

Transport Disadvantage in Rural Border Settlements: A Case Study of Imeko-Afon Local Government Area of Ogun State, Nigeria

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

The paper examined transport disadvantage in selected rural border settlements of Imeko-Afon Local Government Area of Ogun State. The study specifically examined the socio-economic characteristics of the respondents, pattern of transportation and the indigenous coping strategies of transport disadvantage in the study area. Multi-stage sampling technique was employed to select six settlements in the study area. One hundred and seven (25%) household heads in the selected settlements were systematically sampled for data collection. The study discovered that majority of the respondents (67.3%) were in the age bracket of 31-60 year. It was also revealed that 76.6% of the respondents were farmers. About 55.1% of the respondents move around by trekking while 56.4% and 66.7% trek on a long distance between 1 – 2 km and 3 – 5km daily respectively. Majority of the respondents were of the opinion that the surface condition of the road was bad (87.9%), and also was not reliable during raining season (84.1%). However, to cope with this condition, communal labour was used by the residents to create a new path or enlarge the existing roads for the movement of vehicle, goods and passengers. They also used communal labour to create waterways for easy movement of the vehicle during heavy rainfall in the study area. The

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study recommends that the government should establish a road maintenance unit to ensure that existing roads are kept in good condition at the local government level. Community efforts should also be encouraged through a self-help approach in the study area.

Keywords: Rural; rural border settlements; transport disadvantage; travel; Nigeria.

1. INTRODUCTION

The issue of transportation cannot be over emphasised in the development of any society. It enables individual to participate in different activities, to supply their basic needs, to earn a living, to develop and maintain a social status [1]. It is considered one of the significant requirements for the effective and efficient functioning of a place as it creates an atmosphere where people, goods and services can move freely and economically [2]. Transportation is essential for dissemination of information and ideas, spatial interaction and economic development. It is therefore recognised as the engine of growth of any economy. However, transportation constitutes a major problem in Nigeria, especially in rural communities. Of important to this study are rural border communities which share a border with other countries.

Rural border communities like many other rural communities in Nigeria are worse off in term of transport condition. In order words, they are transport disadvantaged. The roads are in bad state and that is why most of these border communities are not easily accessible. For example, many of the roads are characterised with a poor drainage system, narrow path, wide ditches like potholes with waterlogged, an untarred road with rugged terrain among others. In addition, most of these communities does not have organised public transport system. As a result, many of the residents trek a long distance to different destinations (i.e market, farm, health centre, religious ground etc). The condition of the road is even very worse during the rainy season. Generally, the problems of transportation in rural communities of Nigeria are enormous, and these have made Nigeria government at federal and state level to embark on different programmes to ensure the provision of adequate transport facilities [3,4]. Some of these programmes include Directorate of Food, Roads and Rural infrastructure (DFFRI), Integrated Community Development Project (ICDP), National Economic Empowerments and Development Strategy (NEEDS), State Economic Empowerment and Development Strategy (SEEDS), Rural Travel

and Transport Programme (RTTP). These programmes are aimed at improving transport infrastructure through road construction and its maintenance in order to ensure easy movement of people, good and services [5]. Apart from that, different institutions were also saddled with the responsibility of managing and financing rural roads in the country, through the effort of National Planning Commission (NPC), Federal Ministry of Transport (FMT) and Federal Ministry of Agriculture and Water Resources (FMAWR). However, in spite of all these efforts of the government in addressing rural transportation problems, rural border transport is still in the same awful condition. It is against this background that the study examined travel disadvantage in rural border communities of Imeko/Afon Local Government, Ogun State, Nigeria.

2. CONCEPTUAL ISSUES

Three terms were recognised in this article, namely – rural, rural border settlements, transport disadvantage.

The term ‘rural’ connotes different meaning to different people depending on their background. Rural area according to [6] was conceptualised as an area with extensive land uses such as agriculture and forestry and containing spatially distinctive settlements with the non-urban environment. In the view of [7], it refers to an area with relatively low development densities, typically less than 1 resident per acre. Aderamo and Magaji [8] used different criteria to describe rural settlement in Nigeria, namely population (an area with less than 20,000 people) and occupation (area whose population predominantly engages in primary activities such as extraction, farming and gathering among others. [4] harmonise these definitions as an area that can be measure by two indices, namely: occupational index (i.e the percentage of the labour force in agricultural occupation) and spatial index (i.e the percentage of the population living in rural area).

Rural border settlements as noted by Benneth [9] are communities closer to the international

borderline between two countries. It could have the feature of a highly cosmopolitan town or flashpoint for isolated extreme rural area [9,10]. [11] opined that these communities are characterised with a simple life, agriculture, smallness, homogeneity, dullness and smuggling. It was further argued as a commercial centre for agricultural goods, and also where human settlement occupies only small patches of land; the landscape, most of which is dominated by fields and pastures, mountain and desert, woods and forest. Border communities especially in sub-Saharan Africa have a lot of setback such as insecurity and smuggling, their level of economic development, quality of life, access to opportunities, and standard of living is very low. They are also characterised by neglect particularly in the provision of infrastructural facilities. Rural border communities, especially in Nigeria, are under-developed with the majority of the residents being faced with a lot of challenges specifically in the movement of good and service from one place to the other. In order words, they are transport disadvantaged.

Transport disadvantage according to [12], is a situation where people have frequent access or mobility problems. In another dimension, it is described as the situation where people are unable to use or do not have access to transport services [13]. It encompasses all form difficulties that are associated with access to transport [14]. The definition of transport disadvantage encapsulates mobility and accessibility problems. While mobility refers to one's ability to be able to utilise the transport infrastructure provided. Accessibility, on the other hand, refers to one's ability to reach goods, services and activities. Studies of [15] has shown that several factors like; transport services, individual resources (i.e. time and cost), poor physical accessibility and also spatial distribution of activity destinations affect people's ability to move. These factors limit people's ability to travel or move from one place to another to participate in different activities. [5] supported this argument that the major travel problems in the rural areas especially rural border settlement are the means to meet people demands for their goods to be conveyed to other areas.

Rural travel can be categorised into three. These include; domestic travel (firewood and water collection); agricultural travel (market and field trips); service and social purposes (travel to health facilities and church) [16]. These can further be reclassified based on travel needs,

namely off-farm and on farm. While off-farm travel are access to the markets and other services like health centre and school, on farm travel refers to the movement for domestic purposes such as collection of water and firewood along with other farm-related travel [17]. However, in the process of moving from one place to another to meet their needs, they are disadvantaged due to unavailability of public transport, bad road condition among others.

Border regions are one of the most sensitive areas in both developed and developing countries. Its sensitivity has attracted different authors in the world to address different border issues. These authors include [18-23]. However, none of these studies addressed transport disadvantage situations in the different border areas. Also, several other studies have addressed different transport problems [5,17,24], but none of these studies was addressed in the border region. The only known study of rural travel disadvantage in the border region was carried out in other state (Oyo state) [25]. There is a need to replicate this study too in the study area due to different issues of rural border travel which have not been properly addressed in literature especially in Nigeria. This study, therefore, will add to the body of knowledge on the need of Nigeria Government and non-governmental organisation to address transportation challenges to enhance the livability, spatial interaction and economic development in the region.

This study, therefore, examines transport disadvantage in selected rural border settlements of Imeko local government area of Ogun State. The questions to be addressed in this paper include: 1) what are the socio-economic characteristics of the residents in the selected border settlements? 2) what is the pattern of transport disadvantage in the study area? 3) what are the indigenous coping strategies of transport disadvantage in the study area?

3. STUDY AREA AND METHODOLOGY

3.1 Study Area

The study was carried out in Imeko-Afon Local Government Area (LGA) in the west of Ogun State, Nigeria. The LGA has its headquarters in Imeko town located on latitude 7°29'00"N and 2°53'00"E in the deciduous derived savannah zone of Ogun State Imeko-Afon is one of the

twenty local government areas in Ogun State with total land area of 1,711.43 km². The local government is predominantly rural and agrarian with a population of 82,217 people [26]. It is bounded in the west by Republic of Benin, in the south by Yewa North and Abeokuta north local government in the north by Oyo State. One of the peculiarities of Imeko-Afon LGA is that it shares the border with other countries. And it has so many settlements that are closer to the international border line which is very far from town. In other words, most of these settlements are cut off from other settlements. In addition most of these settlements are not easily accessible because of the condition of their road. The major occupation of the people in these settlements is farming. The major crops grown include yam, tomato, beans, pepper, maize, vegetables, cassava, among others. The settlements in this LGA constitute commercial centre where agricultural goods are sold. The periodic local market found in the area makes the area to be used as a point of exchange between Nigeria and Benin Republic. Despite this, the

poor state of the roads hinders the thriving of these commercial activities in the area.

3.2 Methodology

The study made use of primary data. The primary data were obtained through distribution of questionnaire and focus group discussions in the selected rural border settlements of Imeko-Afon Local Government Area (LGA). Multistate sampling techniques were adopted in this study. The reason for using this method is because of the importance of giving each element in the study area an equal opportunity of being selected for the sample. First state involved the identification of settlements that fall within 15 kilometre from the international boundary line [27]. These settlements were later stratified into small villages, hamlets and huts, based on their sizes. The area regarded as small villages were settlements with more than 100 buildings. The hamlets were those with 51 to 100 buildings while huts were settlements with less than 50

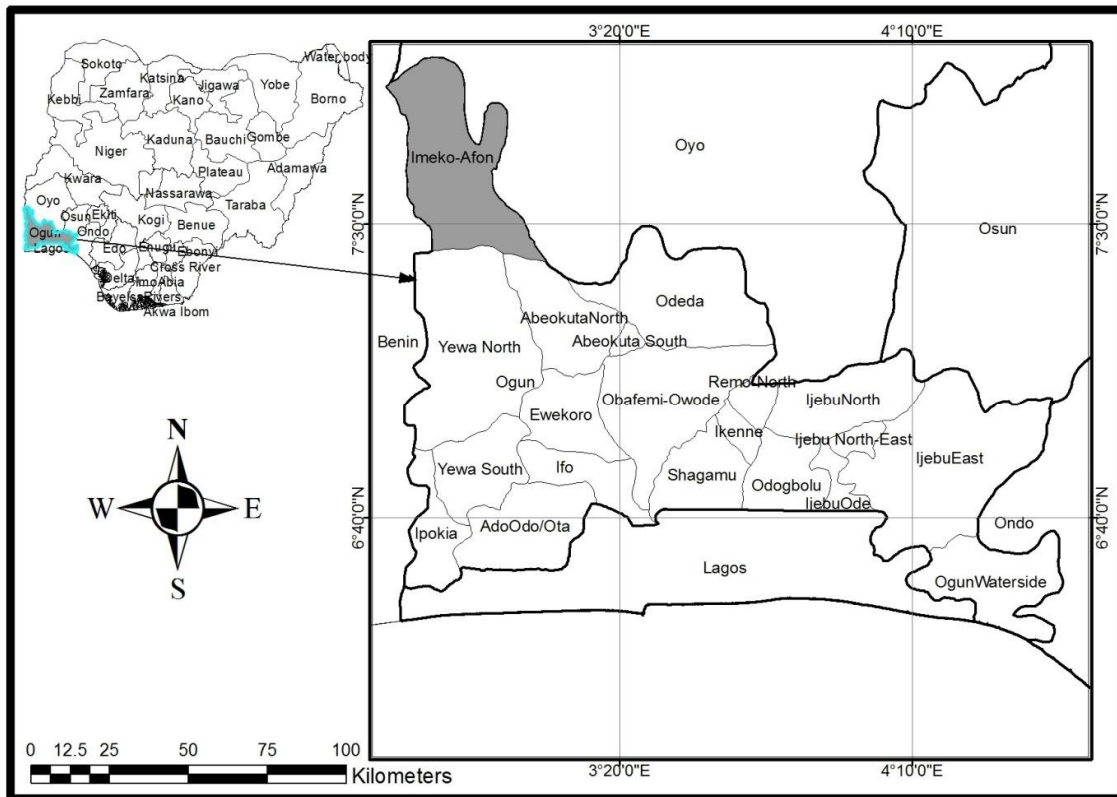


Fig. 1. Map of Nigeria showing Ogun State and Map of Ogun State showing Imeko-Afon Local Government Area

Table 1. Distribution of settlements into categories; number of selected settlements and number of houses selected

LGA	Villages category	Identified rural border settlements	No. of settlements	No. of settlements to be sampled	Number of selected settlements	Buildings in the selected settlements	Sample size (25%)
Imeko -Afon	Small villages	*Iwoye, Idofa, *Idiyan	3	2	Iwoye, Idiyan	214	54
	Hamlets	*Ajekota, Ijumo, *Ishukun	3	2	Ajekota, Ishukun	141	36
	Huts	*Wasimi-okuta, Ajirin, *Tobolo	3	2	Wasimi-okuta, Tobolo	67	17
Total Settlements			9	6		422	107

Source: Author Field Survey, (2018)

Note: *Settlements selected from the identified rural border settlements

buildings. This grouping was adopted from UN-Habitat Global Report on Human Settlements [28]. The second stage was the random selection of one out of every two villages (50%) in each of the settlement stratum. The settlements selected were 6 settlements. The final stage was the selection of houses through systematic sampling technique from each classified settlements. Pilot survey revealed that there were 422 houses/buildings in the 6 settlements. A questionnaire was administered on a household head in one of every four buildings selected. Thus, a total of 107 household heads were surveyed in the study area (see Table 1).

4. RESULTS AND DISCUSSION

4.1 Socio-economic Characteristics

Table 2 shows that majority (67.3%) of the respondents were in the age bracket of 31-60 years, 23.6% were in between 1 – 30 years category while 4.7% were in the range of 60 years and above. About 60.7% represented male while 39.3% were female. The result showed that the majority (66.4%) of the respondents were married while 14%, 12.1%, and 7.5% represented separated, single and widow respectively. The table also revealed that more than half of the respondents (60.7%) were without formal education, 30.8% had a primary education while 8.4% had secondary education. Many of the respondents were farmers (76.6%), others were traders (15%), unemployed (3.7%), and civil servants (1.9%). It can be inferred that the majority of the respondents are into farming activities. This is the true reflection of the major activities in the border region. Majority of the respondents (63.6%) earn between N18,001 and N55,000 per month, 34% earn below N18,000

while 1.8% earn above N55,001. The reason for the monthly income might be attributed to distance travel which might limit the quantity of farm produce that could be transported.

4.2 Trip Distribution

Trip in this context is regarded as the movement from origin to destination. The respondents most frequent trip ranges from market trips, health trip, farm trips and social trips. The result revealed that farm trip (46.7%) has the highest percentage of trip in the communities surveyed. Followed by market trips (36.4%), health trips (7.5%), other trips (6.5%) and social trip (2.8%). This implied that the majority of the people in the areas are farmers, the condition of the road in the area has a significant effect on their farming activities. This corroborates the finding of [5] that most of the respondents in rural communities of Nigeria are farmers. Considering the nature of farm produce, most of the farmers in rural areas find it difficult to transport their produce from one place to the other. Efficient and effective transport services will enhance the transportation of these produce.

4.3 Travel Distance

Table 4 shows the analysis of distance travel in the study area. The table revealed that 78.5% of the respondents travel between 1 km and 5 km while 21.5% travel below 1 km. It can be deduced that most of the respondents travel a long distance before they reach their destination.

4.4 Relationship between Travel Distance and Travel Mode

Table 5 shows the relationship between travel mode and distance travel in the study area.

Table 2. Socioeconomic characteristics of the respondents

Variables	Frequency	Percentage
Age		
1 – 30	30	28
31 – 60	72	67.3
Above 60	5	4.7
Gender		
Male	65	60.7
Female	42	39.3
Marital Status		
Single	13	12.1
Married	71	66.4
Separated	15	14.0
Widow/widower	8	7.5
Educational qualification		
No formal education	65	60.7
Primary school	33	30.8
Secondary school	9	8.4
Tertiary	-	-
Occupation		
Unemployed	4	3.7
Farming	82	76.6
Trading	16	15.0
Civil Servants	2	1.9
Smuggling	3	2.8
Monthly Income		
Below 18000	37	34
18001 – 55000	68	63.6
55001 – 74000	1	0.9
Above 74001	1	0.9

Source: Author fieldwork (2018)

The table revealed that majority of the respondents within the category of less than 1 km travel distance prefer to use motorcycle (52%) over other means of movement (i.e. trekking, bicycle and public transport). This can be attributed to the fact that some of them have personal bike which enhances their movement. However, most of the respondents within the category of 1 km – 5 km travel distance does not have any other choice than to trek. The respondents attributed the reason for trekking to unpredictable movement and unavailability of vehicles (public transport) in the study area.

Table 3. Summary of trip distribution in the selected settlements

Trips	Frequency	Percentage
Market trips	39	36.4
Health trips	8	7.5
Farm trips	50	46.7
Social trips	3	2.8
Others	7	6.5

Source: Author Fieldwork, (2018)

Table 4. Distance travel and travel mode

Distance travel	Frequency	Percentage
Less than 1km	23	21.5
1 – 2km	39	36.4
3 – 5km	45	42.1
Total	107	100

Source: Author Fieldwork, (2018)

4.5 Travel Time

Analysis of travel time of the respondents revealed that 83.2% of the respondents spend between 30minutes to 2hours on their travel, 14% spend between below 30 minutes while 2.8% spent above 2hours in the study area. From the result, it can be deduced that more than half of the respondents spend between 30minutes to 2hours on their travel. The respondents attributed this much time spent on travel to the fact that most of them do trek because of unavailable public transport. This shows how disadvantaged the residents are in the study area.

Table 5. Relationship between distance travel and travel mode

Distance travel	Travel mode				Total
	Trekking	Bicycle	Motorcycle	Public transport	
less than 1km	7 (30.4%)	4(17.4%)	12(52.2%)	0(0.0%)	23(100%)
1 - 2km	22(56.4%)	8(20.5%)	4(10.3%)	5(12.8%)	39(100%)
3 - 5km	30(66.7%)	10(22.2%)	4(8.9%)	1(2.2%)	45(100%)
Total	59(55.1%)	22(20.6%)	20(18.7%)	6(5.6%)	107(100%)

Source: Author Fieldwork, (2018)



Plate 1

Table 6. Travel time

Travel time	Frequency	Percentage
Less than 30 minutes	15	14
30 minutes – 1 hour	46	43
1 – 2hours	43	40.2
Above 2hours	3	2.8
Total	107	100

Source: Author Fieldwork, (2018)

4.6 Assessment of Road Quality

The indices used in the assessment of road quality in the study area include, surface condition, and its reliability in all seasons [8].

Table 7 shows the quality of roads in the study area. The table revealed that 87.9% of the respondents indicated their road with bad surface condition while 12.1% of the respondents indicated their road with good surface condition. Most of the respondents attributed this to the ditches along the road (pot holes), untared nature of the road, among others. Responses on the reliability of the roads shows that most of the roads are not reliable (84.1%) especially during the raining seasons while 15.9% of the respondents indicated that the roads are reliable in the study area. However, most of the respondents attributed the unreliability to poor drainage system and bad surface condition along the roads.

4.7 Coping Strategies of Rural Border Communities to Travel Disadvantage

From the above discussion, it was established that rural border settlements are transport disadvantaged (see Plates 1 – 4). However, in spite of the fact that they are transport disadvantaged, they still development some strategies of coping with the situation. For instance, some of the cars that ply the road were re-modify and adapted to ply the awful roads and also carry goods and passengers beyond the capacity of the car. Most of the drivers use the remodified vehicles to carry

overloading which puts the lives of the passenger at risk. Respondents in the study area don't have any choice since that is the only option that is available for them. Another way of coping with the situation is through communal labour. The members in the community create new path or widen the existing road for the passage of vehicle and passengers. They also clear the road by cutting the branches of the trees and filling of some ditches with stones for easy passage in the study area. They also use communal labour to create water ways for easy passage of water during heavy rainfall in the study area.

Table 7. Quality of the roads in rural border communities

Variable	Attributes	Frequency	Percentage
Surface condition	Good	13	12.1
	Bad	94	87.9
Reliability in raining season	Reliable	17	15.9
	Not reliable	90	84.1

Source: Author Fieldwork, (2018)



Plate 2



Plate 3



Plate 4

5. SUMMARY AND CONCLUSION

The study examined transport disadvantage of the selected rural border settlements of Ogun

State, Nigeria. The study specifically examined socio-economic characteristics of the residents, pattern of transport disadvantage and their indigenous coping strategies of residents in the

study area. The study discovered that majority of the residents move by trekking to different areas of activities. Majority of the respondents trek long distances between 1 km – 5 km daily. The study also discovered that most of the roads in rural border settlements were in bad condition and this is the reason why it is not reliable in raining season. However, in order to make the place more liveable, residents used communal labour to create new paths or widen the existing ones for easy movement of vehicles and passengers. The residents also create water ways for easy passage of water during the raining season. The study concluded that transport condition in rural border regions of Nigeria needs immediate attention to improve the liveability of the area as well as the economic development of the area. Transport condition of the area can be improved by developing basic transport systems through rehabilitation of the existing roads and opening up new ones to allow easy movement of people and goods in the area. Government of the day should establish road maintenance unit at the local government level to ensure that existing roads are kept in good condition. Private-public participation in rural border development should be encouraged in the study area. Community efforts in road maintenance should be encouraged through self-help approach.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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