

THE IMPACTS OF GOOD ROAD CONNECTIONS ON RURAL FARMING IN SHONGOM LOCAL GOVERNMENT AREA OF GOMBE STATE, NIGERIA

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Abstract

The role of road networks in agriculture can never be over emphasised. Amongst all the other means of transportation, road has contributed a lot to agriculture and rural development in Nigeria and many other African countries. Apart from the significant roles of discovering new areas and opening of better markets for farm produce, it enables distribution of agricultural outputs and inputs both within villages, towns and cities in the country and also used for conveying farm produce home from farms. The study investigated the impacts of good road connection on rural farming in Shongom Local Government Area of Gombe, Nigeria. Both primary and secondary data were used for the study to arrive at the better understanding of the situation of the rural roads in the study area. Using the Cochran's Proportional formular, a total of 400 questionnaires were received from the total population and distributed to all wards in proportion to their respective population. A total of 387 questionnaires were retrieved and analysed. Qualitative data through focus group discussion were obtained on both impacts of good and bad rural roads on agriculture on the study area. Descriptive statistical methods were used in the analysis of the data. The result shows that there is poor rural connection in the study area. There are no roads linking villages within the study area, this has significantly increased the cost of transporting farm products home and also to the markets. The road connection in the study area ends in the ward headquarters which has less positive impact on farming activities in the villages. The impacts of both bad and good roads were identified and discussed as related to their effects on farming activities on the study area. The study finally concluded with recommending that for better rural connection in the study area, adequate funding should be allocated on rural roads connection and maintenance, strict monitoring and implementation should also be followed and punishment should be ascribed to any diversion of rural roads funds. This will significantly improve rural roads connection and will enhance rural farming, thereby attracting more labour force into rural farming and boosting the rural economy.

Key words: Rural Economy, Youths and Rural farming, Agricultural produce markets, Rural Development, Road Networks

JEL classification: Q19, R19

LCC: HB, HM, HQ

Introduction

Based on the literature it is inevitable to develop the relationship between the peripheral rural settlements and the surrounding centers, to improve the accessibility and the transportation opportunities, because they all contribute to the expansion of job potentials and

the introduction of local agricultural products on the market even in the member counties of the European Union (see Ritter et al., 2012). Transportation especially has a vital role in agriculture globally irrespective of the mode and its means. Farm products can only be moved from farm to homes or markets through various transportation means. Therefore, the importance of transportation on agriculture cannot be over emphasised, as it provides market for agricultural products both within a local community of production and beyond. The connections through transportation enable the discoveries of new economics and areas and also it creates interaction within spatial geographical locations and economics. Transportation has therefore given more chances in the discovery of new economy and areas and also has been a driven force in the development of an area and in local economic development of rural areas in general (see e.g. Káposzta et al., 2020).

However, despite the importance of road transportation to agriculture, most developing countries of the world suffer common problems in respect to transportation. These problems ranges from inadequate road transport's infrastructures to poor maintenance of the existing roads (Hilling, 1996). Looking at the Nigerian situation (see Akintola, 2007) described the highly deprivation of the Nigerian rural areas to access good transport facilities as compared to the urban centres. This made the conditions of the Nigerian rural roads to be so pathetic all over the country. In addition, Adesanya (1997) described that only 5% of the Nigerian roads are in good condition, resulted from response by the lack of appropriate agencies in repairs and rehabilitation of the roads. This has therefore led to high vehicle transportation cost causing increase of food prices. According to Oni and Okanlawon (2006) at the end of every rainy season the cost of maintaining roads are multiplies due to negligence and this increases the cost of vehicle maintenance. These inadequacy and poor condition of roads make it so difficult in accessing markets for farm products.

The conditions of the rural roads in the research area (Shongom Local Government Area of Gombe state) are critical, and only few rural communities have access to better quality roads (so called "*motorable*" roads) in the area. According to Ogunsanya (1981) as cited by Tunde, (2012) there are three categories of rural roads in Nigeria in general, namely: surface rural roads, unsurfaced rural roads and bush paths. The bush paths road is very common throughout the area of Shongom Local Government and is what connects most people to their farm lands since it doesn't require construction cost. The bush paths are routes that link many villages and also farmsteads which are mostly overgrown by grasses in rainy season and where the land is muddy and became slippery when there is excess rainfall which made movement to be very difficult in the rainy seasons. Stressing the condition of the Nigerian rural roads Filani (1993) pointed out that even most of the *motorable* roads in rural areas have narrow width, unpaved surfaces and low quality bridges amongst many other challenges. The rural roads in Nigeria have common characteristics of being dominated by potholes and unsurfaced which made it very difficult for vehicles to pass during the rainy season. The above mentioned conditions make transporting of farm products difficult within the rural areas and also to the urban centres, thereby increasing the costs on the available products in the market. Insufficient transportation results to low distribution which causes inadequate supply and high cost of food in the market (Ajiboye, 1995) and strengthens further the income inequalities of rural Nigeria (see. Usman et al., 2016). It is very important to note that large amounts of agricultural products are lost due to inadequate transport or poor road connection in most of the Nigerian rural areas. Analysing food production problems Idachaba (1980) observed - amongst many factors - that transportation contributes to the major constraints to agriculture in Nigeria. Adesanya (1991) observed that the challenges of over 90,000 rural communities in the country are attributed to either neglect or inadequate provision of good transport system. The predominant activities of rural areas of Shongom local government area are farming and

rearing of animals, but however this region faces lots of challenges in conveying the products home and to the markets due to poor provision of road network within the area.

Roads have vital and upmost role in the contribution to national economy in Nigeria while rural areas significantly depend on roads in transporting their products. Olorufemi (2018) revealed that infrastructure makes significant contribution to sustainability and development of rural environments, owing to the fact that the rural areas are the base of food and raw materials for industries. Therefore for any rural area to develop it requires good connection that links it to other surrounding environments, especially the cities (Ritter et al., 2012). However, despite all the numerous advantages attached to the road transportation in the rural areas, it still remains one of the major problems of the Nigerian rural areas. It is a fact that more efforts on roads construction are placed on urban centres than the rural areas. According to Fatoke (2013) in developing countries basic infrastructures are concentrated mostly in urban centres than the rural areas. The poor consideration of rural areas in the provision of the basic infrastructures has created more problems in the country both in the urban areas and rural environments. Amongst many others, food shortages in cities can also be linked to the poor or lack of rural roads linkages.

As development of the roads is a vital tool for agriculture in Nigeria, therefore it requires high investments. Donnges et al. (2007) pointed out that roads play key roles in the components of physical access to rural communities, meaning that rural areas without physical availability have no access to basic services such health, education, market and other socio-economic services. Therefore, where a community lacks access to better or average transport facilities, it negates the smooth running of the rural activities. This will be manifested in the forms of high costs on rural transportation, increase in agricultural products' waste and poor market access to agricultural products.

The World Bank (2007) maintained that the greatest factor for market growth in regards to inputs and output supply is the road. However in most developing countries like Nigeria suffer from inadequate rural roads infrastructure which affects agricultural productivity. According to Yeboah (2015) over 40% of post-harvest damages are associated with either poor or inadequate rural road facilities. Therefore once better roads are constructed the lesser the post-harvest waste on agricultural products. Chakwizira et al. (2010) observed that the major constraint to sustainable rural development and agriculture is the poor conditions of the basic rural infrastructures. Adding to this Bonsu (2014) figured out that transporting and distribution of agricultural products can be possibly achieved through provision of adequate road infrastructure. Ikejiofor and Ali (2014) considered improved road condition as a major catalyst for agricultural products marketing, because it reduces delay in transporting farm products and thereby it reduces post-harvest losses because of a better access to a wider market.

Ademiluyi and Solanke (2002) pointed out that one of the good avenues for exchange of goods and services is an adequate and sufficient rural feeder road system. This will enhance rural agricultural productivity and speeding distribution of farm produce to different markets within quality time. According to Olayiwola and Adeleye (2005) the rural areas provide food and raw materials; and they form the major market for local manufacturers and capital formation of any country. Like any other local government areas, the rural areas in Shongom Local Government Areas are involved in primary production as basis for economic development of Nigeria. However, despite its contribution to the economy of the state the primary sector has been neglected in terms of provision of good road network and other form of development which increases the level of poverty in the area and making the area

becoming unattractive to economic actors. Based on the above mentioned, the aim of this study is to assess the contribution of good road connections in enhancing rural farming in Shongom Local Government Area of Gombe State, Nigeria with the view encouraging stakeholders and government to enhance rural roads connectivity within the study area. To realise the stated aim of the study, the following objectives will be adhered to:

1. To identify the socio-economic characteristics of rural farmers in Shongom Local Government Area of Gombe State, Nigeria.
2. To examine the condition of the existing road transportation system in the study area.
3. To assess the impacts of good/bad rural road connection on rural agriculture in the study area.
4. To ascertain the role of government, policies makers and NGOs in ensuring adequate road transportation in rural areas.

Material and Method

The Study Area

Shongom Local Government Area of Gombe State (see Figure 1.) was created out of the defunct Kaltungo Local Government Area in 1996 with it headquarter in Boh.

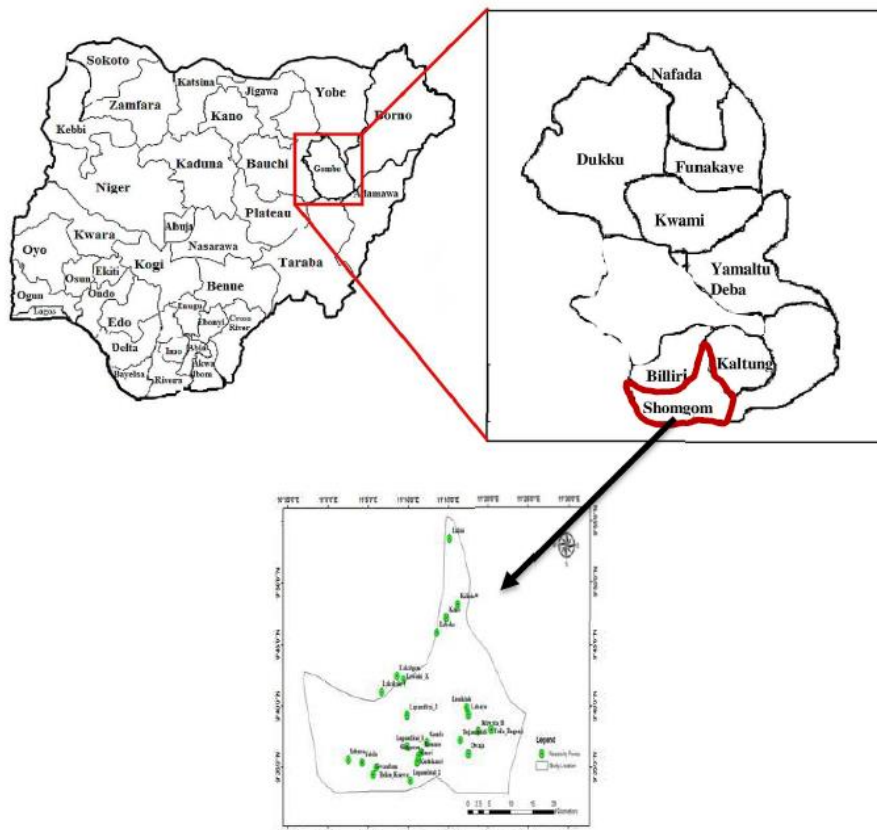


Figure 1. Location of Shongom Local Government Area

Source: Own edition (based on Kolo et al., 2016 and Sani et al., 2019), 2022

It has a distance of about 6 km off Yola road from Kaltungo town. It is bordered in the east by Kaltungo and Balanga, Billiri to the north, Kirfi and Alkaleri to the west and Karim-lamido Local Government Area to the south. It has the projected total population of 243,033 inhabitants (source: National Population Commission - Boh Office, 2021) and it covers a total land area of about 922 square kilometres. It has 6 districts and 10 ward councils. Shongom has a distance of about 72 km south-east of Gombe State, with a remarkable type of geographical formation. It is surrounded by ranges of mountains amongst which are the most popular Kilang Hill and long ridge of Loh Mountains. These ranges of mountains were used as protection in the era of intertribal wars (Daniel, 2015).

The region is characterised by two seasons namely; dry and rainy seasons. The rainy season starts early April and ends late October, while the dry season starts November and ends late March. The vegetation and climate of the area is highly affected by the two seasons which also dictates types of crops cultivated in the area. The area has Sudan Savannah vegetation which is characterised by shrubs, woodland with mostly grasses. The area favours the cultivations of different types of grains such as millet, guinea corn, maize, rice as food crops and also cotton, beans, beniseed, groundnut, cassava and yams are used as cash crops. Due to the diverse nature of cultivation in the area, Shongom Local Government is referred to as “*Land of fertility*”. The predominant activity of the people is farming with few engaged in business, civil and public services (Daniel, 2015). Shongom Local Government Area is rich in tourist and cultural attractions. The cultural festivals include Numborere, Tangras, Dambang, and Tangale, just to mention but a few staged by Loh, Bangunji, Pero and Tangale respectively. It is also known for its art and crafts. Among the tourist attraction centres are the long ridges of Loh Mountains, Pandi Yuru, famous Kilang Hill, which is the highest protruding volcano in the north-east sub-region of Nigeria. It has a pentagonal shape and very attractive for tourist activities. Shongom Local Government has seven different languages, namely Loh, Pero, Burak, Kushi, Bangunji and Shongom. The area is predominantly occupied by Christians with some Muslims and cultural religious practitioners.

Methodology

For the purpose of the study, both primary and secondary data sources such as questionnaires, journals, texts, books etc. were used. For personal questionnaires (in April 2021), respondents were selected from ten settlements by systematic sampling method, taking one settlement from each of the ten wards in the Shongom Local Government Area. The respondents in the settlements were selected with random sampling. The research considered effective survey coverage through the use of Cochran's (1977) proportional techniques formula:

$$n = \frac{N}{1 + N[e]^2}$$

Where n = sample size

N = total population (243,033)

(e)² = the level of precision

(e) = 5% [0.05]

Using the above proportional formula for allocation of questionnaires the following computation was carried out, that arrived to the total number of questionnaires allocated:

$$n = \frac{243033}{1+243033(0.05)^2} = 399.34, \text{ this figure is rounded off to 400.}$$

Therefore, a total of 400 questionnaires were administered in all the ten settlements of the local government which enable the wide coverage of the study area. However, only three hundred and eighty-seven (387) questionnaires were retrieved and analysis was done on them. Computation of sample questionnaire to various locations (see Table 1.) was the following:

$$\text{Number of sample from one location} = \frac{\text{Population of a location}}{\text{Total population of Shongom}} \times \text{Total Questionnaire}$$

Table 1: Computation of Sample Questionnaire Administered to Various Locations

Settlements	No. of sample questionnaire
Bangunji	23
Boh	34
Burak	23
Filiya	47
Gundale	23
Gwandum	49
Kulishin	28
Kushi	47
Lallaipido	54
Lapan	72

Source: Own calculation based on Boh Office - National Population Commission data, 2022.

The questionnaire sought the socio-economic backgrounds of the respondents, total farm income, types of agricultural products, output of agricultural production, cost of transportation and frequency of transportation usage by the respondents. Discussions were also conducted with motorists to ascertain the road conditions in the study area. This paper focuses mainly on the results of the questionnaire. Data gathered were edited, coded and analysed using SPSS software. Descriptive statistical methods were used during the analysis of the data (mainly frequencies were calculated).

Results and Discussion

Socio-economics characteristics of the respondents

The gender distribution of the sampled farmers on Figure 2 revealed that 63.70% of the respondents are males while only 32.30% are females.

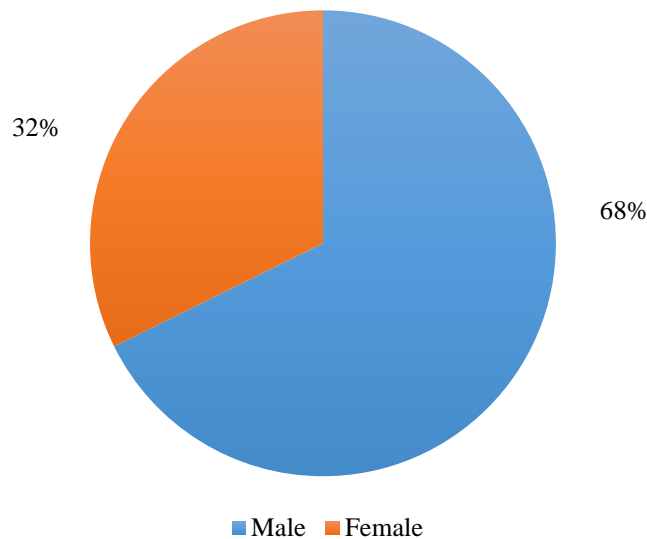


Figure 2. Gender distribution of the respondents (%)

Source: Own research and edition, 2022.

This signifies that the majority of independent farmers are males where most of the women due to culture and traditions are subjected under household farming with the males as the head. Figure 3. reveals that 42.90% of the farmers are within the age category 42 years and above, whereas 57.10% of the farmers are within active farming labour force between 18 to 41years.

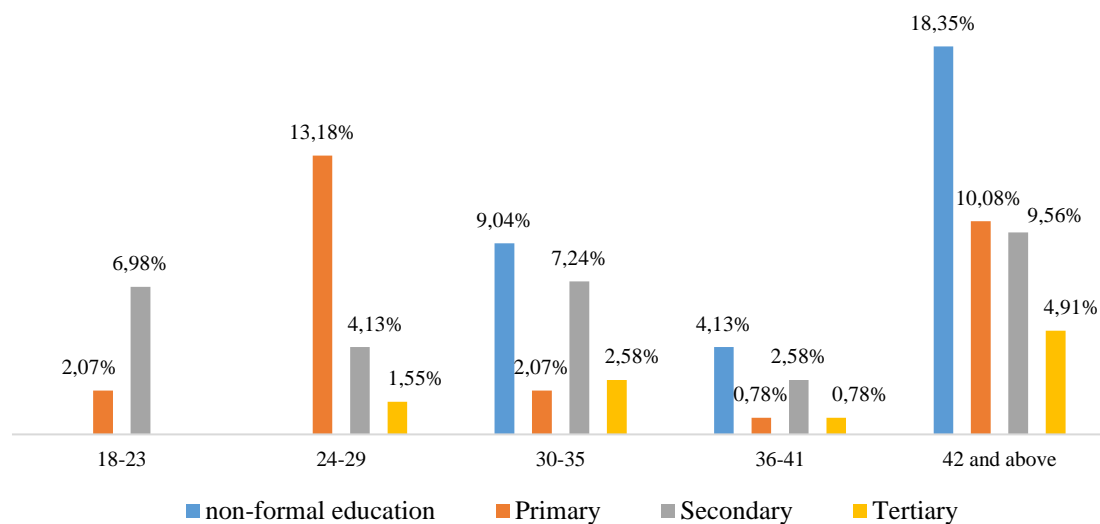


Figure 3. Age and educational distribution of the respondents (%)

Source: Own research and edition, 2022.

However only 8.27% of the farmers sampled have attended tertiary education level, whereas 44.70% - which represents almost half of the sample - have no formal education and 47.03% have primary or secondary education. This really affects the ability of the majority of the farmers to adopt new farming innovations and methods.

Farming types, scale and types of crops grown

Figure 4. shows that 69.51% of the farmers practice arable farming, 25.84% practice mixed farming, whereas only 4.65% practice poultry farming as a major occupation.

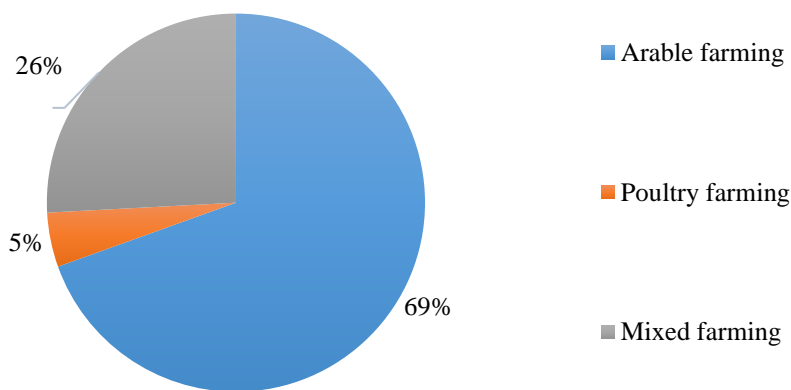


Figure 4. Distribution of the respondents by the type of farming practices (%)

Source: Own research and edition, 2022.

The scale of the farming activities as shown on figure 5 reveals that 34.11% of the farmers engage in commercial farming while 65.89% of the farmers practice farming on subsistence level. This indicates that majority of the farmers engage in farming to meet their basic needs (self-sufficiency) rather than engaging for commercial gain.

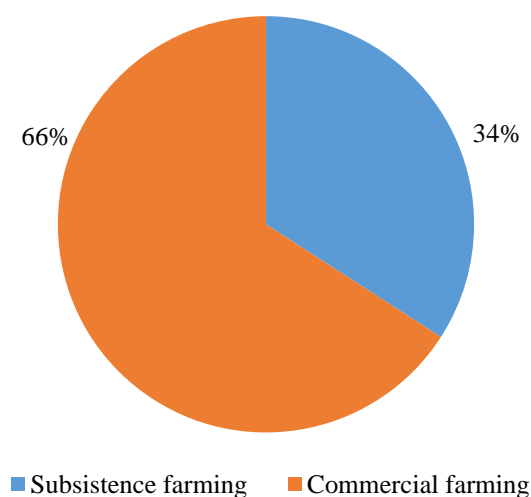


Figure 5. Distribution of the respondents by the scale of farming activities (%)

Source: Own research and edition, 2022.

Based on our results (Figure 6.) 69.92% of the farmers cultivate majorly cereals and legumes, 23.04 grows vegetables and fruits, while 3.25% cultivates cereals, legumes, root and tubers and 3.79% cultivates all the identified crops.

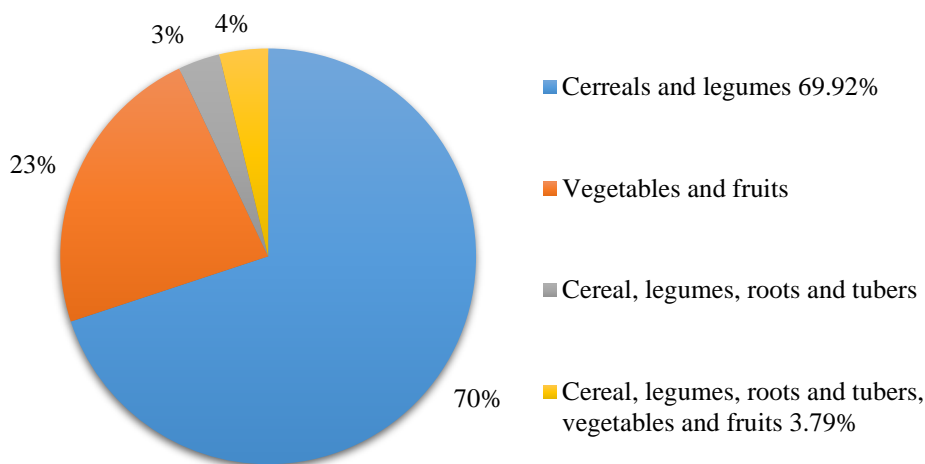


Figure 6. Distribution of crops produced by the sampled farmers (%)

Source: Own research and edition, 2021.

Existing Road Connection in Shongom Local Government area

It is interesting to note that all the examined settlements (wards) have “*surface road*” (with asphalt) linking the settlement to local government headquarter (micro regional center) with the exception of Gundale that has no surface road (Figure 7.) and suffers mostly during rainy season in commuting to the local government headquarter and other settlements as well. However, despite having road linkage between the settlement centers and the local government center (headquarter) it is very unfortunate that most of the villages have no surface roads linking directly to their own settlement’s headquarter or other villages within the wards (Figure 8.).

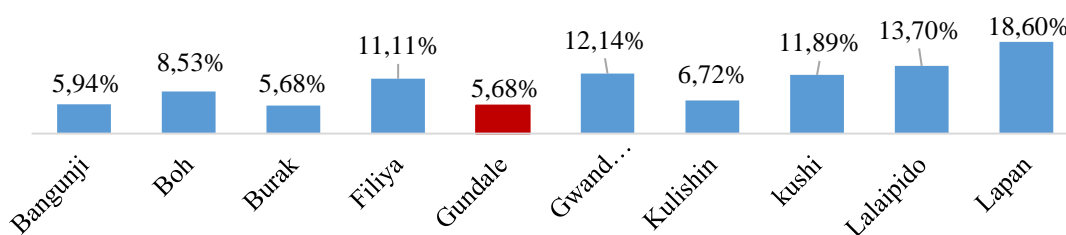


Figure 7. Distribution of the sampled farmers by the linkage between their settlement (ward) center and the micro regional center (%)

Note: Surface road linking the ward center to local government headquarter █ Yes █ No

Source: Own research and edition, 2022.

Amongst the total sampled farmers only total of 18.08% have access to surface roads in their villages and these 18.0% are from the settlement centers (ward headquarters) or are located on the passage road to the local government headquarter (micro regional center). 81.92% of the sampled farmers have not access to surface roads linking their villages to their settlement center (ward).

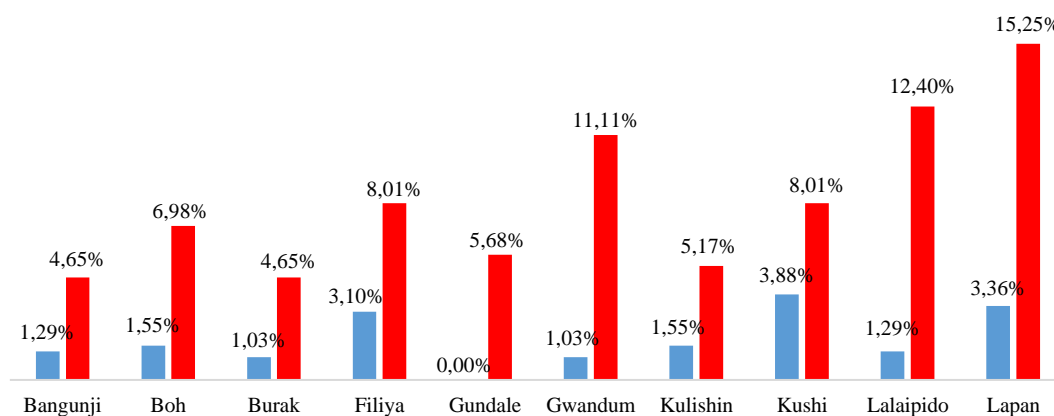


Figure 8. Distribution of the sampled farmers by the linkage between their village and their settlement (ward) center (%)

Note: Surface road linking the village to ward center ■ *Yes* ■ *No*

Source: Own research and edition, 2022.

32.14% of the respondents considered the road linking their settlement (ward headquarters) to the micro regional center (local government headquarters) as bad (see Figure 9.), whereas 59.62% considered the roads as good and 8.24% admitted the roads to be very good. This results only considered respondents from settlements that are linked with surface road to the local government headquarter. This is with the exception of Gundale settlement that has no surface road as revealed on figure 7. Therefore, adding response from Gundale would significantly drop the percentage of good road in the study area.

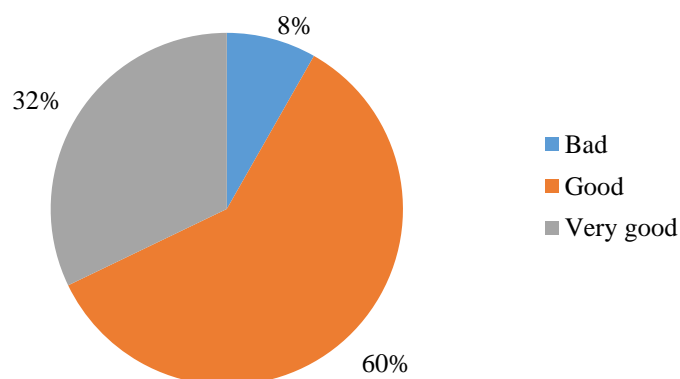


Figure 9. Distribution of the sampled farmers by their opinion about the quality of the road linking the micro regional center to their settlement (ward) center (%)

Source: Own research and edition, 2022.

Based on our primary research 83.12% of the sampled farmers do not have surface road that directly links the village to the market of their farm products (Figure.10.). The remaining 16.28% having surface road linkage to the market are either within the settlement center (ward headquarter) or by the road linking the ward headquarter to the market.

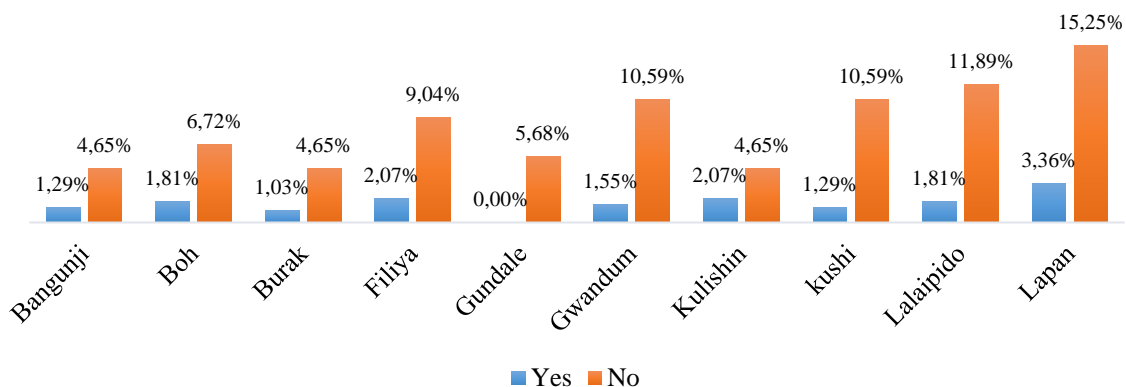


Figure 10. Distribution of the sampled farmers by the ability to reach the market on surface road (%)

Source: Own research and edition, 2022.

Mode of transporting farm produce in Shongom local government

The results proved that majority of farm land involved are scattered within the study area at the distance more than five kilometres. This is attributed to the tenure system on land and also fertility of the land. This leads to transporting the farm products home through various mode of transportation. The research identified the usage of animals, human head portorage, bike/bicycle, taxi, pick-up and lorry/van/buses as the major modes used for transporting the farm products home (Table 2.). Road transport is the major means that offers transport facilities to the farmers.

Table 2: Mode of transporting farm products home

Wards	Animals	Head portorage	Bike/ bicycle	Taxi	Pick-up	Lorry/van/ buses	Total
Bangunji	0.5%	1.6%	1.3%	0.3%	1.8%	0.5%	5.9%
Boh	1.0%	1.6%	2.6%	0.5%	1.6%	1.3%	8.5%
Burak	1.0%	1.3%	1.3%	1.0%	0.8%	0.3%	5.7%
Filiya	1.4%	1.6%	4.1%	0.5%	2.8%	0.8%	11.2%
Gundale	1.7%	1.0%	1.6%	-	1.3%	-	5.6%
Gwandum	1.3%	2.8%	4.7%	0.8%	2.6%	-	12.1%
Kulishin	1.6%	0.3%	2.8%	0.3%	1.8%	0.3%	7.0%
Kushi	1.3%	1.3%	5.2%	0.5%	2.8%	0.8%	11.9%
Lallaipido	2.3%	-	7.2%	0.8%	3.1%	-	13.4%
Lapan	2.1%	0.3%	10.3%	1.0%	4.4%	0.5%	18.6%
Total	14.2%	11.6%	41.1%	5.7%	23.0%	4.4%	100%

Source: Own research and edition, 2022.

14.2% uses animals, 11.6% uses head portorage and 41.1% uses either bicycle or motorbike. This shows that 66.9% of the sampled farmers use either animals, bikes, or head portorage which signifies low carrying capacity which limit the possibility of producing higher quantity of farm products. Only 5.7% uses taxi, 23.0% uses pick-up and 4.4 uses van/buses for conveying farm products. This is attributed to the nature of the farm roads that are difficult to access especially in rainy season. Interviews with the farmers also revealed that the poor nature of the rural unsurfaced roads makes it very costly to engage the use of buses, taxi, and vans, while as means of minimising cost the usage of animals, heads and bike become the best option. According to our results (Table 3.) 59.2% of the farmers use pick-up to transport their produce to markets, 7.0% use buses/van/lorries, 10.3% use taxi and 23.5% use bikes. Due to the distances of the markets in general revealed by study and the nature of the rural roads the usage of pick-up is predominant in all the settlements, as it offers cheaper rate of transportation comparing to all means of transportation in terms of long-distance coverage.

Table 3. Mode of transporting farm products to markets

Wards	Bike/bicycle	Taxi	Pick-up	Lorry/van/buses	Total
Bangunji	0.8%	0.5%	3.6%	1.0%	5.9%
Boh	2.3%	0.8%	5.2%	0.3%	8.5%
Burak	1.0%	2.3%	2.1%	0.3%	5.7%
Filiya	1.8%	0.5%	8.0%	0.8%	11.1%
Gundale	1.0%	-	4.7%	-	5.7%
Gwandum	1.8%	1.0%	7.0%	2.3%	12.1%
Kulishin	1.3%	0.5%	4.1%	0.8%	6.7%
Kushi	2.8%	0.5%	7.8%	0.8%	11.9%
Lallaipido	7.2%	3.1%	3.1%	0.3%	13.7%
Lapan	3.4%	1.0%	13.7%	0.5%	18.6%
Total	23.5%	10.3%	59.2%	7.0%	100%

Source: Own research and edition, 2022.

The impact of good/bad rural roads connections in Shongom Local Government Area

The research identified several positive impacts of good rural roads in improving agriculture and rural faming in the study area. Items like reduction in cost of farm inputs, making farming attractive, increase in youth participations in farming, decrease in waste of perishable produce, improvement of rural economy, reducing out migration, creating markets for agricultural produce, discovery of new areas and ease distribution of agricultural products and inputs. Table 4 summarizes that 57.9% of the respondents accepted that all the mentioned items are positive impacts of a good road connection in the study area. The remaining 42.1% are shared within the listed items with increase in youth participation taken the highest percentage (10.3%) followed by 7.8% for creation of markets for agricultural products.

Table 4. Impacts of good/bad rural roads connections in Shongom Local Government Area

Bad Roads	%	Good Roads	%
It increases costs of farming inputs	4.70	It makes farming attractive	1.60
It discourages many from farming	5.90	It reduces cost of farming inputs	5.40
It reduces youth participation in farming	12.70	It increases youth participation in farming	10.30

It results to food waste of perishable produce	2.60	It improves rural economy	1.30
It cripples rural economy	11.10	It reduces rural exodus	5.70
Escalates rural exodus	6.90	It decreases waste of perishable produces	1.60
All of the above	56.80	Creates markets for agricultural produce	7.80
		Enable discovery of new areas	2.60
		Eases distribution of agricultural produce and inputs	5.90
		All of the above	57.90
Total	100		100

Source: Own research and edition, 2022.

This really signifies that once the conditions of the rural roads would be right (markets would be linked to homes and homes would also be linked to farm land), many of the youths would be discouraged leaving the rural areas and search for other opportunities in the urban centres. Farming could be carried out with less cost as transportation, total cost could be cut down and more profits thereby could attract unemployed and out-migrated rural people in the urban centres to relocate back home.

The research also identified the major impacts of poor rural connections in Shongom Local Government Area as follows: it increases the costs of farming inputs, it discourages many from farming, it reduces youth participation in farming, it results to food waste of perishable produce, it cripples rural economy and escalates rural exodus. Based on the results 56.8% of the sampled farmers accepted all the identified negative impacts of the poor roads on agriculture, while the remaining 43.20% are shared between individual selection of the major impact among the respondents. Table 4. shows that 12.7% and 11.1% of the respondents admitted that the major negative impact of the poor roads is discouraging the youths from agriculture and crippling the rural economy respectively. This reveals that lack of farming interest may be associated to the poor connectivity of the rural roads in the study area. The resultant effects in the study area are out-migration and low economic activity due to loss of high volume of its populace to the urban centres.

Action required for improving rural roads connectivity in the study area

In order to have the proper recommendation for the study, after careful consideration of the problems of the rural areas and discussion with selected respondents, the possible actions were searched and analysed. According to our results (Figure 11.) almost 15% of the respondents suggest that strict measures should be put in place in the implementation of rural roads programs and where the funds are misappropriated the defaulter should be punished. 10.59% of the respondents expect adequate funding of rural road projects as tool for improving rural connectivity, whereas 15.24% is shared between financing local authorities to maintain rural roads; regular monitoring and evaluation of rural roads; funding of research on rural roads and strict implementation of rural roads programs as solutions. 59.17 of the sampled farmers favor all the items as the best option for ensuring continues rural connectivity in the study area.

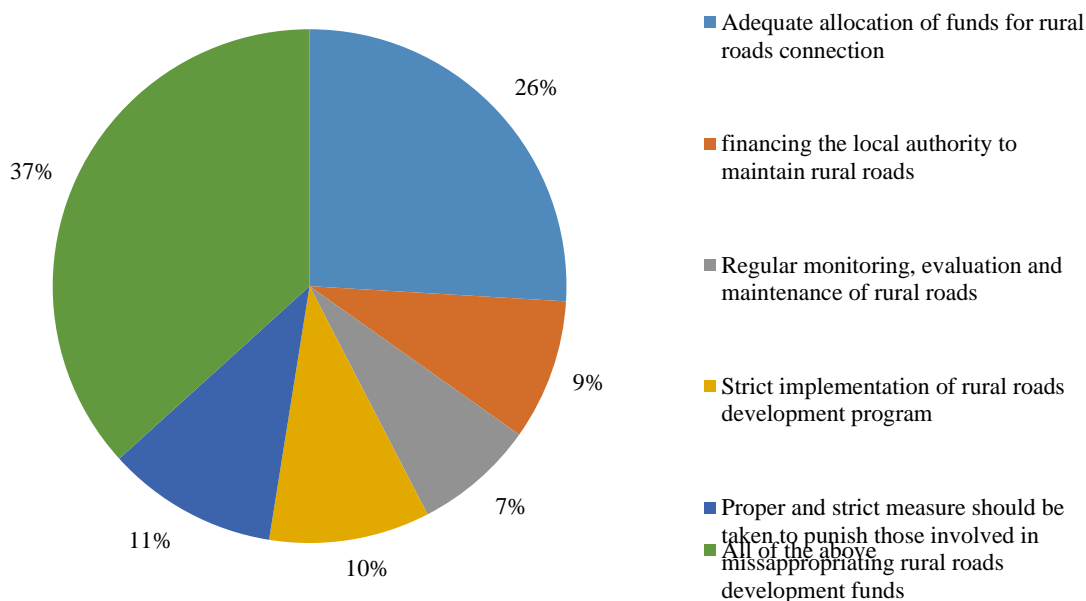


Figure 11. Distribution of the sampled farmers by the expected action to be taken by the government for improving rural road connections (%)

Source: Own research and edition, 2022.

Conclusions and Recommendations

Conclusively it can be clearly seen that rural roads connection has significant role in rural farming in Shongom local government area where the study was carried out. The study has revealed that Gundale ward of Shongom local government area has no surface road access to other wards or the local government center. As agricultural inputs and outputs largely depends on road transportation, therefore where the roads are bad or where there are only totally no surface roads, farming became expensive due to high cost of transportation of farm products home and to various markets. Bad roads create more waste of perishable products and discourage many from farming. However, according to our findings, good road connections improve rural economy. This is attributed to less cost in farming and the economically more attractive agriculture. The higher the number of the rural people with a livelihood based on farming the more is the increase in agricultural output which enhances the further growth of the rural economy. However, despite the importance of the good rural connection in rural farming, it was observed that only the main villages of the wards (settlement centers) were connected to surfaced roads. This fact hits many rural areas where active farming activities take place. Majority of the rural areas are witnessing serious problems in conveying their farm products even home in the rainy seasons due to the poor nature of the unsurfaced roads connecting to their farmlands. The resultant effect is the loss of interest in farming by the rural youths who chose migration out of the rural community as the best option for bettering their lives and families. In order to achieve a better rural connection in the study area, so as to enhance rural farming the study came out with the following recommendations:

- Adequate funding should be allocated for rural road connections by the Nigerian government at all levels so as to ensure better rural connections.
- Strict measures should be put in place in the implementation of rural roads programs, and where the funds are misappropriated the defaulter should be punished.

- Adequate finance should be allocated to local authorities for monitoring and evaluation of all rural roads' projects.
- Shongom Local Government Authority should establish Community Development Offices that will create awareness to community-members on the need to have community programs that enhance rural roads development and maintenance.
- The federal government of Nigeria should allocate more funds on research on rural development program earlier conducted to assess their failure and way forward. This will definitely reveal the major problems that hinder the success of most of the rural roads' development programs in Nigeria.

References

1. Ademiluyi, I. A. - Solanke, M. O. (2002). An appraisal of rural transport situation for sustainable development in Nigeria. In: Ibitoye, O. A. (Ed.): Rural Environment and Sustainable Development. Ado-Ekiti: Petoa Educational Publishers. pp. 174-180.
2. Adesanya, A. (1997). Transportation development. In: Adedotun, A. O. - Titilola, S. J. (eds.): Nigeria in 2010. Ibadan: Nigerian Institute of Social and Economic Research (NISER). pp. 181-193.
3. Adesayan, O. A. (1991). Administration and provision of roads in State. Ibadan: NISER
4. Ajiboye, A.O. (1995): Transportation and distribution of agricultural products. A case study of Kolanut production in Remoland Ogun State. MSc. Transport Studies Thesis. Ago-Iwoye: Ogun State University
5. Akinola, S. R. (2007): Coping with infrastructural deprivation through collective action among rural people in Nigeria. *Nordic Journal of African Studies* 16. (1) pp. 30-46.
6. Bonsu, D. (2014): Road transport and agriculture: a comparative study of the implications of road access for subsistence agriculture in Northern Ghana. Master Thesis. Bergen: Department of Geography, University of Bergen.
7. Daniel, T. (2016): An investment into the causes and effects of teenage pregnancy on girl child's education in Shongom Local Government Area, Gombe state, Nigeria. Maiduguri: College of Education Azare, Affiliated to University of Maiduguri
8. Donnges, C. - Edmonds, G. - Johannessen, B. (2007): Rural road maintenance sustaining the benefits of improved access. Bangkok: International Labour Office (retrieved from www.ilo.org/publns, 8th August 2020)
9. Fatoke, O. (2013): Assessment of accessibility of rural women to healthcare facilities in Ola-Oluwa Local Government Area, Osun State, Nigeria. Master Dissertation Akure: Department of Urban and Regional Planning, Federal University of Technology Akure
10. Filani, M. O. (1993): Transport and rural development in Nigeria. *Journal of Transport Geography* (1) pp. 248-254.
11. Hilling, D. (1996): Transport and developing countries. London: Routledge
12. Idachaba, F. (1980): The green revolution: a food production plan for Nigeria. Final Report. Abuja: Federal Ministry of Agriculture.
13. Ikejiofor, I.G. - Ali, A. (2014): The effects of road transport characteristics on the marketing of agricultural produce in Nsukka LGA, Enugu State, Southeastern Nigeria. *Innovare Journal of Social Sciences* 2. (1) pp. 2-5.

14. Káposzta, J. - Ritter, K. - Nagy, H. (2020): Local Economic Development in Transition Economies: A Tool for Sustainable Development of Rural Areas. In: Information Resources Management Association (Ed.): Foreign Direct Investments: Concepts, Methodologies, Tools, and Applications. Hershey (PA): IGI Global. pp. 522-539. [doi: 10.4018/978-1-7998-2448-0](https://doi.org/10.4018/978-1-7998-2448-0)
15. Kolo, M. T. - Uddin, K. - Mayeen, M. A. - Yusoff, A. - Wan, H. B. (2016): Quantification and radiological risk estimation due to the presence of natural radionuclides in Maiganga coal, Nigeria. PLoS ONE 11. (6) <https://doi.org/10.1371/journal.pone.0158100>
16. National Population Commission (2021): Boh Office Projected Population Reports. Boh: NPC
17. Tunde, A.M - Adeniyi, E.E. (2012). Impact of Road transport on agricultural development: A Nigerian Example. Ethiopian Journal of Environmental Studies and Management EJESM 5 (3).
18. Olayiwola, L.M. - Adeleye, O.A. (2005): Rural infrastructural development in Nigeria between 1960-1990. Problems and challenges. Journal of Social Science 11. (2) pp. 91-96.
19. Olorunfemi S.O (2018). Factors impeding food security in Akutupa-Kiri, Nigeria. Scholedge International Journal of Management & Development 5. (11) pp. 121-131. <http://dx.doi.org/10.19085/sijmd051101>
20. Ritter, K. - Péli, L. - Péter, B. (2012): The role of agriculture and urban-rural connections in lagging rural areas of Hungary. Annals of Agricultural Economics and Rural Development 99. (3) pp. 27-33.
21. Sani, M. A. - Hamza, S. Y. - Garba, I. - Usman, A. (2019): Geoelectrical evaluation of groundwater potentials of Shongom and environs, upper benue trough, Nigeria. Journal of Basic and Applied Sciences 1. (2) pp. 169-174.
22. Usman, Z. A. - Ritter, K. - Vinogradov, S. A. (2016): The Dynamics of Income Inequality in Rural Areas of Nigeria. Asian Journal of Agricultural Extension, Economics & Sociology 11. (4) pp. 1-13. <https://doi.org/10.9734/AJAEES/2016/27441>
23. World Bank (2007). A decade of action in transport - an evaluation of World Bank assistance to the transport sector, 1995-2005. Washington, DC: World Bank
24. Yeboah, S. (2015). Influence of condition of road transport infrastructure on rural agricultural development in the Jaman South District. Master Thesis. Kumasi: The School of Graduate Studies, Kwame Nkrumah University of Science and Technology, Ghana.