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Effect of Transport Facilities on Farm Crops Wastage in OYO State, Nigeria

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ABSTRACT: This paper examined the effect of crops wastage on farmer's income in selected local government areas of Oyo State, Nigeria. Specifically, the study examined the route types, conditions of route plied by crops farmers to the rural markets and its effect on their income. The problems that hindered effective movement of crops in the study area were also examined.

Multi-stage sampling technique was adopted to select two (2) local governments from two (2) out of the three (3) senatorial districts in Oyo State. Cross-sectional data were collected with the aid of a structured questionnaire administered to four hundred respondents randomly selected from crops farmers from sixteen (16) selected villages. Correlation analyze was used to examine the relationship between wastage and farmers income.

Findings showed that inadequate transport facilities in the study area have significant effect on farmer's average income as indicated by the Pearson correlation, all of the variables were statistically significant at 0.001(2-tailed), 0.031(1-tailed), 0.001(2-tailed) and 0.001(2-tailed): condition of route, vehicle availability, route type and quantity produced. The study further revealed that transport facilities were statistically significant to crop farmers income at ($p=0.001<0.05$).

Conclusively, levels of wastage have adverse effects on farmers' average income as bad routes, vehicle availability, route types, among others are at their worst condition. It was therefore recommended that, government at all tiers should act at the mercy of rural farmers by providing adequate and effective transport facilities to enhance farmer's average income.

KEYWORDS: Transport facilities, Crop wastage, Farmers income

I. INTRODUCTION

Agriculture is the major occupation of the people in rural areas while it provides employment directly or indirectly for at least 75% of the people in Oyo state (Rabirou et al, 2012). Hill (2008) opined that a significant proportion of agricultural task involve moving equipment and materials from one place to another which involve a wide variety of types and sizes of loads to be moved over different distances and types of terrain. Access to essentials transport infrastructure and services is crucial for agricultural development all over the world as it strengthens market competitiveness and fosters efficient and inclusive agricultural value chains at local and global levels (Rabirou, Adeolu & Stella, 2012). Produce must often be transported as part of fresh handling, whether from the field to the packing house, from the packing house to storage facilities, or to various destination markets (Adeniji, 2001). Availability of transport facilities is a critical investment factor that stimulates economic growth through increased accessibility, its efficiency and effectiveness (Ajiboye & Afolayan, 2009). Earlier work done, like: An Appraisal of transportation facilities effects on Agricultural Development in Moro-Local Government Area of Kwara State, The impact of transportation on agricultural production in a developing country: a case of kolanut production in Nigeria and Effect of rural transportation system on agricultural productivity in Oyo State, Nigeria) indicated that rural dwellers devote significant time and effort to rural transport, much of it in and around the village, on foot, and to meet domestic and subsistence needs of which as limited improvement on wastage (Akangbe, 2013). The major agricultural products found in the study area are arable crops like cassava, yam, maize, pepper, tomatoes, and fruits among others. These products serve as food for man and raw materials for agro-allied industries within and outside the state while they also provide revenue to farmers and generate foreign exchange to the government. Fresh crops (yam, pepper, tomatoes and fruits) will go bad two days after harvest except for few who can stay a little longer. Flies and insects are crops denudation agents 'right from the farmstead. Flies and insects are tiny little organisms that hover and crawl around

fresh crops basket and suck the liquid thereby speeding the produce rate of spoilage. After this damage is done, transporting becomes a barrier as a result of very poor transport facilities. The state of vehicle has been the major challenge that cause delay in delivery of crops to the market at the right time. Therefore this paper examined the effect of crop wastage on farmer's income with a view to finding means to strengthen the system and tackle the problems of crop wastage in Oyo state.

II.LITERATURE REVIEW

Spatial interaction is a broad term encompassing any movement over space that results from a human process. It includes journey-to-work, migration, information and commodity flows, student enrolments and conference attendance, the utilization of public and private facilities, and even the transmission of knowledge. Gravity models are the most widely used types of interaction models. They are mathematical formulations that are used to analyze and forecast spatial interaction patterns. The gravity model as a concept is of fundamental importance to modern scientific geography because it makes explicit and operational the idea of relative as opposed to absolute location. Harvested crops will however be transported from various farmstead to rural commercial markets hence obeys the principle of transferability.

Transport network analysis is done to evaluate a certain transport network and determine specific factors through it. This analysis take into account the flow of vehicles within the network created, the engineering of the network itself and the available modes to transportation. The data collected from the analysis is used for incorporating changes into the network as well as improving of the overall transportation network. The transport networks analysis is required to be conducted by experts who will take heeds of different aspects such as people, freight, types of vehicles among others.

III.METHODOLOGY

This study was carried out in Oyo State, Nigeria. Oyo State is approximately located between the longitude of $3^{\circ}51.8'$ and $3^{\circ}58.9'$ East of green which meridian and the latitude of $7^{\circ}30.3'$ and $7^{\circ}40.2'$ North of the Equator. It is located at the South of Ogun State, North of Kwara, Western to the border and eastern axis of Osun State. It coordinates are $7^{\circ} 19' 60''N$ and $4^{\circ} 4' 0''E$. Current local time is 17:28; the sun rises at 09:01 and sets at 21:08 local time. The standard time zone for the study area is UTC/GMT +1.



Fig 1: Oyo State Physical Map

Source: Oyo State Ministry of Physical Planning and Urban Development, (2018.)

Specifically both Ogo-oluwa and Orelope Local Government were the major study area. Ogo-oluwa local government area is one of the big local governments in Oyo Central. It is located in the eastern part of Oyo State. Surulere local government boarded it by the East, Oyo East to the West and Ogbomoso South to the North and Osun State to the South whilst Orelope (Oyo North) local government area to the west share border with Olorunsogo, East of Saki East, South of Saki West and North of Irepodun local government all in Oyo State. Most of ogo-oluwa/Orelope inhabitants are predominantly Yorubas, Hausa, Fulani and Nupe among others. Oyo North Senatorial district (Ogbomoso South, Ogbomosonorth, Orire, Olorunsogo, Orelope, Atisbo, Saki-West, Saki-East, Irepo, Iseyin, Itesiwaju, Iwajowa, Kajola) and Oyo Central Senatorial district (Ogo-oluwa, Surulere, Atiba, Afijo, Oyo-West, Oyo-East, Ona-ara, Egbeda, Oluyole, Akinyele, Lajelu,) constitute the population of the study area with thirteen and eleven local government areas respectively. Primary source of data collection were adopted through a well-structured questionnaire.

A multistage sampling technique was adopted to select crop farmers. The first stage was the purposive selection of two Local Government Areas (LGAs) namely Ogo-Oluwa and Orelope. The second stage was the random selection of the villages in proportion to each L.G.A crops farming population size. The third stage was a random selection of crop farmers in each villages of the L.G.A. The sample includes two hundred (200) farmers from Ogo-Oluwa and also two hundred (200) from Orelope LGA, making a total of four hundred (400) crops farmers for the study.

IV.RESULT AND DISCUSSION

Table 1; Correlations of transport facilities and farmers income

		Average income	Cr	Va	Rt	Qt
Average income	Pearson Correlation	1	.440**	-.108*	.197**	.253**
	Sig. (2-tailed)		.001	.031	.001	.001
	N	400	400	400	400	400
Cr	Pearson Correlation	.440**	1	.010	.143**	.016
	Sig. (2-tailed)	.001		.839	.004	.757
	N	400	400	400	400	400
Va	Pearson Correlation	-.108*	-.010	1	.017	-.136**
	Sig. (2-tailed)	.031	.839		.729	.006
	N	400	400	400	400	400
Rt	Pearson Correlation	.197**	.143**	.017	1	-.015
	Sig. (2-tailed)	.001	.004	.729		.758
	N	400	400	400	400	400
Qt	Pearson Correlation	.253**	-.016	-.136**	-.015	1
	Sig. (2-tailed)	.001	.757	.006	.758	
	N	400	400	400	400	400

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (1-tailed).

Source; Data Analysis, (2018)

Correlation of income was plotted against four variables: condition of routes, vehicle availability, route types and quantity produced. Condition of routes is significant at 0.001(2-tailed), vehicle availability is significant at 0.31(1-tailed), route types is significant at 0.001(2-tailed) and quantity produced at 0.001(2-tailed). Therefore, all of the variables contributed to the reduction in farmers’ average income. The correction graph is negative which implies that the variables have negative effect on farmers’ average income.



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V. CONCLUSION AND RECOMMENDATIONS

This paper discovered that major crops wastage is as a result of ill transport facilities therefore affects the farmers income adversely in Oyo State with reference to condition of route, vehicle availability and state of vehicle, routes types and distance to the market. It was further revealed that transport facilities greatly affect the movement of crops due to its perishability nature. There was a significant relationship among each of the criteria variables: -'condition of route ply by the farmers, approximate distance in kilometre from farm to market, state of vehicle, level of vehicle availability and route type' and farms income. This agrees with Rabirou et al, 2012 and Akangbe, 2013 who appraised the effect of transport facilities on agricultural development in Oyo and Kwara States. The paper therefore recommends the urgent need for infrastructural development advocacy and proper dissemination of information in order to improve understanding on rural transport needs and travels in the rural areas to support agricultural development through increase in farmer's income.

REFERENCES

- Adefolalu, A.A., (1977), "Significant of transportation in Rural Development in Environmental and spatial factors". A proceeding of 20th Annual Conference of Geographical Association of University of Ife, Ile-Ife.
- Adeniji, K., (2001), "Rural Travel and Transport in south-western Nigeria": An Overview, A paper presented at the RTTS workshop, organized by the world Bank and Federal Ministry of Agriculture and Rural development Abuja 5th-7th February 2001.
- Ajiboye, A.O., Afolayan, (2009), "Transportation Distribution of Agricultural products. A Case study of kolanut production in Remo, Ogun State". In international journal of agricultural economics and rural development-2(2).
- Akangbe, J.A., (2013), "an appraisal of transportation facilities effects on agricultural development in moro local government area, Kwara State, Nigeria in Ethiopian journal of environmental studies and management vol.6 no.2.
- Akinbile, L.A., (2003), "Validity in Research" in contemporary social science Research Methods (Tunde Agboola et al 2003).
- Barabasi, A. (2000), *Linked: The New Science of Networks*. Perseus Publication, Cambridge, MA.
- Barwell, I. (2011), Transport and the village world bank discussion: paper No. 344
- Blumenfeld-Lieberthal, E. (2009), The topology of transportation networks: a comparison between different economics. *Networks and Spatial Economics*, 9(3): 427-458.
- Blumenfeld-Lieberthal, E., and Portugali, J. (2010), *Geospatial Analysis and Modelling of Urban Structure and Dynamics*, chapter Network Cities: A Complexity-Network Approach to Urban Dynamics and Development, pages 77-90. Springer Science + Business Media, b. jiang and x. yao (eds) edition.
- Cesar, D. and Igor L. (2011), "Structure and Dynamics of Transportation Networks: Models, Methods, and Application.
- Fujita, M., Krugman, P. and Venables. A., (1999), *The Spatial Economy: Cities, Regions, and International Trade*. Cambridge University Press, Cambridge, 1999.
- Gastner, M. T. and Newman, M. E.J., (2004), The Spatial Structure of Networks. *The European Physical Journal B*, 49:247-252, 2004.
- Helbing, D., Keltsch, J. and Molnr, P., (1997), Modeling the evolution of human trail systems. *Nature*, 388:47.
- International Fund for Agricultural Development IFAD (2010), Rural Poverty Report 2011.
- Kansky, K., (1963), The Structure of Transportation Networks: Relationships between network geography and regional characteristics. Chicago: University of Chicago, 1963. Research Paper No. 84.
- Mabogunje, A. L., (1980), "Crisis in Rural Development Planning in Nigeria"
- Newman, M.E.J., (2003), The structure and function of complex networks. *SIAM Review*, 45(2):167-25G.
- Olusegun A., Ohiwerei I., Kabiru A., Bola A., Goh Cheng L., (2002), Certificate Physical and Human Geography.
- Rabirou K. Adeolu and Stella, (2012). "effect of rural transportation system on agricultural productivity in Oyo State, Nigeria". Journal of agriculture and rural development in tropics and subtropics vol 113 pg.13-19.
- Ullman, E.L., (1956), "The Role of Transportation and the Bases for interaction in Thomas, W.L. (ed) Man's Role in Changing the face of the Earth, University of Chicago.
- Yusuf, J.M. and Aina, O.C. (2002), "The Effects of Transportation Pattern and Movement Behavior of Rural Residents in Rural Development in Afon village, Kwara State".