published Master Thesis Submitted to the Open University of Tanzania

Bonsu, D. (2014). *Road Transport and Agriculture: A Comparative Study of the Implications of Road Access for Subsistence Agriculture in the Northern Ghana*. Master Thesis submitted to the Department of Geography, University of Bergen.

Dominik, S., Matthias, B., Karl, M., Alexander, C. and Michael, L., (2013). *Improving the Accessibility of Rural Areas: The Contribution of Transport to Rural Development*. Published by giz and KFW, Germany.

Gbadamosi, K.T. and Olorunfemi, S.O. (2016). Rural Road Infrastructural Challenges: An Impediment to Health Care Service Delivery in Kabba-Bunu Local Government Area of Kogi State, Nigeria. *Academic Journal of Interdisciplinary Studies,* 5(2):34-43

Helleiner, G.K. (1996). *Present Agricultural and Economic Growth in Nigeria,* Home wood Publisher, United Kingdom.

Hine, H.L. (1993). *Transport and Marketing Priorities to Improve Food Security in Ghana and the Rest of Africa.* A Paper Presented International Symposium: Regional Food Security and Rural Infrastructure Giessen, 1993.

Olamigoke, E.A. and Emmanuel, A.A. (2013). The Role of Road Transportation in Local Economic Development: A Focus on Nigeria Transportation System. *Developing Country Studies,* 3(6): 46-53.

Olorunfemi, S.O and Adenigbo, J.O (2017). Road Transportation Challenges to Food Security in Ikere Ekiti Local Government Area of Ekiti State, Nigeria. Paper Presented at Quantitative Methods for Integrated Food and Nutrition Security Measurements-Lessons to be learned Conference organized by European Commission and International Food Policy Research Institute held at Thon Hotel Brussels, Belgium.

Olorunfemi, S.O., Eke, E., Eyinda, C.A. and Okoko, E.E. (2014). Performance Assessment of Motorcycle Operation, as a Means of Urban Mobility in Lokoja, Nigeria. *Journal of Transportation Technologies,* (4): 343-354.

Orakwue, C.O., Umeghalu, I.C.E. and Ngini, J.O. (2015). Effects of Road Transport on Agricultural Productivity: A Case Study of Ayamelum Local Government Area of Anambra State, Nigeria. *Inter. J. Appl. Sci. Engr.,* 3(1): 1-4.

Peter, C., Tim, C. and Josef, K. (2009). *Rural Transport and Traction Enterprises for Improved Livelihoods.* Published by Rural Infrastructure and Agro-Industries Division Food and Agriculture Organization of the United Nations Rome.

Umoren, V., Ikurekong, E.E., Emmanuel, A. and Udida, A.A. (2009). Development of Road Infrastructure as a Tool of Transforming Ibiono Ibom Government Area. *Global Journal of Social Sciences,* 8(1): 53-59.